Oracle Financial Services Revenue Management and Billing

OR

Oracle Insurance Revenue Management and Billing

Version 8.1.0.0.0

Database Administrator's Guide

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Oracle Financial Services Revenue Management and Billing/Oracle Insurance Revenue Management and Billing Version 8.1.0.0.0 Database Administrator's Guide

Note: To improve the content readability, the above two products are collectively referred to as Oracle Revenue Management and Billing throughout this document.

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Preface

About This Document

This document will help you to understand how to install and maintain the Oracle Revenue Management and Billing (ORMB) database.

Intended Audience

This document is intended for the following audience:

- End-Users
- Database 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	Database Overview	Lists the database server supported on each platform. It also lists the dos and don'ts while maintaining a database.
Section 2	Installing Oracle Revenue Management and Billing Version 8.1.0.0.0 Database	Explains how to install the Oracle Revenue Management and Billing database.
Section 3	Database Design	Lists the naming conventions for various database objects. It also lists and describes the column data types and foreign key constraints.
Section 4	Exadata Database Settings	Lists a set of activities that you need to perform if you are using the Oracle Exadata Database machine as the database server.
Section 5	Database Implementation Guidelines	Lists and describes the general guidelines for configuring various objects in the database and implementing Oracle Database.
Appendix A	New Objects in the Oracle Revenue Management and Billing V8.1.0.0.0 Database	Lists the objects that are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database.

Section No.	Section Name	Description
Appendix B	Application Services Configured for Default User Group	Lists the application services configured for the default user groups shipped with Oracle Revenue Management and Billing Version 8.1.0.0.0.
Appendix C	Changing the DB User Password	Explains how to change the database user password.
Appendix D	New Objects in the Oracle Utilities Application Framework V25.4 Database	Lists the objects that are newly added in the Oracle Utilities Application Framework V25.4 database.
Appendix E	Oracle Utilities Application Framework System Table Guide	Lists the system tables owned by Oracle Utilities Application Framework V25.4 and explains the standards and guidelines to be followed while updating the data in the system tables.
Appendix F	ORMB V8.1.0.0.0 Rollup Packs	Lists the rollup packs available for Oracle Revenue Management and Billing Version 8.1.0.0.0. It also explains how to apply a rollup pack.
Appendix G	Framework Table Partitioning Scripts	Explains how to create partitioning scripts for the **F1_MO_UPD** and **F1_MO_UPD_BACKLOG** tables.
Appendix H	License and Copyright Notices	Lists all notices with reference to usage of third-party products.

Conventions

The following conventions are used across this document:

Convention	Meaning
boldface	Boldface indicates graphical user interface elements associated with an action, or terms defined in the text.
italic	Italic indicates a document or book title.
`monospace`	Monospace indicates commands within a paragraph, URLs, code in examples, text that appears on the screen or entered in the application.

Acronyms

The following acronyms are used in this document:

Acronym	Meaning
ORMB	Oracle Revenue Management and Billing
RDS	Reliable Datagram Sockets
UAT	User Acceptance Testing
DBCA	Database Configuration Assistant
OUAF	Oracle Utilities Application Framework
FW	Framework
TDE	Transparent Data Encryption
ASSM	Automatic Segment Space Management
AMM	Automatic Memory Management
ASMM	Automatic Shared Memory Management
PDB	Pluggable Database
CDB	Container Database
LOB	Large Object
AWR	Automatic Workload Repository
CBO	Cost-Based Optimizer
USD	United States Dollar
NORTHAM	North America
EURO	Europe
CM	Customer Modification
ENG	English
UTC	Coordinated Universal Time
ICU4J	International Components for Unicode
OSDC	Oracle Software Delivery Cloud

Related Documents

You can see the following documents for more information:

Document Name	Description
Oracle Revenue Management and Billing Version 8.1.0.0.0 Release Notes	Lists the new features and enhancements made in this release. It contains high-level information about the supported platforms, framework upgrade, supported upgrades, unsupported integrations, and media pack downloads. It also lists the discontinued features, bug fixes, and known issues in this release.
Oracle Revenue Management and Billing Version 8.1.0.0.0 Release Overview Guide	Describes the new features, enhancements, user interface level changes, and database level changes made in this release. The new features and enhancements are classified under three categories – Generic (which is intended for both domains), Financial Services, and Insurance. It lists and describes enhancements made in the framework. It also encloses the ORMB and OUAF deprecation notices and enables you to access the product documentation.
Oracle Revenue Management and Billing Licensing Guide	Lists different features which you can use when you acquire a license for the following products: • Oracle Financial Services Revenue Management and Billing • Oracle Insurance Revenue Management and Billing It also provides the licensing information about the third-party JARs and components which are included in the above-mentioned products.

Document Name	Description
Oracle Revenue Management and Billing Installation Guide	Provides an overview about the application architecture. It contains detailed information about the software and hardware requirements, supported platforms, application server and database space requirements, and application server pre-requisites for supported platforms. It explains the installation and configuration menu options which are available during installation and advanced menu options which are available post installation. It also explains how to install OUAF, OUAF rollup packs, ORMB, and ORMB patches or rollup packs. It contains appendices which lists ORMB rollup packs and notices about third-party JAR and other components.
Oracle Revenue Management and Billing Quick Installation Guide	Provides information about the media packs which are available for the current release. It contains information about the supported platforms, space requirements, and release-specific documentation library. In addition, it contains high-level information on how to install ORMB and selected additional software.
Oracle Revenue Management and Billing Server Administration Guide	Provides detailed information about the product architecture, native support, directory structures, environment variables, logs, etc. It explains various concepts related to the batch server and lists and describes the scripts required for installing and configuring ORMB. It explains how to monitor the system and configure Web browser, Web application server, business application server, inbound web services, and batch server. It explains how to provide Oracle Cloud Support and how to integrate and monitor Oracle Scheduler. It contains various appendices which lists and describes the parameters available in the ENVIRON.INI, Web.xml, spl.properties, hibernate.properties, submitbatch.properties, threadpoolworker, coherence-cache.config.xml, and tangosol-coherence-override.xml files.

Document Name	Description
Oracle Revenue Management and Billing Security Guide	Highlights what's new in security! Describes all the security features available in ORMB for authentication, authorization, user access, database access, LDAP and SSO integration, audit, encryption, web services, and JNDI access. It also describes how to provide support for data masking, Oracle cloud object storage, groovy, HTTP proxy, keystore, truststore, whitelist, federated architecture, and object erasure. In addition, it explains how to garble the customer information.
Oracle Revenue Management and Billing Direct Database Upgrade Guide	Explains how to directly upgrade the ORMB database from 2.5.0.1.0 or any later version to the current release. It also highlights any known issues during direct database upgrade and how to handle these issues in the database.

Change Log

Revision	Last Update	Updated Section	Comments
29.1	11-Mar-2026	Section 2.1: Installation Overview	Updated Information
		Section 2.2: Creating the Database	Updated Information
		Section 2.3: Oracle Database Installation	Updated Information
		Section 2.3.2: Demo Install	Added Section
		Appendix A: New Objects in the Oracle Revenue Management and Billing V8.1.0.0.0 Database	Updated Information
		Appendix D: New Objects in the Oracle Utilities Application Framework V25.4 Database	Updated Information

Access to Oracle Support

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Contents

1.   Database Overview

This section provides an overview of the Oracle Revenue Management and Billing database. It contains the following topics:

- Supported Database Platforms
- Database Maintenance Rules

1.1   Supported Database Platforms

This section defines the platforms on which Oracle Revenue Management and Billing is verified to operate.

1.1.1   Supported Platforms Summary Table

Oracle Revenue Management and Billing (ORMB) is certified on the following platforms:

Platform	Database Server
Oracle Linux 8.x and 9.x (64-bit) **Note:** Here, **x** represents the vendor supported version.	Oracle Database Server 19c
Red Hat Enterprise Linux 8.x and 9.x (64-bit) **Points to Note:** Here, **x** represents the vendor supported version. Oracle Revenue Management and Billing is tested and certified on Oracle Linux 8.x and 9.x. Oracle Linux is 100% user space-compatible with Red Hat Enterprise Linux, and therefore Oracle Revenue Management and Billing is supported on Red Hat Enterprise Linux.	Oracle Database Server 19c
Microsoft Windows Server 2022+ (64-bit)	Oracle Database Server 19c

Points to Note:

Oracle Corporation distributes Oracle Linux with the following two kernels:

>> Red Hat Compatible Kernel – This kernel is identical to the kernel shipped in Red Hat Enterprise Linux.

>> Unbreakable Enterprise Kernel – This kernel is based on a later Linux 2.6-series kernel, with Oracle's own enhancements for OLTP, InfiniBand, SSD disk access, NUMA-optimizations, Reliable Datagram Sockets (RDS), async I/O, OCFS2, and networking.

Oracle claims that the Unbreakable Enterprise Kernel is compatible with Red Hat Enterprise Linux; and Oracle middleware and third-party Red Hat Enterprise Linux-certified applications can be installed and run unchanged on Unbreakable Enterprise Kernel. However, for users requiring strict compatibility with Red Hat or for users running kernel modules dependent on specific kernel versions, the Red Hat Compatible Kernel offers 100% compatibility with Red Hat Enterprise Linux.

Oracle Applications are developed and tested on Oracle Linux, which is optimized for performance, stability, and security.

The following Oracle Database Server Editions are supported:

- Oracle Database Enterprise Edition

Oracle Database Client 19c is required as a pre-requisite for installing the Oracle Revenue Management and Billing application.

Points to Note:

For instructions on how to install the database server, see Database Installation Guide for Microsoft Windows or Database Installation Guide for Linux depending on the platform you want to install the database server.

For instructions on how to install the database client, see Database Client Installation Guide for Microsoft Windows or Database Client Installation Guide for Linux depending on the platform you want to install the database client.

Oracle Database Enterprise Edition with the **Advanced Compression and Partitioning** options is strongly recommended in all situations.

Ensure that you create and configure Oracle Net Listener on the database server. For more information, see Configuring and Administering Oracle Net Listener.

Microsoft Windows Server is not supported for the Production environments. We strongly recommend you install Oracle Revenue Management and Billing (ORMB) on Microsoft Windows platform only for non-production activities, such as User Acceptance Testing (UAT), development setup, and so on.

1.1.2   Support for Software Patches and Upgrades

Due to the ongoing nature of software improvement, vendors will issue patches and service packs for the operating systems, application servers and database servers on top of specific versions that Oracle Revenue Management and Billing has been tested with.

If it is necessary to apply an upgrade, please do so in a test environment that is running on the same platform as your production environment prior to updating the Oracle Revenue Management and Billing production environment.

Always contact Oracle Revenue Management and Billing Support prior to applying vendor updates that do not guarantee backward compatibility.

1.2 Database Maintenance Rules

The database supplied with the product consists of the following elements:

- A set of users to administrate, execute and read the database schema provided.
- A set of database roles to implement security for each of the users provided.
- A tablespace and a schema containing the base database objects used by the product.

The installation instructions are outlined in the installation section of this document.

1.2.1   Permitted Database Changes

During and after installation of the product the following changes may be performed by the database administrator personnel on site:

- Users supplied by product may be changed according to the site standards.
- Database objects may be added to the schema according to database naming standards outlined later in this document.
- Database views and indexes may be created against base database objects. Please make sure to prefix them with "CM" (for customer modification).
- Database storage attributes for base indexes and base tables may be changed according to site standards and hardware used.
- Tablespace names, attributes and locations may be changed according to site standards.
- Database topology (i.e., base table/index to tablespace, tablespace to data file, data file to location) may be altered according to tuning and/or site standards.
- Database triggers may be created against base database objects unless they attempt to contravene base data integrity rules.
- Database initialization and parameter settings may be altered according to site standards unless otherwise advised by Oracle Support or outlined in this document.

1.2.2   Non-Permitted Database Changes

To maintain operability and upgradeability of the product, during and after the installation of the product, the following changes may not be performed by the database administration personnel on site:

- Base objects must not be removed or altered in the following ways:
  - Columns in base tables must not be altered, removed, or added in anyway.
  - Columns in Indexes must not be altered or removed.
  - Tables must not be renamed or removed.
  - Base views must not be renamed or removed.
  - Base Triggers and Sequences must not be renamed or removed.
  - Base indexes must not be altered or removed.

2. Installing Oracle Revenue Management and Billing Version 8.1.0.0.0 Database

This section provides the instructions for installing the Oracle Revenue Management and Billing database. It contains the following topics:

- Installation Overview
- Creating the Database
- Oracle Database Installation

2.1 Installation Overview

See the Supported Database Platforms section for information about the supported platforms on which Oracle Revenue Management and Billing is verified to operate.

The following type of installation is available for Oracle Revenue Management and Billing:

- Initial Install — a database without demo data
- Demo Install — a database with demo data

The database installation requires Java Development Kit Version 17.0 and Oracle Database Client 19c on the Windows desktop where the install package is staged and run.

2.2 Creating the Database

For an initial or demo install, you will create an empty database on the UNIX or Windows database server on which you operate the production instance of Oracle Revenue Management and Billing.

> **Note:** On the Windows database server, you should be logged in as a user who is a member of the local ORA_DBA group on that server. The ORA_DBA group should have the administrator privileges assigned to it.

To create the database:

1. Create the database using the Database Configuration Assistant (DBCA). See the *Master Note: Overview of Database Configuration Assistant (DBCA) (Document ID: 1488770.1)* article on My Oracle Support for more information.

> **Note:** In the prior versions of the product, the `cdxdba` utility (`cdxdba.plx` for UNIX and `CDXDBA.exe` for Windows) was included in the package. However, it is no longer supported. Instead of using the `cdxdba` utility, use the **Database Configuration Assistant** to create the database. It is strongly recommended to use the Database Configuration Assistant to create the database.

2. Ensure that you set the database character set to AL32UTF8 and national character set (NLS_NCHAR_CHARACTERSET) to AL16UTF16.

3. Enable the following mandatory software options:
   - Oracle Spatial OR Oracle Locator
   - Oracle Text

4. Execute the following SQL command to verify whether the above mandatory software options are enabled:

```
SELECT COMP_NAME, STATUS FROM DBA_REGISTRY WHERE COMP_NAME
IN('Spatial','Oracle Text');
```

Note: From OUAF V4.4.0.0.0 onwards, the database users are assigned only the minimum set of privileges required to perform their necessary job functions. This privilege assignment is based on 'Principle of Least Privilege' and is implemented with a view to make the application more secure.

5. Enable the extended data types by setting the MAX_STRING_SIZE parameter to EXTENDED. For more information, see the [Setting the MAX_STRING_SIZE Parameter to EXTENDED](#) section.

2.2.1　Creating Tablespace, Roles, and Users for ORMB Schema

Once you create the database, you need to do the following:

1. Create the default tablespace named CISTS_01 using the following command:

```
CREATE   BIGFILE   TABLESPACE   CISTS_01   LOGGING   DATAFILE
'/<db_file_location>/oradata/<DB_NAME>/cists01.dbf' SIZE 5G REUSE
AUTOEXTEND ON EXTENT MANAGEMENT LOCAL AUTOALLOCATE;
```

2. Create the CIS_ADM, CIS_USER, and CIS_READ roles using the following commands:

```
CREATE ROLE CIS_ADM NOT IDENTIFIED;
CREATE ROLE CIS_USER NOT IDENTIFIED;
CREATE ROLE CIS_READ NOT IDENTIFIED;
```

3. Assign the privileges to the CIS_USER role using the following command:

```
GRANT CREATE SYNONYM TO CIS_USER;
```

4. Assign the privileges to the CIS_READ role using the following command:

```
GRANT CREATE SYNONYM TO CIS_READ;
```

5. Assign the privileges to the CIS_ADM role using the following commands:

```
GRANT CREATE TABLE TO CIS_ADM;

GRANT CREATE VIEW TO CIS_ADM;

GRANT CREATE SYNONYM TO CIS_ADM;

GRANT CREATE MATERIALIZED VIEW TO CIS_ADM;

GRANT CREATE SEQUENCE TO CIS_ADM;

GRANT CREATE INDEXTYPE TO CIS_ADM;

GRANT CREATE ROLE TO CIS_ADM;

GRANT CREATE TRIGGER TO CIS_ADM;

GRANT CREATE PROCEDURE TO CIS_ADM;

GRANT CREATE TYPE to CIS_ADM;
```

```
GRANT CREATE ANY SYNONYM TO CIS_ADM;

GRANT DROP ANY SYNONYM TO CIS_ADM;
```

6. Enable the `DBMS_CRYPTO` package using the following command:

```
GRANT EXECUTE ON DBMS_CRYPTO TO CISADM;
```

7. Create the `CISADM` user using the following commands:

```
CREATE USER CISADM IDENTIFIED BY CISADM DEFAULT TABLESPACE
CISTS_01 TEMPORARY TABLESPACE TEMP PROFILE DEFAULT;

ALTER USER CISADM QUOTA UNLIMITED ON CISTS_01;
```

8. Assign the privileges to the `CISADM` user using the following commands:

```
GRANT CREATE SESSION TO CISADM;

GRANT EXECUTE on DBMS_UTILITY TO CISADM;

GRANT SELECT_CATALOG_ROLE TO CISADM;

GRANT EXECUTE_CATALOG_ROLE TO CISADM;

GRANT CIS_ADM TO CISADM;
```

9. Assign the scheduler privileges to the `CISADM` user using the following commands:

```
GRANT EXECUTE, DEBUG ON DBMS_SCHEDULER TO CISADM;

GRANT MANAGE SCHEDULER TO CISADM;

GRANT CREATE ANY JOB TO CISADM;

BEGIN

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.ALTER_ANY_
EVALUATION_CONTEXT, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.ALTER_ANY_
RULE, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.ALTER_ANY_
RULE_SET, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.CREATE_ANY
_EVALUATION_CONTEXT, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.CREATE_EVA
LUATION_CONTEXT_OBJ, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.CREATE_ANY
_RULE, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.CREATE_RUL
E_OBJ, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.CREATE_ANY
_RULE_SET, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.CREATE_RUL
E_SET_OBJ, 'CISADM');
```

```
DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.DROP_ANY_E
VALUATION_CONTEXT, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.DROP_ANY_R
ULE, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.DROP_ANY_R
ULE_SET, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.EXECUTE_AN
Y_EVALUATION_CONTEXT, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.EXECUTE_AN
Y_RULE, 'CISADM');

DBMS_RULE_ADM.GRANT_SYSTEM_PRIVILEGE(SYS.DBMS_RULE_ADM.EXECUTE_AN
Y_RULE_SET, 'CISADM');

END;
/
```

10. Create the `CISUSER` user using the following commands:

```
CREATE USER CISUSER PROFILE DEFAULT IDENTIFIED BY CISUSER DEFAULT
TABLESPACE CISTS_01 TEMPORARY TABLESPACE TEMP;

ALTER USER CISUSER QUOTA UNLIMITED ON CISTS_01;
```

11. Assign the privileges to the `CISUSER` user using the following commands:

```
GRANT CIS_USER to CISUSER;

GRANT CREATE SESSION TO CISUSER;
```

12. Create the `CISREAD` user using the following commands:

```
CREATE USER CISREAD IDENTIFIED BY CISREAD DEFAULT TABLESPACE
CISTS_01 TEMPORARY TABLESPACE TEMP;

ALTER USER CISREAD QUOTA UNLIMITED ON CISTS_01;
```

13. Assign the privileges to the `CISREAD` user using the following commands:

```
GRANT CIS_READ to CISREAD;

GRANT CREATE SESSION TO CISREAD;
```

14. Create the `CISOPR` user using the following command:

```
CREATE USER CISOPR PROFILE DEFAULT IDENTIFIED BY OPRPLUS DEFAULT
TABLESPACE CISTS_01 TEMPORARY TABLESPACE TEMP;
```

15. Assign the privileges to the `CISOPR` user using the following command:

```
GRANT CREATE SESSION,EXP_FULL_DATABASE TO CISOPR;
```

Note: Oracle Utilities Application Framework and Oracle Revenue Management and Billing do not use the database edition feature. Hence, the product does not make schema (CISADM) explicitly editionable.

16. Review the `Storage.xml` file in the `TEMPDIR/Install-Upgrade` folder prior to an initial install.

This file allocates all base tables and indexes to the default tablespace (CISTS_01) and the required users and roles. Information in this file is used by `spl-oradbi-25.4.jar` while installing the Oracle Revenue Management and Billing database objects. Refer to the Updating Storage.xml section for more information on how to update the `Storage.xml` file.

> **Note:** You will need to review the Storage.xml file, prior to an initial install, to update the default values to custom values (for example, TableSpace Name). The `spl-oradbi-25.4.jar` can be executed by a non-schema owner to upgrade the database. The Initial Install still needs to be done by the schema owner.

If you decide to allocate some tables or indexes outside of the default tablespace, change the tablespace name from the default value to a custom value in the `Storage.xml` file.

For instance, if you decide to allocate the `CI_ACCT` table in the `MyTablespace` tablespace, change Storage.xml as shown:

```
<CI_ACCT>
    <TABLESPACE>MyTablespace</TABLESPACE>
</CI_ACCT>
```

For optimum storage allocation, database administrators should create multiple tablespaces with extents sized to store different types of tables/indexes. They can then edit the `storage.xml` file before install process, to spread tables and indexes across these tablespaces. Tables and indexes can be created in parallel by editing degree of parallelism. Tablespace, storage options, secure file options, Advanced Compression, and parallel information are used only for new objects. Therefore, for initial installs, information for each object should be reviewed. Be careful while editing this file. Make sure that tablespace names being used exist in the database. Do not change the basic format of this file.

> **Note:** Prior to the installation of the database schema for the product, ensure that the Database Management System software is installed according to your site standards and the installation guide provided by the database vendor. Also, make sure that you have necessary licenses to use some of the advanced database features, such as Advanced Compression.

2.2.2 Creating Tablespace and User for ORMB ML Schema

If you want to implement the Machine Learning feature for ORMB, you need to do the following:

1. Create the tablespace named `CISADM_ML_01` using the following command:

```
CREATE    BIGFILE    TABLESPACE    CISADM_ML_01    DATAFILE
'TABLESPACE_PATH_FOR_CISADM_ML/CISADM_ML_01.dbf'    SIZE    5G
AUTOEXTEND ON EXTENT MANAGEMENT LOCAL AUTOALLOCATE
```

2. Create the `CISADM_ML` user and assign privileges using the following commands:

```
CREATE USER CISADM_ML IDENTIFIED BY <PASSWORD> DEFAULT TABLESPACE
CISADM_ML_01 TEMPORARY TABLESPACE TEMP PROFILE DEFAULT;

GRANT CREATE SESSION TO CISADM_ML

GRANT SELECT ANY TABLE TO CISADM_ML

GRANT CREATE ANY TABLE TO CISADM_ML

GRANT CREATE PROCEDURE TO CISADM_ML
```

```
GRANT CREATE SEQUENCE TO CISADM_ML

GRANT UNLIMITED TABLESPACE TO CISADM_ML

GRANT CREATE MINING MODEL TO CISADM_ML

GRANT CREATE ANY MINING MODEL TO CISADM_ML

GRANT ALTER ANY MINING MODEL TO CISADM_ML

GRANT DROP ANY MINING MODEL TO CISADM_ML

GRANT SELECT ANY MINING MODEL TO CISADM_ML

GRANT COMMENT ANY MINING MODEL TO CISADM_ML

GRANT AUDIT ANY TO CISADM_ML

GRANT CREATE VIEW TO CISADM_ML

GRANT CREATE MATERIALIZED VIEW TO CISADM_ML

GRANT CREATE SYNONYM TO CISADM_ML

GRANT CREATE JOB TO CISADM_ML

GRANT CREATE ANY JOB TO CISADM_ML

GRANT MANAGE SCHEDULER to CISADM_ML;
```

2.3 Oracle Database Installation

This section describes how to install the Oracle Database for Oracle Revenue Management and Billing Version 8.1.0.0.0. It contains the following topics:

- Initial Install or Installing Version 8.1.0.0.0 for the First Time
- Demo Install
- Populating Language Data

Note: The installation tools outlined in this guide run on Windows and Linux only. Please see the Supported Database Platforms section for more information on supported platforms.

2.3.1 Initial Install or Installing Version 8.1.0.0.0 for the First Time

This section describes how to install the database components of Oracle Revenue Management and Billing. It contains the following topics:

- Pre-requisites
- Downloading the OUAF Database Package
- Decompressing the OUAF Database Package
- Downloading the OUAF Rollup Package
- Decompressing the OUAF Rollup Package
- Downloading the ORMB Database Package
- Decompressing the ORMB Database Package
- Creating the Database
- Setting the MAX_STRING_SIZE Parameter to EXTENDED

- Enabling the DBMS_CRYPTO Package
- Installing Oracle Utilities Application Framework
- Installing Oracle Revenue Management and Billing
- Post Installation Tasks

Points to Note:

You must have a supported version of the Java Development Kit installed on the Windows and Linux desktop where you stage and run the database installation package. See the *Oracle Revenue Management and Billing Installation Guide* for more information.

Before you begin with the installation, ensure that you have Oracle Database Client installed on the Microsoft Windows or Linux desktop.

2.3.1.1   Pre-requisites

Before installing Oracle Utilities Application Framework Version 25.4, you need to do the following:

- Set the **MAX_STRING_SIZE** parameter to **EXTENDED** – For more information, see the Setting the MAX_STRING_SIZE Parameter to EXTENDED section.
- Assign the **Execute** privilege for the **DBMS_CRYPTO** package to the **CISADM** user - For more information, see the Enabling the DBMS_CRYPTO Package section.
- Set the interval partitioning for the **F1_MO_UPD** and **F1_MO_UPD_BACKLOG** tables – For more information, see the Partitioning F1_MO_UPD and F1_MO_UPD_BACKLOG Tables section.

2.3.1.2   Downloading the OUAF Database Package

Oracle Utilities Application Framework 25.4 media pack can be installed on the following supported platforms:

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

The media pack includes the following packages - **Oracle Utilities Application Framework 25.4 - Database Installation Media** and **Oracle Utilities Application Framework 25.4 - Application Installation Media**.

To download the OUAF database package:

1. Login to Oracle Software Delivery Cloud.
2. Select the **Release** option from the **All Categories** list.
3. Type **Oracle Utilities Application Framework** in the corresponding text box.
4. Click **Search**. A list of media packs appears in the search results.
5. Click the **Select** ( ) icon corresponding to the **Oracle Utilities Application Framework 25.4** media pack.
6. If required, you can verify the media pack which is selected by clicking the **View Items** link.
7. Click the **Continue** link. A page appears.
8. Select the required platform from the **Platforms/Languages** list.
9. Click **Continue**. A page appears with the license agreement.

10. Scroll and read the entire license agreement and then click the **I reviewed and accept the Oracle License Agreement** option.

11. Click **Continue**. The **File Download** page appears.

12. Select the **Oracle Utilities Application Framework 25.4 - Database Installation Media** package from the media pack and then click **Download**. An executable file is downloaded on your local machine.

13. Run the executable file. The **Oracle Download Manager** window appears.

14. Browse to the location where you want to download the package and then click **Next**. A zip file is downloaded on your local machine.

2.3.1.3   Decompressing the OUAF Database Package

To decompress the OUAF database package:

1. Create a temporary folder named `TEMPDIR` on your local machine.

2. Copy the **Oracle Utilities Application Framework 25.4 - Database Installation Media** package (i.e., downloaded zip file) to the `TEMPDIR` folder.

3. Unzip the downloaded file in the `TEMPDIR` folder. The contents include the following sub-folders:

   - `Install-Upgrade`
   - `jarfiles`

2.3.1.4   Downloading the OUAF Rollup Package

The rollup pack for Oracle Utilities Application Framework Version 25.4 is shipped in the **Oracle Financial Services Revenue Management and Billing 8.1.0.0.0** and **Oracle Insurance Revenue Management and Billing 8.1.0.0.0** media packs.

To download the OUAF Rollup package:

1. Login to [Oracle Software Delivery Cloud](#).

2. Select the **Release** option from the **All Categories** list.

3. Type **Oracle Financial Services Revenue Management and Billing** or **Oracle Insurance Revenue Management and Billing** in the corresponding text box.

4. Click **Search**. A list of media packs appears in the search results.

5. Click the **Select** ( ) icon corresponding to the **Oracle Financial Services Revenue Management and Billing 8.1.0.0.0** or **Oracle Insurance Revenue Management and Billing 8.1.0.0.0** media pack.

6. If required, you can verify the media pack which is selected by clicking the **View Items** link.

7. Click the **Continue** link. A page appears.

8. Select the required platform from the **Platforms/Languages** list.

9. Click **Continue**. A page appears with the license agreement.

10. Scroll and read the entire license agreement and then click the **I reviewed and accept the Oracle License Agreement** option.

11. Click **Continue**. The **File Download** page appears.

12. Select the **Oracle Financial Services Revenue Management and Billing 8.1.0.0.0 - Oracle Utilities Application Framework (25.4) Single Fix Prerequisite Rollup** package from the media pack and then click **Download**. An executable file is downloaded on your local machine.

13. Run the executable file. The **Oracle Download Manager** window appears.

14. Browse to the location where you want to download the package and then click **Next**. The package is downloaded on your local machine.

2.3.1.5   Decompressing the OUAF Rollup Package

To decompress the OUAF Rollup package:

1. Copy the **Oracle Financial Services Revenue Management and Billing 8.1.0.0.0 - Oracle Utilities Application Framework (25.4) Single Fix Prerequisite Rollup** package (i.e., downloaded zip file) to the `TEMPDIR` folder.

2. Unzip the downloaded file in the `TEMPDIR` folder. The contents include the `ORMB-V81000-FW-PREREQ-MultiPlatform.jar` file.

2.3.1.6   Downloading the ORMB Database Package

Oracle Financial Services Revenue Management and Billing 8.1.0.0.0 and **Oracle Insurance Revenue Management and Billing 8.1.0.0.0** media packs can be installed on the following supported platforms:

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

The media pack includes multiple packages. For more information, see the **Media Pack Contents** section in the *Oracle Revenue Management and Billing Version 8.1.0.0.0 Quick Installation Guide*.

To download the ORMB database package:

1. Login to [Oracle Software Delivery Cloud](#).

2. Select the **Release** option from the **All Categories** list.

3. Type **Oracle Financial Services Revenue Management and Billing** or **Oracle Insurance Revenue Management and Billing** in the corresponding text box.

4. Click **Search**. A list of media packs appears in the search results.

5. Click the **Select** ( ) icon corresponding to the **Oracle Financial Services Revenue Management and Billing 8.1.0.0.0** or **Oracle Insurance Revenue Management and Billing 8.1.0.0.0** media pack.

6. If required, you can verify the media pack which is selected by clicking the **View Items** link.

7. Click the **Continue** link. A page appears.

8. Select the required platform from the **Platforms/Languages** list.

9. Click **Continue**. A page appears with the license agreement.

10. Scroll and read the entire license agreement and then click the **I reviewed and accept the Oracle License Agreement** option.

11. Click **Continue**. The **File Download** page appears.

12. Select the **Oracle Financial Services Revenue Management and Billing 8.1.0.0.0 - Oracle Database** package from the media pack and then click **Download**. An executable file is downloaded on your local machine.

13. Run the executable file. The **Oracle Download Manager** window appears.

14. Browse to the location where you want to download the package and then click **Next**. The package is downloaded on your local machine.

2.3.1.7   Decompressing the ORMB Database Package

To decompress the ORMB database package:

1. Copy the **Oracle Financial Services Revenue Management and Billing 8.1.0.0.0 - Oracle Database** package (i.e., downloaded zip file) to the `TEMPDIR` folder.
2. Unzip the downloaded file in the `TEMPDIR` folder. The contents include the following sub-folder:
   - `RMB`

2.3.1.8   Creating the Database

Points to Note:

You must have Oracle Database Server 19c installed on your machine to create the database.

The Linux and Windows database creation utilities create an empty database with `AL32UTF8` character set and at least one tablespace for storing the application objects before running the installation. The default name of the application tablespace is `CISTS_01`.

Creating the Database on UNIX

Create the database using the Database Configuration Assistant (DBCA). See the *Master Note: Overview of Database Configuration Assistant (DBCA) (Document ID: 1488770.1)* article on My Oracle Support for more information. Ensure that you set the database character set to `AL32UTF8` and national character set (NLS_NCHAR_CHARACTERSET) to `AL16UTF16`.

For more information on how to create the database, see the Creating the Database section.

Creating the Database on Windows

You should be logged in as a user who is a member of the local `ORA_DBA` group on that server. The `ORA_DBA` group should have "administrator" privileges assigned to it.

Create the database using the Database Configuration Assistant (DBCA). See the *Master Note: Overview of Database Configuration Assistant (DBCA) (Document ID: 1488770.1)* article on My Oracle Support for more information. Ensure that you set the database character set to `AL32UTF8` and national character set (NLS_NCHAR_CHARACTERSET) to `AL16UTF16`.

For more information on how to create the database, see the Creating the Database section.

2.3.1.9   Setting the MAX_STRING_SIZE Parameter to EXTENDED

Some of the Oracle Utilities Application Framework application table VARCHAR2 fields require byte size beyond 4000 bytes to store data for new application requirements. To support this requirement, the Oracle Utilities Application Framework database should use the Extended Data Types feature. You can enable the Extended Data Types feature by setting the `MAX_STRING_SIZE` parameter to `EXTENDED`.

Points to Note:

`EXTENDED` means that the 32767-byte limit introduced in Oracle Database 12c, or higher versions applies to the database.

This change in your database environment is mandatory. If you do not set the `MAX_STRING_SIZE` parameter to `EXTENDED`, it will lead to errors during the installation process.

If you have created 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.

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 created 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;
   ```

2.3.1.10 Enabling the DBMS_CRYPTO Package

Before installing Oracle Utilities Application Framework Version 25.4, ensure that you provide the execute privilege for the DBMS_CRYPTO package to the CISADM user. You can assign the required privileges by executing the following command as SYS:

```
GRANT EXECUTE ON DBMS_CRYPTO TO CISADM;
```

2.3.1.11 Installing Oracle Utilities Application Framework

You need to install Oracle Utilities Application Framework Version 25.4 prior to Oracle Revenue Management and Billing Version 8.1.0.0.0. The files for Oracle Utilities Application Framework installer are in the `TEMPDIR/Install-Upgrade` folder. The installation process will prompt you for the following information:

- The target database name in which the product is to be installed.

- A database user that will own the application schema (for example, `CISADM`).

- A database user that has read-write (select, update, insert, and delete) privileges to the objects in the application schema (for example, `CISUSER`). The application will access the database as this user.

- A database user with read-only privileges to the objects in the application schema (for example, `CISREAD`).

- A database role that has read-write (select, update, insert, and delete) privileges to the objects in the application schema. The application will access the database as this user (for example, `CIS_USER`).

- A database role with read-only privileges to the objects in the application schema (for example, `CIS_READ`).

- Location of the jar files. (The Jar files are bundled with the database package.)

- Java Home (for example, `C:\Java\jdk-17`)

OraDBI.java is a tool to install and upgrade database components. It can be run from UNIX or Windows machines that has the Oracle Database Client 19c installed. To install Oracle Utilities Application Framework (OUAF), you need to install the following in the specified order:

1. Oracle Utilities Application Framework Version 25.4
2. Rollup Pack for Oracle Utilities Application Framework Version 25.4

Installing Oracle Utilities Application Framework Version 25.4

To install the schema for Oracle Utilities Application Framework Version 25.4, you should have the following:

- Java Development Kit Version 17.0

- Oracle Database

- Schema (such as CISADM) should exist in the database

- MAX_STRING_SIZE parameter set to `EXTENDED`

To install Oracle Utilities Application Framework (OUAF) Version 25.4:

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

   Windows:
   ```
   SET JAVA_HOME=<JAVA_HOME_PATH>
   ```
   Linux:
   ```
   export JAVA_HOME=<JAVA_HOME_PATH>
   ```

Note: The `<JAVA_HOME_PATH>` is the location where Java Development Kit Version 17.0 is installed.

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

   Linux:
   ```
   export JAR_PATH=TEMPDIR/jarfiles
   ```

Points to Note:

The above command is applicable only for the Linux platform.

The `TEMPDIR` folder is the location where you have extracted the contents of the **Oracle Utilities Application Framework 25.4 - Database Installation Media** package.

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

   Windows:
   ```
   SET CLASS_PATH=TEMPDIR\jarfiles\*
   ```
   Linux:
   ```
   export CLASS_PATH=$JAR_PATH/commons-cli-
   1.9.0.jar:$JAR_PATH/commons-codec-1.17.1.jar:$JAR_PATH/jackson-
   annotations-2.17.0.jar:$JAR_PATH/jackson-core-
   2.17.0.jar:$JAR_PATH/jackson-databind-2.17.0.jar:$JAR_PATH/log4j-
   api-2.21.0.jar:$JAR_PATH/log4j-core-2.21.0.jar:$JAR_PATH/ojdbc17-
   23.6.0.24.10.jar:$JAR_PATH/spl-oradbi-25.4.jar:$JAR_PATH/spl-
   shared-25.4.jar
   ```

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

   Windows:
   ```
   cd TEMPDIR\Install-Upgrade
   ```
   Linux:
   ```
   cd TEMPDIR/Install-Upgrade
   ```

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

   Windows:
   ```
   %JAVA_HOME%\bin\java -Xmx1500M -cp %CLASS_PATH%
   com.oracle.ouaf.oem.install.OraDBI -d jdbc:oracle:thin:
   @<DB_SERVER_NAME>:<DB_PORT>:<DB_NAME>, <SCHEMA_NAME>,
   <SCHEMA_PASSWORD>, <READWRITE_USER>, <READONLY_USER>,
   <READWRITE_ROLE>, <READONLY_ROLE>, <SCHEMA NAME> -p
   <READWRITE_USER_PASSWORD>, <READONLY_USER_PASSWORD> -l 1,2 -q
   true
   ```

Linux:

```
$JAVA_HOME/bin/java -Xmx1500M -cp $CLASS_PATH
com.oracle.ouaf.oem.install.OraDBI -d jdbc:oracle:thin:
@<DB_SERVER_NAME>:<DB_PORT>:<DB_NAME>, <SCHEMA_NAME>,
<SCHEMA_PASSWORD>, <READWRITE_USER>, <READONLY_USER>,
<READWRITE_ROLE>, <READONLY_ROLE>, <SCHEMA NAME> -p
<READWRITE_USER_PASSWORD>, <READONLY_USER_PASSWORD> -l 1,2 -q
true
```

Note: You can also use the `-f` option `{-f filename}` instead of all other options mentioned above. In the given parameter file, you need to maintain all the required arguments or options to run the `OraDBI` utility.

A message appears indicating that the process is completed successfully. This process generates log files in the `TEMPDIR/Install-Upgrade/Logs` directory.

6. Ensure that you check the log files for any errors.

Points to Note:

While executing the `OraDBI` utility, you may receive the following message in the display output or logs. This error can be safely ignored, and the process should proceed to completion.

```
-              2016-05-23        16:31:38,315        [main]        ERROR
(common.cryptography.KeyStoreWrapperFactory)    The    keystore    file
'<filename>' does not exist.…
```

…

This file is either provided by the `com.oracle.ouaf.system.keystore.file` property or expected to exist at the default file location null attempting to use the legacy cryptography.

```
-   2016-05-23 16:31:38,566 [main] INFO (oem.install.OraDBI)
```

On installing Oracle Utilities Application Framework Version 25.4, various objects are created in the database under CISADM schema. The following table lists the number of objects that are created when you install framework:

Object Type	Count
INDEX	1088
TRIGGER	1
PACKAGE BODY	2
PACKAGE	2
FUNCTION	1
LOB	100
SEQUENCE	4
TABLE	702
VIEW	25

> **Note:** You should use the above object count for verification only when you are doing fresh installation on the database server and not when you are upgrading the database.

Ideally, the Oracle Utilities Application Framework Version 25.4 installation should approximately finish in 5 minutes. The execution time can vary to great extent depending on network speed between local machine and server location.

After setting up roles and users, the utility continues upgrading schema and system data definitions. If an error occurs while executing an SQL or another utility, it logs and displays the error message and allows you to re-execute the current step.

> **Points to Note:**
>
> OraDBI performs the following tasks:
>
> **>>** Interacts with the user to collect information about the name of Oracle account that will own the application schema (for example, `CISADM`), password of this account, and the name of the Oracle account that the application user will use (for example, `CISUSER`), and the name of the Oracle account that will be assigned read-only privileges to the application schema (for example, `CISREAD`).
>
> **>>** Verifies whether tablespace names already exist in the `Storage.xml` file (if not, the process will abort).
>
> **>>** Installs the schema, installs the system data, and configures security.
>
> **>>** Maintains upgrade log tables in the database.
>
> **>>** Updates release ID when the upgrade is completed successfully.
>
> **>>** If an error occurs while executing a SQL script or another utility, it logs and displays the error message and allows you to re-execute the current step. Log files `OraDBI###.log` are created in the same folder as OraDBI and contains all the SQL commands executed against the database along with the results. The log files are incremental so that the results are never overwritten. If warning messages are generated during the upgrade, OraDBI prompts the user at the end of the process. Users should check the log files to verify the warning messages.
>
> **>>** Warning messages are only alerts and do not necessarily mean a problem exists.
>
> **>>** Stores the Schema owner and password in the feature configuration table. The password is stored in encrypted format.
>
> **>>** OraDBI can be executed by a non-schema owner.

Installing Rollup Pack for Oracle Utilities Application Framework Version 25.4

You can install the rollup pack for Oracle Utilities Application Framework Version 25.4 from a Windows machine or Linux Standalone server. Note that Java 17.0 JDK should be installed on the respective machine. Ensure that you install the JDK that is supported for your platform.

To install the rollup pack for Oracle Utilities Application Framework Version 25.4:

1. Change to the `TEMPDIR` folder which contains the `ORMB-V81000-FW-PREREQ-MultiPlatform.jar` file.
2. Decompress the JAR file using the following command:
   ```
   jar -xvf ORMB-V81000-FW-PREREQ-MultiPlatform.jar
   ```

A sub-folder named `FW-V25.4-Rollup` is extracted. It contains the following two sub-folders:

- `Application`
- `Database`

3. Create a folder named `dbpatch_tools` in the `TEMPDIR` folder.

4. Create the `db_patch_standalone.jar` file on the application server. For more information, see the **Database Patching Process** section in the *Oracle Revenue Management and Billing Installation Guide*.

5. Copy the `db_patch_standalone.jar` file from the `$SPLEBASE/tools/dbstandalone` or `%SPLEBASE%\tools\dbstandalone` folder to the `dbpatch_tools` folder.

6. Decompress the JAR file using the following command:

   Windows:
   ```
   cd TEMPDIR\dbpatch_tools
   jar -xvf db_patch_standalone.jar
   ```
   Linux:
   ```
   cd TEMPDIR/dbpatch_tools
   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`

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

   Windows:
   ```
   SET TOOLSBIN=TEMPDIR\dbpatch_tools\bin
   ```
   Linux:
   ```
   export TOOLSBIN=TEMPDIR/dbpatch_tools/bin
   ```

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

   Windows:
   ```
   cd TEMPDIR\FW-V25.4-Rollup\Database
   ```
   Linux:
   ```
   cd TEMPDIR/FW-V25.4-Rollup/Database
   ```

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

   Windows:
   ```
   TEMPDIR\dbpatch_tools\bin\ouafDatabasePatch.cmd
   OR
   %SPLEBASE%\tools\bin\db\bin\ouafDatabasePatch.cmd
   ```

Linux:

```
TEMPDIR/dbpatch_tools/bin/ouafDatabasePatch.sh
OR
$SPLEBASE/tools/bin/db/bin/ouafDatabasePatch.sh
```

Points to Note:

On the Linux platform, ensure that you grant the execute permission for the `ouafDatabasePatch.sh` utility using the following command:

```
chmod 755 ouafDatabasePatch.sh
```

In the previous versions of Oracle Revenue Management and Billing, you used to execute the `cdxpatch` utility while installing the rollup pack for Oracle Utilities Application Framework. Henceforth, the `cdxpatch` utility is no longer supported and you need to use the `ouafDatabasePatch` utility.

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:DB_PORT:DB_SID>`
	`OR`
	`<DB_SERVER:DB_PORT/SERVICE_NAME>`

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 25.4. You will have to first change the database user password. For more information on how to change the database user password, see Appendix C: Changing the DB User Password.

10. Enter the required parameter value. The following message appears in the command line:

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

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

On installing the rollup pack for Oracle Utilities Application Framework Version 25.4, various objects are created in the database under CISADM schema. The following table lists the number of objects that are created when you install the framework rollup pack:

Object Type	Count
INDEX	1088

Object Type	Count
TRIGGER	1
PACKAGE BODY	2
PACKAGE	2
FUNCTION	1
LOB	100
SEQUENCE	4
TABLE	702
VIEW	25

Note: You should use the above object count for verification only when you are doing fresh installation on the database server and not when you are upgrading the database.

Ideally, the framework rollup pack installation should approximately finish in 5 minutes. The execution time can vary to great extent depending on network speed between local machine and server location.

2.3.1.12 Installing Oracle Revenue Management and Billing

To install Oracle Revenue Management and Billing (ORMB) Version 8.1.0.0.0:

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

   Windows:
   ```
   SET JAVA_HOME=<JAVA_HOME_PATH>
   ```
   Linux:
   ```
   export JAVA_HOME=<JAVA_HOME_PATH>
   ```

Note: The `<JAVA_HOME_PATH>` is the location where Java Development Kit Version 17.0 is installed.

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

   Linux:
   ```
   export JAR_PATH=TEMPDIR/RMB/jarfiles
   ```

Points to Note:

The above command is applicable only for the Linux platform.

The `TEMPDIR` folder is the location where you have extracted the contents of the **Oracle Financial Services Revenue Management and Billing 8.1.0.0.0 - Oracle Database** package.

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

   Windows:
   ```
   SET CLASS_PATH=TEMPDIR\RMB\jarfiles\*
   ```

Linux:

```
export CLASS_PATH=$JAR_PATH/commons-cli-
1.9.0.jar:$JAR_PATH/commons-codec-1.17.1.jar:$JAR_PATH/ jackson-
annotations-2.17.0.jar:$JAR_PATH/jackson-core-
2.17.0.jar:$JAR_PATH/jackson-databind-2.17.0.jar:$JAR_PATH/log4j-
api-2.21.0.jar:$JAR_PATH/log4j-core-2.21.0.jar:$JAR_PATH/ojdbc17-
23.6.0.24.10.jar:$JAR_PATH/spl-oradbi-25.4.jar:$JAR_PATH/spl-
shared-25.4.jar
```

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

   Windows:

   ```
   cd TEMPDIR\RMB\Upgrade\Oracle\Install-Upgrade
   ```

   Linux:

   ```
   cd TEMPDIR/RMB/Upgrade/Oracle/Install-Upgrade
   ```

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

   Windows:

   ```
   %JAVA_HOME%\bin\java -Xmx1500M -cp %CLASS_PATH%
   com.oracle.ouaf.oem.install.OraDBI -d jdbc:oracle:thin:
   @<DB_SERVER_NAME>:<DB_PORT>:<DB_NAME>, <SCHEMA_NAME>,
   <SCHEMA_PASSWORD>, <READWRITE_USER>, <READONLY_USER>,
   <READWRITE_ROLE>, <READONLY_ROLE>, <SCHEMA NAME> -p
   <READWRITE_USER_PASSWORD>, <READONLY_USER_PASSWORD> -l 1,2 -q
   true
   ```

   Linux:

   ```
   $JAVA_HOME/bin/java -Xmx1500M -cp $CLASS_PATH
   com.oracle.ouaf.oem.install.OraDBI -d jdbc:oracle:thin:
   @<DB_SERVER_NAME>:<DB_PORT>:<DB_NAME>, <SCHEMA_NAME>,
   <SCHEMA_PASSWORD>, <READWRITE_USER>, <READONLY_USER>,
   <READWRITE_ROLE>, <READONLY_ROLE>, <SCHEMA NAME> -p
   <READWRITE_USER_PASSWORD>, <READONLY_USER_PASSWORD> -l 1,2 -q
   true
   ```

> **Note:** You can also use the `-f` option {`-f filename`} instead of all other options mentioned above. In the given parameter file, you need to maintain all the required arguments or options to run the `OraDBI` utility.

A message appears indicating that the process is completed successfully. This process generates log files in the `TEMPDIR/RMB/Upgrade/Oracle/Install-Upgrade/Logs` directory.

6. Ensure that you check the log files for any errors.

Points to Note:

While executing the `OraDBI` utility, you may receive the following message in the display output or logs. This error can be safely ignored, and the process should proceed to completion.

```
-              2016-05-23          16:31:38,315       [main]        ERROR
(common.cryptography.KeyStoreWrapperFactory)    The    keystore    file
'<filename>' does not exist.…
…
```

This file is either provided by the `com.oracle.ouaf.system.keystore.file` property or expected to exist at the default file location null attempting to use the legacy cryptography.

```
-   2016-05-23 16:31:38,566 [main] INFO (oem.install.OraDBI)
```

On installing Oracle Revenue Management and Billing Version 8.1.0.0.0, various objects are created in the database under CISADM schema. The following table lists the number of objects that are created when you install ORMB:

Object Type	Count
FUNCTION	63
INDEX	4465
PACKAGE	26
PACKAGE BODY	26
PROCEDURE	3
SEQUENCE	55
TABLE	2760
TRIGGER	1
TYPE	19
TYPE BODY	1
VIEW	195
LOB	353

Note: You should use the above object count for verification only when you are doing fresh installation on the database server and not when you are upgrading the database.

Ideally, the Oracle Revenue Management and Billing Version 8.1.0.0.0 installation should approximately finish in 15 minutes. The execution time can vary to great extent depending on network speed between local machine and server location.

2.3.1.13   Post Installation Tasks

Once you install the Oracle Revenue Management and Billing Version 8.1.0.0.0 database, you need to do the following:

1. Apply the ORMB Patches or Apply the ORMB Rollup Packs
2. Enable USER_LOCK Package
3. Grant Permissions to the DBMS_LOCK Package and Recompile Database Objects
4. Generate Database Statistics

Points to Note:

To view the list of patches that you need to apply on the database, see the *ORMB V8.1.0.0.0 Patch Guide (Document ID: 3110234.1)* on My Oracle Support.

Alternatively, instead of individually applying the patches, you can download and install the rollup packs, if available, to apply a set of patches at once. For more information about the rollup packs, see Appendix F: ORMB V8.1.0.0.0 Rollup Packs.

Apply the ORMB Patches

Once you install Oracle Revenue Management and Billing Version 8.1.0.0.0, you need to apply all patches listed in the *ORMB_V8.1.0.0.0_Patch_Guide (Document ID: 3110234.1)*. You can apply a patch from a Windows machine and UNIX Standalone server. Note that Java 17.0 JDK should be installed on the respective machine. Ensure that you install the JDK that is supported for your platform.

To apply a patch:

1. Download the patch from My Oracle Support. A zip file is downloaded.
2. Unzip the downloaded file in your local folder. The contents include three files - `README.txt`, `MultiPlatform.zip`, and `Bug_<PATCH_NUMBER>_Product_Fix_Design.pdf`.
3. Unzip the `MultiPlatform.zip` file in your local folder. The contents include the `V8.1.0.0.0-<PATCH_NUMBER>_MultiPlatform` folder.
4. Change to the `V8.1.0.0.0-<PATCH_NUMBER>_MultiPlatform` folder using the following command:

   Linux:

   ```
   cd <DESTINATION_FOLDER_1>/V8.1.0.0.0-<PATCH_NUMBER>_MultiPlatform
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_1>\V8.1.0.0.0-<PATCH_NUMBER>_MultiPlatform
   ```

Note: The `<DESTINATION_FOLDER_1>` folder is the location where you have extracted the contents of the `MultiPlatform.zip` file.

   The contents include a file named `CCB.V8.1.0.0.0-<PATCH_NUMBER>.jar` and a folder named `database`.

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

   Linux:

   ```
   cd database/ORACLE
   ```

Windows:

```
cd database\ORACLE
```

The contents include a zip file named `CDXPatch`.

6. Unzip the `CDXPatch` file using the following command:

    Linux:

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

    Windows:

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

    The contents of the zip file are extracted in the `<DESTINATION_FOLDER_2>` folder. The contents include utility files and a folder named `<PATCH_NUMBER>`.

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

    Linux:

    ```
    ouafDatabasePatch.sh
    ```

    Windows:

    ```
    ouafDatabasePatch.cmd
    ```

Note: On the Linux platform, ensure that you grant the execute permission for the `ouafDatabasePatch.sh` utility using the following command:

`chmod 755 ouafDatabasePatch.sh`

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:DB_PORT:DB_SID>`
	`OR`
	`<DB_SERVER:DB_PORT/SERVICE_NAME>`

8. Enter the required parameter value. The following message appears in the command line:

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

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

Enable USER_LOCK Package

To enable inbound web services, you must grant permissions to the USER_LOCK package. This is a one-time activity. To grant permissions to the USER_LOCK package:

1. Login as the `SYS` user.
2. On SQL prompt, execute the following SQL:
   ```
   @?/rdbms/admin/userlock.sql
   ```
3. Grant permission using the following SQL command:
   ```
   GRANT EXECUTE ON USER_LOCK TO PUBLIC;
   ```

Note: You can also grant permission to a specific database user (for example, CISADM or CISUSER) instead of granting permissions to all database users.

Grant Permissions to the DBMS_LOCK Package and Recompile Database Objects

To grant permissions to the DBMS_LOCK package, execute the following commands:

Linux:

```
export ORACLE_SID=[DB_NAME]
sqlplus /nolog
conn sys as sysdba
```

Note: On executing the above command, you will be prompted to enter the `SYS` user password.

```
grant EXECUTE, DEBUG on DBMS_LOCK to <DB_USER/[CISADM]>;
```

Points to Note:

These commands should be executed using Oracle SQL Developer.

If you have created the database using any user other than CISADM, you need to specify the respective username in the above grant statement.

After executing the above `grant` statement, recompile the invalid objects, if any, in the database. You can recompile all invalid objects at once using the following commands:

```
export ORACLE_SID=[DB_NAME]
sqlplus /nolog
conn sys as sysdba
SQL> @?/rdbms/admin/utlrp.sql;
```

Windows:

```
set ORACLE_SID=[DB_NAME]
sqlplus /nolog
conn sys as sysdba
```

Note: On executing the above command, you will be prompted to enter the `SYS` user password.

```
grant EXECUTE, DEBUG on DBMS_LOCK to <DB_USER/[CISADM]>;
```

Points to Note:

These commands should be executed using Oracle SQL Developer.

If you have created the database using any user other than CISADM, you need to specify the respective username in the above alter and grant statements.

After executing the above `grant` statement, recompile the invalid objects, if any, in the database. You can recompile all invalid objects at once using the following commands:

```
export ORACLE_SID=[DB_NAME]
sqlplus /nolog
conn sys as sysdba
SQL> @?/rdbms/admin/utlrp.sql;
```

Generate Database Statistics

During the installation process, new database objects may be added to the target database. Before you use the target database, we recommend you gather statistics for the database objects. You should gather statistics periodically for database objects where the statistics become stale over time because of changing data volumes or changes in column values. New statistics should be gathered after a schema object's data or structure are modified in ways that make the previous statistics inaccurate. For example, after loading a significant number of rows into a table, collect new statistics on the number of rows. After updating data in a table, you do not need to collect new statistics on the number of rows, but you might need new statistics on the average row length.

You can gather schema level statistics using the following statement:

```
BEGIN
DBMS_STATS.GATHER_SCHEMA_STATS(OWNNAME=>'CISADM', METHOD_OPT=>'FOR ALL
COLUMNS SIZE AUTO', GRANULARITY=>'ALL', CASCADE=>TRUE, DEGREE=>16);
END;
```

You can also gather the statistics for individual tables using the following statement:

```
BEGIN
DBMS_STATS.GATHER_TABLE_STATS(OWNNAME=>'CISADM',
TABNAME=>'<Table_Name>', GRANULARITY=>'ALL', CASCADE=>TRUE,
METHOD_OPT=> 'FOR ALL COLUMNS SIZE AUTO', DEGREE=>32);
END;
```

We strongly recommend you schedule batch jobs to gather the schema level statistics on the daily basis in the non-peak hours. Please note that the statistics should not be gathered while the application batches are running because this will degrade the application batch performance.

2.3.2   Demo Install

This section describes how to install the demo database components of Oracle Revenue Management and Billing. It contains the following topics:

- Pre-requisites
- Copying and Decompressing Demo Dump Patch
- Creating the Database
- Setting the MAX_STRING_SIZE Parameter to EXTENDED
- Enabling the DBMS_CRYPTO Package
- Importing the Demo Dump File
- Configuring Security
- Post Demo Database Creation Tasks

2.3.2.1   Pre-requisites

Before importing the demo dump, you need to do the following:

- Set the **MAX_STRING_SIZE** parameter to **EXTENDED** – For more information, see the Setting the MAX_STRING_SIZE Parameter to EXTENDED section.
- Assign the **Execute** privilege for the **DBMS_CRYPTO** package to the **CISADM** user - For more information, see the Enabling the DBMS_CRYPTO Package section.
- Set the interval partitioning for the **F1_MO_UPD** and **F1_MO_UPD_BACKLOG** tables – For more information, see the Partitioning F1_MO_UPD and F1_MO_UPD_BACKLOG Tables section.

2.3.2.2   Copying and Decompressing Demo Dump Patch

To download and decompress the demo dump patch:

1. Download the domain-specific demo dump patch from My Oracle Support:

If you belong to…	Then download…
Financial Services domain	BANKING DEMO DATA DUMP FOR RMB 8.1.0.0.0 (Patch Number: 38868440)
Health Insurance domain	HC DEMO DATA DUMP FOR RMB 8.1.0.0.0 (Patch Number: 38907365)

A zip file is downloaded.

2. Create a temporary directory named `TEMPDIR` on your local machine.
3. Unzip the downloaded file in the `TEMPDIR` directory. The financial services specific demo dump patch contains the `GTB81000_demodump.zip` and `README.txt` files and the health insurance specific demo dump patch contains the `HC81000_demodump.zip` and `README.txt` files.
4. Unzip the demo dump file in the `TEMPDIR` directory. The contents include the `GTB81000_demodump.dmp` or `HC81000_demodump.dmp` file, respectively.

2.3.2.3   Creating the Database

Note: You must have Oracle Database Server 19c installed on your machine to create the database.

Creating the Database on UNIX

Create the database using the Database Configuration Assistant (DBCA). See the *Master Note: Overview of Database Configuration Assistant (DBCA)* (Document ID: 1488770.1) article on My Oracle Support for more information. Ensure that you set the database character set to `AL32UTF8` and national character set (NLS_NCHAR_CHARACTERSET) to `AL16UTF16`. For more information on how to create the database, see the Creating the Database section.

Creating the Database on Windows

You should be logged in as a user who is a member of the local ORA_DBA group on that server. The ORA_DBA group should have "administrator" privileges assigned to it.

Create the database using the Database Configuration Assistant (DBCA). See the *Master Note: Overview of Database Configuration Assistant (DBCA) (Document ID: 1488770.1)* article on My Oracle Support for more information. Ensure that you set the database character set to `AL32UTF8` and national character set (NLS_NCHAR_CHARACTERSET) to `AL16UTF16`. For more information on how to create the database, see the Creating the Database section.

2.3.2.4   Setting the MAX_STRING_SIZE Parameter to EXTENDED

Some of the Oracle Utilities Application Framework application table VARCHAR2 fields require byte size beyond 4000 bytes to store data for new application requirements. To support this requirement, the Oracle Utilities Application Framework database should use the Extended Data Types feature. You can enable the Extended Data Types feature by setting the `MAX_STRING_SIZE` parameter to `EXTENDED`.

Points to Note:

`EXTENDED` means that the 32767-byte limit introduced in Oracle Database 12c or higher versions applies to the database.

This change in your database environment is mandatory. If you do not set the `MAX_STRING_SIZE` parameter to `EXTENDED`, it will lead to errors during the installation process.

If you have created 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.
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 created 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;
    ```

2.3.2.5   Enabling the DBMS_CRYPTO Package

After importing the demo dump in the database, ensure that you provide the execute privilege for the DBMS_CRYPTO package to the CISADM user. You can assign the required privileges by executing the following command as SYS:

```
GRANT EXECUTE ON DBMS_CRYPTO TO CISADM;
```

2.3.2.6   Importing the Demo Dump File

Once you create the database, you can import the demo dump file. To import the demo dump file:

1. Create a database directory named `data_pump_dir` (if not available) and then copy the `GTB81000_demodump.dmp` or `HC81000_demodump.dmp` file from the `TEMPDIR` folder to the `data_pump_dir` folder.

2. Set the `ORACLE_SID` and `ORACLE_HOME` environment variables.

3. If the target schema is `CISADM`, then use the following command to import demo dump:

    ```
    impdp system/<pwd>@<dbname> NOLOGFILE=N DIRECTORY=DATA_PUMP_DIR
    DUMPFILE=<dumpFilename>.dmp SCHEMAS=CISADM
    ```

4. If the target schema is other than `CISADM` (for example, `TRGSCHEM)`, then use the following command to import demo dump:

    ```
    impdp system/<pwd>@<dbname> NOLOGFILE=N DIRECTORY=DATA_PUMP_DIR
    DUMPFILE=<dumpFilename>.dmp REMAP_SCHEMA=CISADM:TRGSCHEMA
    ```

2.3.2.7   Configuring Security

The security configuration utility and scripts are already part of the delivered jarfiles in the `../TEMPDIR/jarfiles` directory. It can be executed from a Linux or Windows machine.

> **Points to Note:**
>
> The `TEMPDIR` folder is the location where you have extracted the contents of the **Oracle Utilities Application Framework 25.4 - Database Installation Media** package.
>
> Database Vault must be disabled before executing the security configuration utility.
>
> Interactive mode for this utility is currently not working.
>
> `-f` parameter is not working and will be deprecated soon.

This utility configures security for the application owner schema objects. `Oragensec`, by default, grants permissions to the `CIS_USER` and `CIS_READ` roles. To use the site-specific roles, execute `Oragensec` after providing the command line options and specifying the specific roles.

OraGenSec Java Usage

```
java OraGenSec [-a <arg>] [-d <arg>] [-f <arg>] [-h] [-l <arg>] [-o
<arg>] [-p <arg>] [-q] [-r <arg>] [-u <arg>]
```

The following table describes the above command line options:

Command Line Option	Description
-a <arg>	Generates security for all objects in the database.
-d <arg>	Enables you to connect to the database. You must specify the database connection string in the following format: `$DB_USER,$DB_PWD,$DB_CONNECTION_STRING,$TARGET_SCHEMA`
-f <arg>	Generates security for specific objects listed in the input file.

Command Line Option	Description
-h	Provides information about the utility.
-l <arg>	Enables you to specify the log file name.
-o <arg>	Generates security for comma-separated list of objects.
-p <arg>	Enables you to specify the password of Oracle users for which you want to create synonyms.
-q	Executes the command in the silent mode.
-r <arg>	Enables you to specify the roles for which you want to grant permissions. For example, CIS_READ, CIS_USER, and so on.
-u <arg>	Enables you to specify a comma-separated list of Oracle users for which you want to create synonyms.

To execute the `OraGenSec` utility:

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

    Windows:

    `SET JAVA_HOME=<JAVA_HOME_PATH>`

    Linux:

    `export JAVA_HOME=<JAVA_HOME_PATH>`

Note: The `<JAVA_HOME_PATH>` is the location where Java Development Kit Version 17.0 is installed.

2. Set the `PATH` environment variable using the following command:

    Windows:

    `SET PATH=%JAVA_HOME%\bin:%PATH%`

    Linux:

    `export PATH=$JAVA_HOME/bin:$PATH`

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

    Windows:

    `SET CLASS_PATH=TEMPDIR\jarfiles\*`

    Linux:

    `export CLASS_PATH=TEMPDIR/jarfiles/*`

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

    Windows:

    ```
    java -Xmx1500M com.oracle.ouaf.oem.install.OraGenSec -d
    <DB_USER>, <DB_PASSWORD>,
    jdbc:oracle:thin:@<DB_SERVER_Name>:<DB_PORT>\<DB_SID> -u
    <READWRITE_USER>, <READONLY_USER> -r <READWRITE_USER_ROLE>,
    <READONLY_USER_ROLE> -a A -p <READWRITE_USER_PASSWORD>,
    <READONLY_USER_PASSWORD> -l <LOG_FILE_NAME>
    ```

Linux:

```
java -Xmx1500M com.oracle.ouaf.oem.install.OraGenSec -d
<DB_USER>, <DB_PASSWORD>,
jdbc:oracle:thin:@<DB_SERVER_Name>:<DB_PORT>/<DB_SID> -u
<READWRITE_USER>, <READONLY_USER> -r <READWRITE_USER_ROLE>,
<READONLY_USER_ROLE> -a A -p <READWRITE_USER_PASSWORD>,
<READONLY_USER_PASSWORD> -l <LOG_FILE_NAME>
```

2.3.2.8 Post Demo Database Creation Tasks

Once you import the demo dump file, you need to do the following:

1. Apply the ORMB Patches or Apply the ORMB Rollup Packs
2. Enable USER_LOCK Package
3. Grant Permissions to the DBMS_LOCK Package and Recompile Database Objects
4. Generate Database Statistics

Points to Note:

To view the list of patches that you need to apply on the database, see the *ORMB V8.1.0.0.0 Patch Guide (Document ID: 3110234.1)* on My Oracle Support.

Alternatively, instead of individually applying the patches, you can download and install the rollup packs, if available, to apply a set of patches at once. For more information about the rollup packs, see Appendix F: ORMB V8.1.0.0.0 Rollup Packs.

Apply the ORMB Patches

Once you install Oracle Revenue Management and Billing Version 8.1.0.0.0, you need to apply all patches listed in the *ORMB V8.1.0.0.0 Patch Guide (Document ID: 3110234.1)*. You can apply a patch from a Windows machine and UNIX Standalone server. Note that Java 17.0 JDK should be installed on the respective machine. Ensure that you install the JDK that is supported for your platform.

To apply a patch:

1. Download the patch from My Oracle Support. A zip file is downloaded.
2. Unzip the downloaded file in your local folder. The contents include three files - `README.txt`, `MultiPlatform.zip`, and `Bug_<PATCH_NUMBER>_Product_Fix_Design.pdf`.
3. Unzip the `MultiPlatform.zip` file in your local folder. The contents include the `V8.1.0.0.0-<PATCH_NUMBER>_MultiPlatform` folder.
4. Change to the `V8.1.0.0.0-<PATCH_NUMBER>_MultiPlatform` folder using the following command:

   Linux:

   ```
   cd <DESTINATION_FOLDER_1>/V8.1.0.0.0-<PATCH_NUMBER>_MultiPlatform
   ```

   Windows:

   ```
   cd <DESTINATION_FOLDER_1>\V8.1.0.0.0-<PATCH_NUMBER>_MultiPlatform
   ```

Note: The `<DESTINATION_FOLDER_1>` folder is the location where you have extracted the contents of the `MultiPlatform.zip` file.

The contents include a file named `CCB.V8.1.0.0.0-<PATCH_NUMBER>.jar` and a folder named `database`.

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

   Linux:

   ```
   cd database/ORACLE
   ```

   Windows:

   ```
   cd database\ORACLE
   ```

The contents include a zip file named `CDXPatch`.

6. Unzip the `CDXPatch` file using the following command:

   Linux:

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

   Windows:

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

   The contents of the zip file are extracted in the `<DESTINATION_FOLDER_2>` folder. The contents include utility files and a folder named `<PATCH_NUMBER>`.

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

   Windows:

   ```
   ouafDatabasePatch.cmd
   ```

   Linux:

   ```
   ouafDatabasePatch.sh
   ```

Note: On the Linux platform, ensure that you grant the execute permission for the `ouafDatabasePatch.sh` utility using the following command:

```
chmod 755 ouafDatabasePatch.sh
```

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:DB_PORT:DB_SID>`
	`OR`
	`<DB_SERVER:DB_PORT/SERVICE_NAME>`

8. Enter the required parameter value. The following message appears in the command line:

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

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

Enable USER_LOCK Package

To enable inbound web services, you must grant permissions to the USER_LOCK package. This is a one-time activity. To grant permissions to the USER_LOCK package:

1. Login as `SYS` user.

2. On SQL prompt, execute the following SQL:

    `@?/rdbms/admin/userlock.sql`

3. Grant permission using the following SQL command:

    `grant execute on USER_LOCK to public;`

Note: You can also grant permission to a specific database user (for example, CISADM or CISUSER) instead of granting permissions to all database users.

Grant Permissions to the DBMS_LOCK Package and Recompile Database Objects

To grant permissions to the DBMS_LOCK package, execute the following commands:

Linux:

`export ORACLE_SID=[DB_NAME]`
`sqlplus /nolog`
`conn sys as sysdba`

Note: On executing the above command, you will be prompted to enter the `SYS` user password.

`grant EXECUTE, DEBUG on DBMS_LOCK to <DB_USER/[CISADM]>;`

Points to Note:

These commands should be executed using Oracle SQL Developer.

If you have created the database using any user other than `CISADM`, you need to specify the respective username in the above alter and grant statements.

After executing the above `grant` statement, recompile the invalid objects, if any, in the database. You can recompile all invalid objects at once using the following commands:

`export ORACLE_SID=[DB_NAME]`
`sqlplus /nolog`
`conn sys as sysdba`
`SQL> @?/rdbms/admin/utlrp.sql;`

Windows:

```
set ORACLE_SID=[DB_NAME]
sqlplus /nolog
conn sys as sysdba
```

Note: On executing the above command, you will be prompted to enter the `SYS` user password.

```
grant EXECUTE, DEBUG on DBMS_LOCK to <DB_USER/[CISADM]>;
```

Points to Note:

These commands should be executed using Oracle SQL Developer.

If you have created the database using any user other than `CISADM`, you need to specify the respective username in the above alter and grant statements.

After executing the above `grant` statement, recompile the invalid objects, if any, in the database. You can recompile all invalid objects at once using the following commands:

```
export ORACLE_SID=[DB_NAME]
sqlplus /nolog
conn sys as sysdba
SQL> @?/rdbms/admin/utlrp.sql;
```

Generate Database Statistics

During the installation process, new database objects may be added to the target database. Before you use the target database, we recommend you gather statistics for the database objects. You should gather statistics periodically for database objects where the statistics become stale over time because of changing data volumes or changes in column values. New statistics should be gathered after a schema object's data or structure are modified in ways that make the previous statistics inaccurate. For example, after loading a significant number of rows into a table, collect new statistics on the number of rows. After updating data in a table, you do not need to collect new statistics on the number of rows, but you might need new statistics on the average row length.

You can gather schema level statistics using the following statement:

```
BEGIN
DBMS_STATS.GATHER_SCHEMA_STATS(OWNNAME=>'CISADM', METHOD_OPT=>'FOR ALL
COLUMNS SIZE AUTO', GRANULARITY=>'ALL', CASCADE=>TRUE, DEGREE=>16);
END;
```

You can also gather the statistics for individual tables using the following statement:

```
BEGIN
DBMS_STATS.GATHER_TABLE_STATS(OWNNAME=>'CISADM',
TABNAME=>'<Table_Name>', GRANULARITY=>'ALL', CASCADE=>TRUE,
METHOD_OPT=> 'FOR ALL COLUMNS SIZE AUTO', DEGREE=>32);
END;
```

We strongly recommend you schedule batch jobs to gather the schema level statistics on the daily basis in the non-peak hours. Please note that the statistics should not be gathered while the application batches are running because this will degrade the application batch performance.

2.3.3   Populating Language Data

Please note that this database contains data in the ENGLISH language only. If you use any other supported language, you can run the F1-LANG batch program to duplicate the entries for new language records. For more information on running this batch program, see the user documentation section "Defining Background Processes."

Please contact your Oracle representative to receive information on these packages.

3.   Database Design

This section provides a standard for database objects, such as tables, columns, and indexes, for products using Oracle Utilities Application Framework. This standard helps in smooth integration and upgrade processes by ensuring clean database design, promoting communications, and reducing errors. Just as Oracle Utilities Application Framework goes through innovation in every release of the software, it is also inevitable that the product will take advantage of various database vendors' new features in each release. The recommendations in the database installation section include only the ones that have been proved by vigorous QA processes, field tests and benchmarks.

This section contains the following topics:

- Database Object Standard
- Column Data Type and Constraints
- Standard Columns

3.1 Database Object Standard

This section discusses the rules applied to naming database objects and the attributes that are associated with these objects.

3.1.1   Categories of Data

A table can belong to one of the three categories:

- Control (admin)
- Master
- Transaction

For purposes of physical table space design, metadata and control tables can belong to the same category.

Example of tables in each category:

- **Control**: SC_USER, CI_ADJ_TYPE, F1_BUS_OBJ
- **Master**: CI_PER, CI_PREM
- **Transaction**: F1_FACT, CI_FT

All tables have the category information in their index name. The second letter of the index carries this information. See the Indexes section for more information.

3.1.2   Naming Standards

The following naming standards must be applied to database objects.

Table

Table names are prefixed with the owner flag value of the product. For customer modification, **CM** must be prefixed in the table name. The length of the table names must be less than or equal to 30 characters. A language table should be named by suffixing **_L** to the main table. The key table name should be named by suffixing **_K** to the main table.

It is recommended to start a table name with the 2-3 letter acronym of the subsystem name that the table belongs to. For example, **MD** stands for metadata subsystem and all metadata table names start with **CI_MD**.

Some examples are:

- CI_ADJ_TYPE
- CI_ADJ_TYPE_L

A language table stores language sensitive columns such as a description of a code. The primary key of a language table consists of the primary key of the code table plus language code (LANGAGUE_CD).

A key table accompanies a table with a surrogate key column. A key value is stored with the environment id that the key value resides in the key table.

The tables prior to V2.0.0 are prefixed with CI_ or SC_.

Columns

The length of a column name must be less than or equal to 30 characters. For customer modification, CM must be prefixed in the column name. The following conventions apply when you define special types of columns in the database.

- Use the suffix **FLG** to define a lookup table field. Flag columns must be CHAR (4). Choose lookup field names carefully as these column names are defined in the lookup table (CI_LOOKUP_FIELD) and must be prefixed by the product owner flag value.
- Use the suffix **CD** to define user-defined codes. User-defined codes are primarily found as the key column of the admin tables.
- Use the suffix **ID** to define system assigned key columns.
- Use the suffix **SW** to define Boolean columns. The valid values of the switches are 'Y' or 'N'. The switch columns must be CHAR(1)
- Use the suffix **DT** to define Date columns.
- Use the suffix **DTTM** to define Date Time columns.
- Use the suffix **TM** to define Time columns.

Some examples are:

- ADJ_STATUS_FLG
- CAN_RSN_CD

Indexes

Index names are composed of the following parts:

[OF][application specific prefix**][C/M/T]NNN[P/S]n**

- **OF**- Owner Flag. The standard is to use the two characters of the product's owner flag. Note that there may be some older indexes that use only the first character of the owner flag. For client specific implementation of index, use CM for Owner Flag. If implementation creates a CM index on table-columns for which the base product already provides an index, then the CM index will be overridden by the base index.
- Application specific prefix could be C, F, T or another letter.
- **C/M/T** - The second character can be either C or M or T. C is used for control tables

- (Admin tables). M is for the master tables. T is reserved for the transaction tables.
- **NNN** - A three-digit number that uniquely identifies the table on which the index is defined.
- **P/S** - P indicates that this index is the primary key index. S is used for indexes other than primary keys.
- **n** is the index number, unique across all indexes on a given table (0 for primary and 1, 2, etc., for the secondary indexes).

Some examples are:

- F1C066P0
- F1C066S1
- CMT206S2

> **Warning!** Do not use index names in the application as the names can change due to unforeseeable reasons.

Updating Storage.xml

The `storage.xml` file that comes with the product allocates all base tables and indexes to the default tablespace CISTS_01. If you decide to allocate some tables or indexes outside of the default tablespace, then this must be reflected in the `storage.xml` file by changing the tablespace name from the default value to a custom value, according to the format shown below:

Format:

```
<Table_Name>
    <TABLESPACE>CISTS_01</TABLESPACE>
    <PARALLEL>1</PARALLEL>
    <LOB>
        <Column Name>
            <TABLESPACE>CISTS_01</TABLESPACE>
            <SECUREFILE>Y</SECUREFILE>
            <CHUNK>8192</CHUNK>
            <CACHE>N</CACHE>
            <LOGGING>Y</LOGGING>
            <INROW>Y</INROW>
            <COMPRESS>N</COMPRESS>
        </Column Name>
    </LOB>
</Table_Name>
```

Where Parallel defines the number of threads, that Oracle DB Server will use to access a table or create an index.

We recommend you create CLOBs and store them in SECUREFILE with medium compression and cache enabled. Note that, by default, medium compression is turned-off and must be enabled only if you have the Advanced Compression license.

For instance, if a DBA decided to allocate table CI_ACCT in a tablespace MyTablespace, then they would have to change the storage.xml as follows:

```
<CI_ACCT>
    <TABLESPACE>MyTablespace</TABLESPACE>
</CI_ACCT>
```

The OraDBI process uses the `storage.xml` file to place the new database objects into defined tablespaces. A tablespace referenced in the `storage.xml` file must exist in the database.

The storage.xml file must be updated before each upgrade and/or new installation as required to allocate the tables and indexes across those tablespaces.

Table name is included as a comment for each of the indexes for clarity.

For an initial install, information for each object should be reviewed by a DBA. For each upgrade, only tablespace information for the objects added in the new release needs to be reviewed by a DBA.

Be careful while editing this file. Make sure that the tablespace names being used exist in the database. Do not change the basic format of this file.

Sequence

We recommend you use the following settings while creating a sequence:

- Set minimum CACHE size to 5000 to enhance performance
- Use NOORDER option so that the database does not generate sequence numbers in order of request

The base sequence name must be prefixed with the owner flag value of the product. For customer modification, CM must be prefixed in the sequence name. The sequence numbers should be named as below:

1. If the sequence is used for a specific table, then use the following sequence name: `[OF][C/M/T]NNN_SEQ`
    - OF stands for Owner Flag. For example, for OUAF, it is F1 and for ORMB, it is C1.
    - C/M/T stands for Control (Admin)/Master/Transaction Tables.
    - NNN is a three digit unique Identifier for a table on which the sequence is defined.

    For example: F1T220_SEQ

2. If more than one sequence is used for a specific table then use the following sequence name: `[OF][C/M/T]NNN_Column_Name_SEQ`
    - OF stands for Owner Flag. For example, for OUAF, it is F1 and for ORMB, it is C1.
    - C/M/T stands for Control (Admin)/Master/Transaction tables.
    - NNN is a three-digit unique identifier for a table on which the sequence is defined.

    For example: F1T220_BO_STATUS_CD_SEQ and F1T220_BUS_OBJ_CD_SEQ

3. If sequence is used for a generic requirement and not specific to a table, then use the following sequence name: `[OF]Column_Name_SEQ`
    - OF stands for Owner Flag. For example, for OUAF, it is F1 and for ORMB, it is C1.

    For example: F1FKVALID_SEQ

Trigger

The base trigger name must be prefixed with the owner flag value of the product. When implementers add database objects, such as tables, triggers and sequences, the name of the objects should be prefixed by CM.

3.2 Column Data Type and Constraints

This section discusses the rules applied to column data type and constraints, and the attributes that are associated with these objects.

3.2.1 User Defined Code

User Defined Codes are defined as CHAR type. The length can vary by the business requirements but a minimum of eight characters is recommended. You will find columns defined in less than eight characters but with internationalization in mind, new columns should be defined as CHAR(10) or CHAR(12). Also note that when the code is referenced in the application the descriptions are shown to users in most cases.

3.2.2 System Assigned Identifier

System assigned random numbers are defined as CHAR type. The length of the column varies to meet the business requirements. Number type key columns are used when a sequential key assignment is allowed or number type is required to interface with external software. For example, Notification Upload Staging ID is a Number type because most EDI software uses a sequential key assignment mechanism. For sequential key assignment implementation, the DBMS sequence generator is used in conjunction with Number Type ID columns.

3.2.3 Date/Time/Timestamp

Date, Time and Timestamp columns are defined physically as DATE in Oracle.

3.2.4 Number

Numeric columns are implemented as NUMBER type in Oracle. The precision of the number should always be defined. The scale of the number might be defined. Non-null constraints are implemented for all number columns.

3.2.5 Fixed Length/Variable Length Character Columns

When a character column is a part of the primary key of a table define the column in CHAR type. For the non-key character columns, the length should be the defining factor. If the column length should be greater than 10, use VARCHAR2 type in Oracle.

3.2.6 Null Column Support

The product supports Nullable columns. This means that the application can write NULLs instead of a blank space or zero (for numeric columns) by using NULLABLE_SW on CI_MD_TBL_FLD. If REQUIRED_SW is set to 'N' and the NULLABLE_SW is set to 'Y', the application will write a NULL in that column. The artifact generator will create hibernate mapping files with appropriate parameters so that the framework hibernate mapping types will know if a given property supports a null value.

NULLABLE_SW is not new, but has previously been used for certain fields such as dates, and some string and number foreign-key columns. Because of this, there is the possibility that there is incorrect metadata for some columns, and that turning on this new feature could result in incorrect behavior when using that metadata. The upgrade script fixes the metadata to make sure that the existing tables will not be affected.

This new feature only supports tables maintained by Java but does not support a Java program converted from COBOL. Thus, enhancing any existing tables to use null columns must be done only after ensuring that the tables are maintained by Java, and not by Java converted COBOL programs.

3.2.7   XMLType Support

The product supports XMLType. XMLType provides following advantages:

1. The ability to use XQuery for querying nodes in the XML document stored within a column defined as XMLType.

2. The option to use the XML engine, which is built into the Oracle Database, to create indexes using nodes within the XML document stored in the XMLType column.

3.2.8   Cache and Key Validation Flags

By default, the Cache Flag is set to NONE. For most of the admin tables the CACHE Flag should be 'Cached for Batch'. This specifies that the table is cached as L2 cache to reduce database trips.

By default, the Key Validation Flag is set to ALL. For tables which have the user defined keys, the KEY_VALIDATION_FLG should be set as 'ALL'. This checks the existence of the key before inserting a new one.

3.2.9   Table Classification and Table Volume Flags

There are multiple types of tables in the application, namely Admin system tables, Admin non-system tables, master tables and transaction tables. The Table Classification flag (TBL_CLASSIFICATION_FLG) sets the appropriate value for this lookup field to give a better view of the table classification.

Table Volume flag (TBL_VOLUME_FLG) is a customer modifiable field which is initially populated by product but can be overridden by implementation. The field gives an idea of the relative data volume (categorized as highVolume, lowVolume and mediumVolume) of the table to make informed decisions.

3.2.10 Default Value Setting

The rules for setting the database default values are as follows:

- When a predefined default value is not available, set the default value of Non-null CHAR or VARCHAR columns to blank except the primary key columns.

- When a predefined default value is not available, set the default value Non-null Number columns to 0 (zero) except the primary key columns.

- No database default values should be assigned to the Non-Null Date, Time, and Timestamp columns.

3.2.11 Foreign Key Constraints

Referential integrity is enforced by the application. You should not define foreign key constraints in the database except for the tables where the partition is required. Indexes are created on most of Foreign Key columns to increase performance. However, in the specific case of ILM implementation, some of the tables require Foreign Key constraints due to the referential partitioning.

3.3 Standard Columns

This section discusses the rules applied to standard columns and the attributes that are associated with these objects.

3.3.1 Owner Flag

Owner Flag (OWNER_FLG) columns exist on the system tables that are shared by multiple products. Oracle Utilities Application Framework limits the data modification of the tables that have owner flag to the data owned by the product.

3.3.2 Version

The Version column is used to for optimistic concurrency control in the application code. Add the Version column to all tables that are maintained by a Row Maintenance program.

4. Exadata Database Settings

If you are using the Oracle Exadata Database machine as the database server, ensure that you do the following:

- Use the Write-Back Flash Cache feature to leverage the Exadata Flash hardware.
- Use the Exadata Smart Flash Logging feature.

Note: By default, 512 MB of the Exadata flash is allocated to Smart Flash Logging. This is sufficient to handle the load of 300 million transactions daily in TFM.

- Set the temporary tablespace size to at least 600 GB.
- Create `CISTS_01` table space to store the `cisadm` objects using the BIGFILE and EXTENT MANAGEMENT LOCAL AUTOALLOCATE clauses. For example:

```
CREATE BIGFILE TABLESPACE CISTS_01 DATAFILE
'+DATAC1/DBNAME/datafile/cists01.dbf' SIZE 100G AUTOEXTEND ON
EXTENT MANAGEMENT LOCAL AUTOALLOCATE;
```

Note: Exadata servers can have two types of disks – High Capacity and High Performance. The Exadata throughput may vary depending on the disk type.

5.   Database Implementation Guidelines

This section outlines the general guidelines for database components, namely:

- Configuration Guidelines
- Implementation Guidelines

5.1 Configuration Guidelines

This section includes general recommendations for configuring various database objects and includes a brief syntax overview. It covers the general aspects of the database objects and does not cover any specific implementation requirements.

This section contains the following topics:

- Index
- Table Partitioning Recommendations
- Temporary and Undo Tablespace
- Transparent Data Encryption Recommendations
- Data Compression Recommendations
- Database Vault Recommendations
- Information Lifecycle Management (ILM) and Data Archiving Support
- Storage Recommendations
- Database Configuration Recommendations
- Database Syntax
- Database Initialization Parameters
- Shrink Tables
- Listener.ora Settings

5.1.1   Index

Index recommendations specify points that need to be considered when creating indexes on a table:

1. Indexes on a table should be created according to the functional requirements of the table and not to perform SQL tuning.

Note: If the implementation creates a CM index on table columns where the product already provides an index, then the CM index will be overridden by the base index.

Table indexes become fragmented over time. This affects the database performance. Therefore, you need to rebuild indexes periodically using the following SQL commands:

```
ALTER INDEX MY_IDX REBUILD ONLINE PARALLEL 63 NOLOGGING;

ALTER INDEX MY_IDX NOPARALLEL;

ALTER INDEX MY_IDX LOGGING;
```

5.1.2   Table Partitioning Recommendations

Oracle Utilities Application Framework recommends using a minimum of 'n' partitions for selective database objects, where 'n' is the number of RAC nodes.

5.1.2.1   Partitioning F1_MO_UPD and F1_MO_UPD_BACKLOG Tables

Performance tests conducted on the **Generalized Data Export (GDE)** batches showed that interval partitioning of the **F1_MO_UPD** and **F1_MO_UPD_BACKLOG** tables improved performance. Hence, it is recommended by the product to partition the **F1_MO_UPD** and **F1_MO_UPD_BACKLOG** tables using Oracle's interval partition scheme.

To set interval partitioning for the **F1_MO_UPD** table, you need to do the following:

1. Login to the database either using the schema owner account or as **SYS**.
2. Make sure that the **Generalized Data Export (GDE)** batches are not running.
3. Check the record count for the **F1_MO_UPD** table.
4. Execute the **F1_MO_UPD_INT_PART** SQL script to create an interval-partitioned table.

> **Note:** For more information on how to create the **F1_MO_UPD_INT_PART** SQL script, see Appendix G: Framework Table Partitioning Scripts.

5. Check the **F1_MO_UPD** table to verify whether it has the partition clause "PARTITION BY RANGE ("ENT_KEY_HASH") INTERVAL (1)" using the following command:

```
SELECT DBMS_METADATA.GET_DDL('TABLE','F1_MO_UPD') FROM DUAL;
```

6. Drop the backup table **<table_name>_OLD** created by the script after verifying whether data in the partitioned table is correct.

Similarly, you need to set the interval partitioning for the **F1_MO_UPD_BACKLOG** table. To set interval partitioning for the **F1_MO_UPD_BACKLOG** table, you need to do the following:

1. Check the record count for the **F1_MO_UPD_BACKLOG** table.
2. Execute the **F1_MO_UPD_BACKLOG _INT_PART** SQL script to create an interval-partitioned table.

> **Note:** For more information on how to create the **F1_MO_UPD_BACKLOG _INT_PART** SQL script, see Appendix G: Framework Table Partitioning Scripts.

3. Check the **F1_MO_UPD_BACKLOG** table to verify whether it has the partition clause "PARTITION BY RANGE ("ENT_KEY_HASH") INTERVAL (1)" using the following command:

```
SELECT  DBMS_METADATA.GET_DDL('TABLE','F1_MO_UPD_BACKLOG')  FROM
DUAL;
```

4. Drop the backup table **<table_name>_OLD** created by the script after verifying whether data in the partitioned table is correct.

5.1.3   Temporary and Undo Tablespace

To begin with, we recommend you set the temporary tablespace to at least 100 GB auto extendable till 500 GB and the undo tablespace to at least 100 GB auto extendable till 600 GB. The upper limit of both the tablespaces will vary as per the volume of the data and preferred chunk size of the batch. In addition, we recommend you set the value of undo retention to 50000.

5.1.4   Transparent Data Encryption Recommendations

Oracle Utilities supports Oracle Transparent Data Encryption (TDE). Oracle TDE is available by default in Oracle Database Enterprise Edition, but you must purchase an Oracle Advanced Security license to use it. The application supports tablespace level encryption for all application data. Make sure that the hardware resources are sufficiently sized for this as TDE uses additional hardware resources. The Oracle Advanced Security license is a prerequisite for using TDE.

Please consider the following when implementing TDE:

- Create a wallet folder to store the master key. By default, the wallet folder should be created under `$ORACLE_BASE/admin/<sid>`.

- The wallet containing the master key can be created using the following command:
  ```
  ALTER SYSTEM SET ENCRYPTION KEY AUTHENTICATED BY "KEYPASSWD"
  ```

- The wallet can be closed or opened using the following commands:
  ```
  ALTER SYSTEM SET WALLET OPEN IDENTIFIED BY "KEYPASSWD";
  ALTER SYSTEM SET WALLET CLOSE;
  ```

- Column level encryption can be achieved using the following commands:
  ```
  CREATE TABLE <TABLE_NAME> NAME VARCHAR2(200) DEFAULT ' ' NOT
  NULL, BO_DATA_AREA CLOB ENCRYPT USING 'AES128', BO_STATUS_CD
  CHAR(12) ENCRYPT USING 'AES128') LOB (BO_DATA_AREA) STORE AS
  SECUREFILE (CACHE COMPRESS) TABLESPACE <TABLESPACE_NAME>;
  ```

- AES128 is the default encryption algorithm.

- Tablespace level encryption is also supported using the following command:
  ```
  CREATE TABLESPACE <TABLESPACE_NAME> LOGGING DATAFILE '<DATAFILE
  LOCATION>' SIZE <INITIAL SIZE> REUSE AUTOEXTEND ON NEXT <NEXT
  SIZE> MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL UNIFORM SIZE
  <UNIFORM SIZE> ENCRYPTION USING 'AES128' DEFAULT
  STORAGE(ENCRYPT);
  ```

- Indexed columns can only be encrypted using the NO SALT Option. Salt is a way to strengthen the security of encrypted data. It is a random string added to the data before it is encrypted, causing repetition of text in the clear to appear different when encrypted.

5.1.5 Data Compression Recommendations

Oracle Utilities supports Advanced Data Compression, available with Oracle 19c onwards, to reduce the database storage footprint. Make sure that your resources are sufficiently sized for this as it uses additional system resources. Compression can be enabled at the Tablespace level or at the Table level.

5.1.5.1 Exadata and Non-Exadata

For Exadata hardware the compression recommendations are:

- For high volume table, keep the current table partition uncompressed. All the older partitions will be compressed based on QUERY HIGH compression.
- For high volume tables with CLOBs, make sure to always keep CLOBs in securefile and medium compressed. Also, keep the current table partition uncompressed. All the older partitions will be compressed based on QUERY HIGH compression.
- Load data into the uncompressed table partitions using a conventional load and then, once data is loaded using a CTAS operation, load into a temporary heap table. Then, truncate the original partition. Alter the original partition into HCC compressed and then partition exchange this with the temporary heap table.
- All multi column Indexes (primary as well as secondary) will be compressed using the default compression. HCC or OLTP compression is not applicable on the top of compressed Indexes.

For non-Exadata hardware the recommendations are the same as above, except that you cannot use HCC compression (it is only available in Exadata database machine). Instead of HCC, you can use any other compression tool available to you for non-Exadata hardware.

5.1.5.2 CLOB Fields

All CLOB fields should be stored as SecureFiles and Medium compressed. This requires a separate license for Advanced Data Compression. As a part of the schema, we create the product-owned tables with compression turned OFF at the LOB level. If you have the license for Advanced Data Compression, you can enable compression by updating the storage.xml.

From Oracle 12c onwards:

- Admin and Master Data tables and their indexes will NOT be compressed.
- All Transactional Tables, including ILM enabled MOs shall be compressed.
- Compression will be done at the tablespace level.
- All multicolumn indexes on transactional/ILM tables will be compressed.
- Use 'compress advanced low'

5.1.6   Database Vault Recommendations

The product supports Database Vault. All non-application User IDs can be prevented from using DDL or DML statements against the application schema. So SYS and SYSTEM cannot issue DDL or DML statements against `CISADM` schema. The application-specific administration account can issue DDL statements but should not be able to perform any DML or DCL statements. Application user must be given DML only permissions. Database Vault can be used to control access during patch process and Install/Upgrade process.

5.1.7   Information Lifecycle Management (ILM) and Data Archiving Support

The product supports data archiving based on Information Lifecycle Management (ILM). For more information, see the *Oracle Revenue Management and Billing Information Lifecycle Management Implementation Guide*.

5.1.8   Storage Recommendations

This section specifies recommended options for storing the database objects.

5.1.8.1   SecureFile for Storing LOBs

The DB_SECUREFILE parameter is used to specify how to store large objects (LOBs) in the database. LOBs can now be stored as SecureFiles or BasicFiles. By default, the value for this parameter is set to PERMITTED in Oracle Database Server 12c or higher. It means the LOBs are allowed to be created as SecureFiles.

Points to Note:

- The storage options with SecureFiles for Heap Tables should be ENABLE STORAGE IN ROW, CACHE and COMPRESS.

- For the IOT Table the PCTTHRESHOLD 50 OVERFLOW clause should be specified and the storage options with SecureFiles should be ENABLE STORAGE IN ROW, CACHE and COMPRESS.

- The PCTTHRESHOLD should be specified as a percentage of the block size. This value defines the maximum size of the portion of the row that is stored in the Index block when an overflow segment is used.

- The CHUNK option for storage, which is the data size used when accessing or modifying LOB values, can be set to higher than one database block size if big LOBs are used in the IO Operation.

- For SecureFiles, ensure that the `db_securefile` initialization parameter is set to `ALWAYS`.

- The Tablespace where you are creating the SecureFiles should be enabled with Automatic Segment Space Management (ASSM). In Oracle Database 19c, the default mode of Tablespace creation is ASSM so it may already be set for the Tablespace. If it's not, then you have to create the SecureFiles on a new ASSM Tablespace.

Points to Note:

To enable compression on SecureFiles, you must have an Oracle Advanced Compression license in addition to Oracle Database Enterprise Edition.

If you are using Oracle Database Enterprise Edition, you must ensure that the **COMPRESS** flag is set to **Y** in the `Storage.xml` file. See the [Database Syntax](#) section for more information on SecureFiles.

5.1.9   Database Configuration Recommendations

This section specifies the recommended methods for configuring the database with a focus on specific functional area.

5.1.9.1   Large Redo Log File Sizes

The Redo Log files are written by the Log Writer Background process. These log files are written in a serial manner. Once a log file is full, a log switch occurs and the next log file starts getting populated.

It is recommended that the size of the Redo Log files should be sufficiently high so that you do not see frequent Log Switches in the alert logs of the database. Frequent Log Switches impact the IO performance and can be avoided by having a larger Redo Log File size.

We recommend you set the redo log file size to at least 4GB or more depending on the volume of transactions. This will help you to ensure that there are not more than 5 to 6 log switches per hour.

5.1.10   Database Syntax

This section contains the following topic:

- [SecureFile](#)

5.1.10.1   SecureFile

```
CREATE TABLE <Table_Name>
(COLUMN1 ..., COLUMN2 (CLOB))
LOB(COLUMN2) STORE AS SECUREFILE (CACHE COMPRESS);
CREATE TABLE <Table_Name>
(COLUMN1 ..., COLUMN2 (CLOB) CONTRAINT <> PRIMARY KEY(...))
ORGANIZATION INDEX PCTTHRESHOLD 50 OVERFLOW
LOB(COLUMN2) STORE AS SECUREFILE (ENABLE STORAGE IN ROW CHUNK CACHE
COMPRESS);
```

5.1.11 Database Initialization Parameters

This section recommends value for each parameter in the `init.ora` file. These parameters are a starting point for database tuning. The actual or optimal value for a production environment may differ from one deployment to another.

The following recommendations must be treated as guidelines and not as the actual values:

Parameter	Recommended Value	Modifiable in Pluggable Database (PDB)
DB_CACHE_SIZE	4G	Yes
LOG_CHECKPOINT_INTERVAL	0	No
MEMORY_MAX_TARGET	40-50% of total available RAM on the node	No
MEMORY_TARGET	Value should be less than or equal to the value set for the MEMORY_MAX_TARGET parameter and at the same time it should be greater than or equal to the sum of SGA_TARGET and PGA_AGGREGATE_TARGET	Yes
OPTIMIZER_INDEX_CACHING	0 **Note:** The value for this parameter should not be changed because it can drastically degrade the batch performance.	Yes
OPTIMIZER_INDEX_COST_ADJ	100 **Note:** The value for this parameter should not be changed because it can drastically degrade the batch performance.	Yes
PGA_AGGREGATE_TARGET	2G	Yes
PROCESSES	3000	No
SESSION_CACHED_CURSORS	500	Yes
SESSIONS	4500	Yes
SGA_MAX_SIZE	70-80% of the value defined for the MEMORY_MAX_TARGET parameter	No
SGA_TARGET	50-70% of the value defined for the MEMORY_TARGET parameter	Yes

Parameter	Recommended Value	Modifiable in Pluggable Database (PDB)
STATISTICS_LEVEL	TYPICAL or ALL **Note:** This parameter is mandatory when you want to use automatic memory management.	Yes
TRANSACTIONS	3000	No
OPEN_CURSORS	500	Yes
STREAMS_POOL_SIZE	200M	Yes
OPTIMIZER_ADAPTIVE_PLANS	TRUE **Note:** By default, the value is set to TRUE. We recommend you set the value to TRUE from 12.2 onwards.	Yes
OPTIMIZER_ADAPTIVE_STATISTICS	FALSE **Note:** By default, the value is set to FALSE. We recommend you set the value to FALSE from 12.2 onwards.	Yes
PARALLEL_DEGREE_POLICY	Manual **Note:** By default, the value is set to **Manual**. We recommend you use the default value. Otherwise, an error might occur while installing ORMB.	Yes
CURSOR_SHARING	EXACT **Note:** By default, the value is set to **EXACT**. We recommend you use the default value. Otherwise, the system performance would be impacted.	Yes
CPU_MIN_COUNT	Value should be specific to the server. Client DBA should decide the value. **Note:** This parameter specifies the minimum number of CPUs required by a pluggable database (PDB) at any given time. This enables you to control each PDBs minimum share of CPU utilization within a container database (CDB).	Yes

Parameter	Recommended Value	Modifiable in Pluggable Database (PDB)
MAX_DATAPUMP_PARALLEL_PER_JOB	Recommend range of values - 1 to 1024 **Note:** This parameter specifies the maximum number of parallel Oracle Data Pump jobs per PDB. By default, the value is set to 50. You can change the value and set it as per the requirement.	Yes
LOB_SIGNATURE_ENABLE	TRUE **Note:** If this parameter is set to **TRUE**, then when you create a large object (LOB), Oracle Database automatically assigns a signature to the LOB locator.	Yes

For example, we recommend you specify the following values for 100 GB of RAM when the Automatic Memory Management (AMM) is enabled:

```
MEMORY_MAX_TARGET = 60G
MEMORY_TARGET = 60G
STATISTICS_LEVEL = TYPICAL
```

For example, we recommend you specify the following values for 100 GB of RAM when the Automatic Shared Memory Management (ASMM) is enabled:

```
SGA_TARGET = 40G
SGA_MAX_SIZE = 40G
DB_CACHE_SIZE = 4G
PGA_AGGREGATE_TARGET = 20G
STATISTICS_LEVEL = TYPICAL
```

5.1.12 Shrink Tables

Many rows are inserted and then deleted from the following three tables:

- CI_TXN_DTL_PRITM_SUMMARY
- CI_TXN_DETAIL_STG
- CI_ROLLBACK_TXN_DETAIL

Therefore, these tables need to be shrunk periodically. This activity should be carried out when no other transactions are active on the database.

1. Extract and keep the DDL scripts for all the existing indexes on the above tables from the data dictionary.
2. Drop all the indexes on the above tables.
3. Shrink the tables by executing following statements using SQL client:
   ```
   ALTER TABLE CI_TXN_DTL_PRITM_SUMMARY ENABLE ROW MOVEMENT;
   ALTER TABLE CI_TXN_DTL_PRITM_SUMMARY SHRINK COMPACT;
   ALTER TABLE CI_TXN_DETAIL_STG ENABLE ROW MOVEMENT;
   ALTER TABLE CI_TXN_DETAIL_STG SHRINK COMPACT;
   ALTER TABLE CI_ROLLBACK_TXN_DETAIL ENABLE ROW MOVEMENT;
   ALTER TABLE CI_ROLLBACK_TXN_DETAIL SHRINK COMPACT;
   ```

   Alternatively, you can shrink the tables by executing the following statements during the non-peak hours which will adjust high water mark to reclaim the space:
   ```
   ALTER TABLE CI_TXN_DTL_PRITM_SUMMARY ENABLE ROW MOVEMENT;

   ALTER TABLE CI_TXN_DTL_PRITM_SUMMARY SHRINK;

   ALTER TABLE CI_TXN_DETAIL_STG ENABLE ROW MOVEMENT;

   ALTER TABLE CI_TXN_DETAIL_STG SHRINK;

   ALTER TABLE CI_ROLLBACK_TXN_DETAIL ENABLE ROW MOVEMENT;

   ALTER TABLE CI_ROLLBACK_TXN_DETAIL SHRINK;
   ```

4. Recreate all the indexes using scripts generated in step 1 above.

You can execute these statements either manually or through a batch process which is configured to run at regular interval.

Note: Shrink operations can be performed only on segments in locally managed tablespaces with Automatic Segment Space Management (ASSM).

Once the above statements are executed, you must gather statistics using the following statements:

```
BEGIN
DBMS_STATS.GATHER_TABLE_STATS(OWNNAME=>'CISADM',
TABNAME=>'CI_TXN_DTL_PRITM_SUMMARY', GRANULARITY=>'ALL',
CASCADE=>TRUE, METHOD_OPT=>'FOR ALL COLUMNS SIZE AUTO', DEGREE=>32);
DBMS_STATS.GATHER_TABLE_STATS(OWNNAME=>'CISADM',
TABNAME=>'CI_TXN_DETAIL_STG', GRANULARITY=>'ALL',CASCADE=>TRUE,
METHOD_OPT=>'FOR ALL COLUMNS SIZE AUTO', DEGREE=>32);
DBMS_STATS.GATHER_TABLE_STATS(OWNNAME=>'CISADM',
TABNAME=>'CI_ROLLBACK_TXN_DETAIL', GRANULARITY=>'ALL', CASCADE=>TRUE,
METHOD_OPT=>'FOR ALL COLUMNS SIZE AUTO', DEGREE=>32);
END;
```

5.1.13 Listener.ora Settings

In the Oracle 12c container database, the client must specify a service name in order to connect to the pluggable database. If you have hard-coded connect descriptors to use SID to connect to the database, then the following error occurs:

"ORA-12505: TNS: LISTENER DOES NOT CURRENTLY KNOW OF SID GIVEN IN CONNECT DESCRIPTOR TIPS"

It means the database connection has failed. You can resolve the problem using the `USE_SID_AS_SERVICE_listener_name` parameter in the `listener.ora` file. If you set the `USE_SID_AS_SERVICE_listener_name` parameter to **on**, it instructs the listener to use the SID in the connect descriptor as a service name and connect the client to the specified database. By default, the parameter is set to **off**.

Once you set the parameter to **on**, you need to bounce or reload the listener.

5.2 Implementation Guidelines

This section provides specific guidelines for implementing Oracle Database.

5.2.1 Materialized View

Oracle Database Enterprise Edition supports query rewrite using Materialized view. If you use Oracle Database Enterprise Edition, you can create the following Materialized Views to improve the performance of the Monitor batch jobs.

Prerequisite:-

Please make sure the following:

1. Set the `QUERY_REWRITE_ENABLED` parameter to `TRUE` at database level using either of the following command:

   ```
   ALTER SYSTEM SET QUERY_REWRITE_ENABLED=TRUE;
   ```

   OR

   ```
   ALTER SYSTEM SET QUERY_REWRITE_ENABLED=TRUE SCOPE=BOTH;
   ```

2. To create a materialized view in another user's schema, you must have the CREATE ANY MATERIALIZED VIEW system privilege. The owner of the materialized view must have the CREATE TABLE system privilege. The owner must also have access to any master tables of the materialized view that the schema owner does not own (for example, if the master tables are on a remote database) and to any materialized view logs defined on those master tables, either through a SELECT object privilege on each of the tables or through the SELECT ANY TABLE system privilege.

3. To create a refresh-on-commit materialized view (ON COMMIT REFRESH clause), in addition to the preceding privileges, you must have the ON COMMIT REFRESH object privilege on any master tables that you do not own, or you must have the ON COMMIT REFRESH system privilege.

   To create the materialized view with query rewrite enabled, in addition to the preceding privileges: If the schema owner does not own the master tables, then the schema owner must have the GLOBAL QUERY REWRITE privilege or the QUERY REWRITE object privilege on each table outside the schema.

```
CREATE MATERIALIZED VIEW F1_BO_LIFECYCLE_STATUS_MVW
(
BUS_OBJ_CD,
LIFE_CYCLE_BO_CD,
BO_STATUS_CD,
BATCH_CD
)
BUILD IMMEDIATE REFRESH ON COMMIT ENABLE QUERY REWRITE AS SELECT
BO2.BUS_OBJ_CD, BO.LIFE_CYCLE_BO_CD, BOSA.BO_STATUS_CD,
LCBOS.BATCH_CD AS
LC_BATCH_CD
FROM
F1_BUS_OBJ BO2,
F1_BUS_OBJ BO,
F1_BUS_OBJ_STATUS LCBOS,
F1_BUS_OBJ_STATUS_ALG BOSA
WHERE
BO2.LIFE_CYCLE_BO_CD = BO.LIFE_CYCLE_BO_CD AND
BO.BUS_OBJ_CD = BOSA.BUS_OBJ_CD AND
BOSA.BO_STATUS_SEVT_FLG = 'F1AT' AND
LCBOS.BUS_OBJ_CD = BO.LIFE_CYCLE_BO_CD AND
LCBOS.BO_STATUS_CD = BOSA.BO_STATUS_CD
/
CREATE SYNONYM SPLUSR.F1_BO_LIFECYCLE_STATUS_MVW FOR
SPLADM.F1_BO_LIFECYCLE_STATUS_MVW;
GRANT SELECT ON F1_BO_LIFECYCLE_STATUS_MVW TO FW_DEV;
GRANT SELECT ON F1_BO_LIFECYCLE_STATUS_MVW TO SPL_USER;
GRANT SELECT ON F1_BO_LIFECYCLE_STATUS_MVW TO SPL_READ;
```

For more information, see the following documents:

Topic	Reference URL
Basic Query Rewrite for Materialized Views	https://docs.oracle.com/en/database/oracle/oracle-database/19/dwhsg/basic-query-rewrite-materialized-views.html
Troubleshooting Materialized Views	https://docs.oracle.com/en/database/oracle/oracle-database/19/admin/troubleshooting-problems-with-read-only-materialized-views.html
Rewrite for a User other than the Owner of the Materialized View	Query Did Not Rewrite For A User Other Than The Owner Of the Materialized View (Document ID: 1594725.1)

5.2.2 Increase INITRANS Values

It has been observed that while executing few batches in ORMB, customers encounter deadlock issue. Therefore, we strongly recommend to increase the INITRANS value of tables with high concurrent DML. The INITRANS values can be set as per the customer's data volume. To increase the INITRANS values of the required tables and indexes:

1. Connect to the ORMB database using any SQL client (such as Oracle SQL Developer or PL/SQL Developer) and the `cisadm` credentials.

2. Use the ALTER statement to modify the INITRANS values of the required tables.

   For example, you can increase the INITRANS value of the CI_BILL table using the following SQL statement:

   ```
   ALTER TABLE CISADM.CI_BILL INITRANS 20;
   ```

3. Use the ALTER statement to modify the INITRANS values of the required indexes.

   For example, you can increase the INITRANS value of the indexes using the following SQL statement:

   ```
   ALTER INDEX XT033P0 INITRANS 40;
   ALTER INDEX XT033S1 INITRANS 40;
   ALTER INDEX XT033S2 INITRANS 40;
   ALTER INDEX XT033S3 INITRANS 40;
   ALTER INDEX XT033S4 INITRANS 40;
   ALTER INDEX XT033S5 INITRANS 40;
   ```

With the above ALTER statements, the INITRANS applies only to the data blocks subsequently allocated for the table. It will not modify the existing data blocks. To apply the changes to the existing data blocks/extents, use the ALTER statement with MOVE command during the maintenance period. With the MOVE command, all indexes of the table become unusable and therefore, you will have to rebuild the indexes of the tables. For example, you can increase the INITRANS value of the CI_BILL table using the following ALTER TABLE MOVE command:

```
ALTER TABLE CI_BILL MOVE ONLINE INITRANS 20 NOLOGGING;
```

And you can increase the INITRANS value of the indexes using the following ALTER INDEX REBUILD command:

```
ALTER INDEX XT033P0 REBUILD ONLINE INITRANS 40 NOLOGGING;

ALTER INDEX XT033S1 REBUILD ONLINE INITRANS 40 NOLOGGING;

ALTER INDEX XT033S2 REBUILD ONLINE INITRANS 40 NOLOGGING;

ALTER INDEX XT033S3 REBUILD ONLINE INITRANS 40 NOLOGGING;

ALTER INDEX XT033S4 REBUILD ONLINE INITRANS 40 NOLOGGING;

ALTER INDEX XT033S5 REBUILD ONLINE INITRANS 40 NOLOGGING;
```

5.2.3 Table Partitioning Strategy

Partitioning is powerful functionality that allows tables, indexes, and index-organized tables to be subdivided into smaller pieces, enabling these database objects to be managed and accessed at a finer level of granularity. Oracle provides a comprehensive range of partitioning schemes to address every business requirement. We recommend you partition those tables where the customers have considerable amount of data. This helps to manage data and ensure consistent system performance with the increasing data.

You need to partition the master and child tables in such a way that the referential integrity is not hampered. There are many partitioning strategies which can be used to partition tables. However, we recommend you partition the following tables using the partition type and keys as mentioned in the below table:

Note: An out of box sample release-specific table partitioning scripts are provided by Oracle Revenue Management and Billing on My Oracle Support. You can partition the tables using these sample scripts. For more information, see *Oracle Revenue Management and Billing ILM Implementation Guide*.

Module Name	Table Name	Child Table Name	Partition Type	Partition Key	Sub-Partition Key
Transaction Feed Management (TFM)	CI_TXN_DETAIL		RANGE (DATE INTERVAL)	CURR_SYS_PRCS_DT	-
	CI_TXN_DTL_PRITM		RANGE (DATE INTERVAL)	CURR_SYS_PRCS_DT	-
	CI_ROLLBACK_TXN_DETAIL		RANGE (DATE INTERVAL)	CURR_SYS_PRCS_DT	-
	CI_TXN_DETAIL_EXCP		RANGE (DATE INTERVAL)	CURR_SYS_PRCS_DT	-
	CI_TXN_CALC		RANGE (DATE INTERVAL)	ILM_DT	-
	CI_TXN_SQ		RANGE (DATE INTERVAL)	ILM_DT	-
	CI_TXN_CALC_LN		RANGE (DATE INTERVAL)	ILM_DT	-

Module Name	Table Name	Child Table Name	Partition Type	Partition Key	Sub-Partition Key
	CI_TXN_CALC_LN_CHAR		RANGE (DATE INTERVAL)	ILM_DT	-
Billing	CI_BILL		RANGE (DATE INTERVAL)	ILM_DT	BILL_ID
		CI_BILL_CHAR	REFERENCE	BILL_ID	-
		CI_BILL_EXCP	REFERENCE	BILL_ID	-
		CI_BILL_MSG_PRM	REFERENCE	BILL_ID	-
		CI_BILL_ROUTING	REFERENCE	BILL_ID	-
		CI_BILL_SA	REFERENCE	BILL_ID	-
		CI_BILL_ACH	REFERENCE	BILL_ID	-
		CI_BILL_MSGS	REFERENCE	BILL_ID	-
		CI_BILL_LOG	REFERENCE	BILL_ID	-
	CI_BSEG		RANGE (DATE INTERVAL)	ILM_DT	BSEG_ID
		CI_BSEG_CALC	REFERENCE	BSEG_ID	-
		CI_BSEG_CALC_LN	REFERENCE	BSEG_ID	-
		CI_BSEG_CL_CHAR	REFERENCE	BSEG_ID	-
		CI_BSEG_EXCP	REFERENCE	BSEG_ID	-
		CI_BSEG_ITEM	REFERENCE	BSEG_ID	-
		CI_BSEG_MSG	REFERENCE	BSEG_ID	-
		CI_BSEG_READ	REFERENCE	BSEG_ID	-
		CI_BSEG_SQ	REFERENCE	BSEG_ID	-
		CI_BSEG_EXT	REFERENCE	BSEG_ID	-

Module Name	Table Name	Child Table Name	Partition Type	Partition Key	Sub-Partition Key
	CI_ADJ		RANGE (DATE INTERVAL)	ILM_DT	ADJ_ID
		CI_ADJ_APREQ	REFERENCE	ADJ_ID	-
		CI_ADJ_CALC_LN	REFERENCE	ADJ_ID	-
		CI_ADJ_CHAR	REFERENCE	ADJ_ID	-
		CI_ADJ_CL_CHAR	REFERENCE	ADJ_ID	-
	CI_BILL_CHG		RANGE (DATE INTERVAL)	ILM_DT	BILLABLE_CHG_ID
		CI_BCHG_READ	REFERENCE	BILLABLE_CHG_ID	-
		CI_BCHG_SQ	REFERENCE	BILLABLE_CHG_ID	-
		CI_BILL_CHG_CHAR	REFERENCE	BILLABLE_CHG_ID	-
		CI_B_CHG_LINE	REFERENCE	BILLABLE_CHG_ID	-
		CI_B_LN_CHAR	REFERENCE	BILLABLE_CHG_ID	-
Payment	CI_PAY		RANGE (DATE INTERVAL)	ILM_DT	PAY_ID
		CI_PAY_CHAR	REFERENCE	PAY_ID	-
		CI_PAY_EXCP	REFERENCE	PAY_ID	-
		CI_PAY_SEG	REFERENCE	PAY_ID	-
	CI_PAY_EVENT		RANGE (DATE INTERVAL)	ILM_DT	PAY_EVENT_ID
		CI_PAY_EVT_EXCP	REFERENCE	PAY_EVENT_ID	-
		CI_PEVT_DST_DTL	REFERENCE	PAY_EVENT_ID	-
		CI_PAY_TNDR	REFERENCE	PAY_EVENT_ID	-

Module Name	Table Name	Child Table Name	Partition Type	Partition Key	Sub-Partition Key
	CI_PAY_TNDR		REFERENCE	PAY_EVENT_ID	-
		CI_APAY_CLR_STG	REFERENCE	PAY_TENDER_ID	-
		CI_PAY_TNDR_CHAR	REFERENCE	PAY_TENDER_ID	-
Financial Transaction	CI_FT		RANGE (DATE INTERVAL)	ILM_DT	FT_ID
		CI_FT_GL	REFERENCE	FT_ID	-
		CI_FT_PROC	REFERENCE	FT_ID	-
		CI_FT_GL_EXT	REFERENCE	FT_ID	-
		C1_FT_EXT_CHAR	REFERENCE	FT_ID	-
		C1_FT_EXT	REFERENCE	FT_ID	-
Membership	CI_MEMBERSHIP		RANGE (DATE INTERVAL)	ILM_DT	MEMBERSHIP_ID
		CI_MEMBERSHIP_CHAR	REFERENCE	MEMBERSHIP_ID	-
		CI_MEMBERSHIP_PER_CHAR	REFERENCE	MEMBERSHIP_ID	-
		CI_MEMBERSHIP_LOG	REFERENCE	MEMBERSHIP_ID	-
		CI_MEMBERSHIP_PER	REFERENCE	MEMBERSHIP_ID	-
		CI_MEMBERSHIP_SA	REFERENCE	MEMBERSHIP_ID	-

Module Name	Table Name	Child Table Name	Partition Type	Partition Key	Sub-Partition Key
		CI_MEMBERSHIP_LOG_PARM	REFERENCE	MEMBERSHIP_ID	-
Entity Audit	C1_AUDIT_EVENT		RANGE (DATE INTERVAL)	ILM_DT	AUDIT_EVENT_ID
		C1_AUDIT_EVENT_CHAR	REFERENCE	AUDIT_EVENT_ID	-
		C1_AUDIT_EVENT_LOG	REFERENCE	AUDIT_EVENT_ID	-
		C1_AUDIT_EVENT_LOG_PARM	REFERENCE	AUDIT_EVENT_ID	-
Inbound Message	C1_INBOUND_MESSAGE		RANGE (DATE INTERVAL)	ILM_DT	C1_INBOUND_MESSAGE_ID
		C1_INBOUND_MESSAGE_CHAR	REFERENCE	C1_INBOUND_MESSAGE_ID	-
		C1_INBOUND_MESSAGE_LOG	REFERENCE	C1_INBOUND_MESSAGE_ID	-
		C1_INBOUND_MESSAGE_LOG_PARM	REFERENCE	C1_INBOUND_MESSAGE_ID	-
Pricing Calculation	CI_PRCE_CALC		RANGE (DATE INTERVAL)	ILM_DT	PRCE_CALC_ID
		CI_PRCE_CALC_LN	REFERENCE	PRCE_CALC_ID	-
		CI_PRCE_CALC_PARAMS	REFERENCE	PRCE_CALC_ID	-
Match Event	CI_MATCH_EVT		RANGE	MATCH_EVT_ID	-
Membership Repricing	CI_REPRC_REQ_DTL		RANGE	REPRC_ENTITY_ID	-
	CI_REPRC_ENTITY_DTL		RANGE	PREPRCS_REQ_ID	-

Module Name	Table Name	Child Table Name	Partition Type	Partition Key	Sub-Partition Key
Trial Billing	CI_TRL_BILL		RANGE (DATE INTERVAL)	ILM_DT	BILL_ID
		CI_TRL_BILL_CHAR	REFERENCE	BILL_ID	-
		CI_TRL_BILL_MSGS	REFERENCE	BILL_ID	-
		CI_TRL_BILL_EXCP	REFERENCE	BILL_ID	-
		CI_TRL_BILL_MSG_PRM	REFERENCE	BILL_ID	-
		CI_TRL_BILL_ROUTING	REFERENCE	BILL_ID	-
		CI_TRL_BILL_SA	REFERENCE	BILL_ID	-
		CI_TRL_BILL_LOG	REFERENCE	BILL_ID	-
	CI_TRL_BSEG		RANGE (DATE INTERVAL)	ILM_DT	BSEG_ID
		CI_TRL_BSCALC	REFERENCE	BSEG_ID	-
		CI_TRL_BSCALC_LN	REFERENCE	BSEG_ID	-
		CI_TRL_BSCL_CHAR	REFERENCE	BSEG_ID	-
		CI_TRL_BSEXCP	REFERENCE	BSEG_ID	-
		CI_TRL_BSITEM	REFERENCE	BSEG_ID	-
		CI_TRL_BSREAD	REFERENCE	BSEG_ID	-
		CI_TRL_BSSQ	REFERENCE	BSEG_ID	-
		CI_TRL_BSMSG	REFERENCE	BSEG_ID	-
		CI_TRL_BSEXT	REFERENCE	BSEG_ID	-

Module Name	Table Name	Child Table Name	Partition Type	Partition Key	Sub-Partition Key
	CI_TRL_FT		RANGE (DATE INTERVAL)	ILM_DT	FT_ID
		CI_TRL_FT_GL	REFERENCE	FT_ID	-
		CI_TRL_FT_PROC	REFERENCE	FT_ID	-

You can use either of the following approach for partitioning tables:

- **Offline Partitioning (Using Export and Import for Table Partitioning)** – In this approach, you need to do the following:
  - o Export data from the tables using the Oracle Export Data Pump functionality (i.e. expdp) with the **Data Only** option.
  - o Drop the tables and recreate them with partition.
  - o Import the data in the tables using the Oracle Import Data Pump functionality (i.e. impdp).
  - o Create the indexes for the tables.

  Disadvantage of using this approach: It requires downtime.

  Advantage of using this approach: It is faster than online partitioning. It takes approximately 12 hours for 1 TB data using 32 parallel servers execution.

- **Online Partitioning (Using the Alter Table Command for Table Partitioning)** – You can convert the table to a partitioned table using the ALTER TABLE ... MODIFY command.

  Disadvantage of using this approach: It requires more time than offline partitioning. It takes approximately 17 hours for 1 TB data using 32 parallel servers execution.

  Advantage of using this approach: It does not require downtime.

5.2.4   Performance Tuning

To improve the system performance, we recommend you to execute the following SQLs which are available in the `SAMPLE SQL PARTITIONING SCRIPTS FOR ORMB V8.1.0.0.0` patch (Patch Number: 38650122) on My Oracle Support.

- `ONLINE_V81000_match_evT_REPRC_REQ_table_part_EXA.sql`
- `ONLINE_V81000_AUDIT_table_reference_part.sql`
- `ONLINE_V81000_CI_ADJ and referencePartiton_tables.sql`
- `ONLINE_V81000_CI_BILL and referencePartiton_tables.sql`
- `ONLINE_V81000_CI_BILL_CHG and referencePartiton_tables.sql`
- `ONLINE_V81000_CI_BSEG and referencePartiton_tables.sql`
- `ONLINE_V81000_CI_FT_and referencePartiton_tables.sql`
- `ONLINE_V81000_CI_MEMBERSHIP_and referencePartiton_tables.sql`
- `ONLINE_V81000_CI_PAY_and referencePartiton_tables.sql`
- `ONLINE_V81000_CI_TRL_BILL_table_reference_part.sql`
- `ONLINE_V81000_CI_TRL_BSEG_table_reference_part.sql`
- `ONLINE_V81000_CI_TRL_FT_table_reference_part.sql`
- `ONLINE_V81000_INBOUND_and referencePartiton_tables.sql`
- `ONLINE_V81000_PRCE_CALC_and referencePartiton_tables.sql`
- `ONLINE_V81000_TFM_MODULE_PARTITIONED_TABLES.sql`

5.2.5   Performance Monitoring

SQLTXPLAIN, also known as SQLT, is a tool provided by Oracle Server Technologies. It enables users to analyze and tune the performance of a single SQL statement. SQLT inputs one SQL statement and outputs a set of diagnostics files. These output files are commonly used to diagnose SQL statements performing poorly. SQLT connects to the database and collects execution plans, Cost-based Optimizer CBO statistics, schema objects metadata, performance statistics, configuration parameters, and similar elements that influence the performance of the SQL being analyzed.

See the *All About the SQLT Diagnostic Tool* (Document ID: 215187.1) article on My Oracle Support for more information about:

- How to install SQLT
- How to determine the SQL_ID for an SQL Statement
- How to interpret the SQLTXPLAIN Main report

Another tool named Automatic Workload Repository (AWR) is used to collect performance statistics including:

- Wait events used to identify performance problems
- Gather system and session statistics
- Object usage statistics

- Resource intensive SQL statements

To generate the AWR report, see the *How to Create an AWR Report at the PDB level on 12.2 or later (Document ID: 2334006.1)* article on My Oracle Support for more information.

5.2.6　Local Undo Mode in Oracle Database

In Oracle Database 12c Release 2 onwards, each container in an instance can use its own undo tablespace. This new undo management mechanism is called local undo mode. Some of the new multitenant features in 12.2 rely on local undo. We recommend you set local undo for each pluggable database (PDB).

If you are upgrading from Oracle Database 12c Release 1, then change the undo mode from Shared to Local.

To view the current undo mode, use the following code snippet:

```
Column property_name format a30

Column property_value format a30

Select property_name, property_value from database_properties where property_name = 'LOCAL_UNDO_ENABLED';
```

The above query indicates the undo mode which is currently used. For example:

```
PROPERTY_NAME                      PROPERTY_VALUE
---------------------------------  ---------------------------------
LOCAL_UNDO_ENABLED                 TRUE
```

Figure 1: LOCAL_UNDO_ENABLED Property

5.2.7　Memory Resource Management for PDBs in Oracle Database

Prior to Oracle Database 12c Release 2, there was no way to control the amount of memory used by an individual pluggable database (PDB). However, from Oracle Database 12c Release 2 (12.2) onwards, you can control the amount of memory used by a PDB, making consolidation more reliable.

You can set the following memory parameters at the pluggable database level:

- **DB_CACHE_SIZE** - The minimum buffer cache size for the pluggable database.
- **SHARED_POOL_SIZE** - The minimum shared pool size for the pluggable database.
- **PGA_AGGREGATE_LIMIT** - The maximum PGA size for the pluggable database.
- **PGA_AGGREGATE_TARGET** - The target PGA size for the pluggable database.
- **SGA_MIN_SIZE** - The minimum SGA size for the pluggable database.
- **SGA_TARGET** - The maximum SGA size for the pluggable database.

The process of setting memory parameters for a pluggable database is similar to setting memory parameters for a regular instance.

5.2.8   Global Optimizer Statistics Settings

We recommend you implement some standard settings as mentioned in this section which will help to gather statistics in a faster way.

5.2.8.1   Setting Stale Percentage

STALE_PERCENT determines the percentage of rows in a table that must change before the statistics on that table are deemed stale and should be re-gathered. You can verify the stale percentage setting using the following SQL statement:

```
SELECT DBMS_STATS.GET_PREFS('STALE_PERCENT') FROM DUAL;
```

The default stale percentage is set to 10% and we recommend retaining the default setting.

5.2.8.2   Incremental Statistics Gathering

We recommend you enable the incremental statistics gathering feature only for partitioned tables. This feature not only reduces the time it takes to gather global statistics, but also increases the statistics accuracy. This feature avoids scanning whole table when computing global statistics and derives it from partition level statistics.

Set the INCREMENTAL option to TRUE for every partitioned table in the CISADM schema and set its stale percent as shown in the following code snippet:

```
BEGIN

DBMS_STATS.SET_TABLE_PREFS(NULL,'TABLE_NAME','INCREMENTAL','TRUE');

END;

BEGIN

DBMS_STATS.SET_GLOBAL_PREFS('INCREMENTAL_STALENESS',
'USE_STALE_PERCENT');

END;
```

You can verify the setting using the following SQL statement:

```
SELECT DBMS_STATS.GET_PREFS('INCREMENTAL') FROM DUAL;
```

5.2.8.3   Setting Auto Degree

Gathering statistics with auto sample size initiates full table scans to inspect table data. We can leverage parallel execution to make these scans complete in less time. We recommend you set the AUTO_DEGREE property at the global level using the following code snippet:

```
BEGIN

DBMS_STATS.SET_GLOBAL_PREFS('DEGREE', DBMS_STATS.AUTO_DEGREE)

END;
```

5.2.8.4　Automatic Statistics Gathering

Oracle Database collects statistics for database objects that do not have statistics or have stale (i.e. out of date) statistics. This is done by an automatic task that executes during a predefined maintenance window. Oracle internally prioritizes the database objects that require statistics so that objects which need statistics on priority are processed first.

You can verify the last auto gather job status using the following SQL statement:

```
SELECT  CLIENT_NAME, JOB_STATUS, JOB_START_TIME, JOB_DURATION  FROM
DBA_AUTOTASK_JOB_HISTORY WHERE JOB_START_TIME > SYSTIMESTAMP – 3 AND
CLIENT_NAME='AUTO OPTIMIZER STATS COLLECTION' ORDER BY JOB_START_TIME
DESC;
```

If the job is not successfully completed or is incomplete due low maintenance window, then run the optimizer advisor to identify the objects which are not processed in the job. For more information, see the [Optimizer Statistics Advisor](#) section.

5.2.8.5　Concurrent Statistics Gathering

If the concurrent statistics gathering mode is enabled, the database can simultaneously gather optimizer statistics for multiple tables in a schema, or for multiple partitions or sub partitions in a table. Gathering statistics on multiple tables and (sub) partitions concurrently can reduce the overall time it takes to gather statistics by allowing the database server to fully utilize a multi-processor environment.

Before you enable the concurrent statistics gathering mode, you must activate an Oracle Resource Manager Plan. Statistics gathering with parallel and concurrent execution has the potential to consume lots of system resources. In order to control this usage, we need the resource manager plan in place. The aim of this resource manager plan is to control the resources used by the concurrent statistics jobs.

You need to check whether a resource manager plan is active at the database level. If no value is specified for the RESOURCE_MANAGER_PLAN parameter, the database resource manager is not activated. In this case, you should not enable the concurrent statistics gathering mode. Otherwise, the following error will occur:

```
ERROR AT LINE 1:

ORA-20000: UNABLE TO GATHER STATISTICS CONCURRENTLY: RESOURCE MANAGER
IS NOT ENABLED.

ORA-06512: AT "SYS.DBMS_STATS", LINE 34634

ORA-06512: AT LINE 1
```

Assigning a resource plan is a prerequisite for using the concurrent statistics gathering feature. The user must have privileges for the following:

- CREATE JOB
- MANAGE SCHEDULER
- MANAGE ANY QUEUE

You should disable the parallel adaptive multi-user because we are using the parallel execution as part of concurrent statistics gathering. You can disable the parallel adaptive multi-user using the following statement:

```
ALTER SYSTEM SET PARALLEL_ADAPTIVE_MULTI_USER=FALSE
```

By default, the concurrency setting for statistics gathering is turned off. It can be turned on using the following code snippet:

```
BEGIN

DBMS_STATS.SET_GLOBAL_PREFS('CONCURRENT','MANUAL');

END;
```

You can verify the setting using the following SQL statement:

```
SELECT DBMS_STATS.GET_PREFS('CONCURRENT') FROM DUAL;
```

5.2.9 Optimizer Statistics Advisor

The Optimizer Statistics Advisor analyzes how optimizer statistics are gathered, and then makes some recommendations on how to improve the statistics gathering strategy in order to provide more efficient statistics to the Cost-Based Optimizer (CBO). This feature is available in Oracle Database 12c Release 2.

5.2.9.1 Creating an Optimizer Statistics Advisor Task

The DBMS_STATS.CREATE_ADVISOR_TASK function creates a task for Optimizer Statistics Advisor. You can create an advisor task using the following code snippet:

```
DECLARE

TNAME VARCHAR2(32767);

RET VARCHAR2(32767);

BEGIN

TNAME := 'RMB_ADVISOR_16';

RET := DBMS_STATS.CREATE_ADVISOR_TASK(TNAME);

END;
```

You can view the advisor task using the following SQL statement:

```
SELECT TASK_NAME, ADVISOR_NAME, CREATED, STATUS FROM DBA_ADVISOR_TASKS
WHERE ADVISOR_NAME = 'STATISTICS ADVISOR';
```

5.2.9.2 Creating Filters for an Optimizer Advisor Task

Filters are useful for including or excluding a specific set of rules, schemas, or operations from Optimizer Statistics Advisor tasks. The simplest way to create filters is to use the following DBMS_STATS procedures either individually or in combination:

- **CONFIGURE_ADVISOR_OBJ_FILTER** - Use this procedure to include or exclude the specified database schemas or objects.

- **CONFIGURE_ADVISOR_RULE_FILTER** - Use this procedure to include or exclude the specified rules.

- **CONFIGURE_ADVISOR_OPR_FILTER** - Use this procedure to include or exclude the specified `DBMS_STATS` operations.

In the following code snippet, the 1st filter will disable the advisor for all objects; 2nd, 3rd, and 4th filters will enable the `AvoidStaleStats`, `UseIncremental`, and `NotUseIncremental` rules for the `CISADM` objects; and 5th, 6th, 7th, and 8th filters will disable the respective rules.

```
DECLARE

FILTER1 CLOB;

FILTER2 CLOB;

FILTER3 CLOB;

FILTER4 CLOB;

FILTER5 CLOB;

FILTER6 CLOB;

FILTER7 CLOB;

FILTER8 CLOB;

BEGIN

FILTER1   :=   DBMS_STATS.CONFIGURE_ADVISOR_OBJ_FILTER(TASK_NAME   =>
'RMB_ADVISOR_16', STATS_ADV_OPR_TYPE => 'EXECUTE', RULE_NAME => NULL,
OWNNAME => NULL, TABNAME => NULL, ACTION => 'DISABLE');

FILTER2   :=   DBMS_STATS.CONFIGURE_ADVISOR_OBJ_FILTER(TASK_NAME   =>
'RMB_ADVISOR_16',   STATS_ADV_OPR_TYPE   =>   'EXECUTE',   RULE_NAME   =>
'AVOIDSTALESTATS', OWNNAME => 'CISADM', TABNAME => NULL, ACTION =>
'ENABLE');

FILTER3   :=   DBMS_STATS.CONFIGURE_ADVISOR_OBJ_FILTER(TASK_NAME   =>
'RMB_ADVISOR_16',   STATS_ADV_OPR_TYPE   =>   'EXECUTE',   RULE_NAME   =>
'USEINCREMENTAL',   OWNNAME   =>   'CISADM',   TABNAME   =>   NULL,   ACTION   =>
'ENABLE');

FILTER4   :=   DBMS_STATS.CONFIGURE_ADVISOR_OBJ_FILTER(TASK_NAME   =>
'RMB_ADVISOR_16',   STATS_ADV_OPR_TYPE   =>   'EXECUTE',   RULE_NAME   =>
'NOTUSEINCREMENTAL', OWNNAME => 'CISADM', TABNAME => NULL, ACTION =>
'ENABLE');

FILTER5   :=   DBMS_STATS.CONFIGURE_ADVISOR_RULE_FILTER(TASK_NAME   =>
'RMB_ADVISOR_16',   STATS_ADV_OPR_TYPE   =>   'EXECUTE',   RULE_NAME   =>
'USECONCURRENT', ACTION => 'DISABLE');

FILTER6   :=   DBMS_STATS.CONFIGURE_ADVISOR_RULE_FILTER(TASK_NAME   =>
'RMB_ADVISOR_16',   STATS_ADV_OPR_TYPE   =>   'EXECUTE',   RULE_NAME   =>
'USEDEFAULTPARAMS', ACTION => 'DISABLE');

FILTER7   :=   DBMS_STATS.CONFIGURE_ADVISOR_RULE_FILTER(TASK_NAME   =>
'RMB_ADVISOR_16',   STATS_ADV_OPR_TYPE   =>   'EXECUTE',   RULE_NAME   =>
'USEAUTOJOB', ACTION => 'DISABLE');

FILTER8   :=   DBMS_STATS.CONFIGURE_ADVISOR_RULE_FILTER(TASK_NAME   =>
'RMB_ADVISOR_16',   STATS_ADV_OPR_TYPE   =>   'EXECUTE',   RULE_NAME   =>
'USEGATHERSCHEMASTATS', ACTION => 'DISABLE');
```

```
END;
```

5.2.9.3   Executing an Optimizer Statistics Advisor Task

The DBMS_STATS.EXECUTE_ADVISOR_TASK function executes a task for Optimizer Statistics Advisor. You can execute an advisor task using the following code snippet:

```
DECLARE

TNAME VARCHAR2(32767);

RET VARCHAR2(32767);

BEGIN

TNAME := 'RMB_ADVISOR_16';

RET := DBMS_STATS.EXECUTE_ADVISOR_TASK(TNAME);

END;
```

5.2.9.4   Generating a Report for an Optimizer Statistics Advisor Task

We recommend you configure daily job to run the advisor in the non-peak hours and generate the report. The DBMS_STATS.REPORT_ADVISOR_TASK function generates a report for an Optimizer Statistics Advisor task. The report summarizes the findings and rules violated by the findings and lists the recommendations (if any) for the finding. You can view the report using the following SQL statement:

```
SELECT
DBMS_STATS.REPORT_ADVISOR_TASK('RMB_ADVISOR_16',NULL,'TEXT','ALL','ALL
') AS REPORT FROM DUAL;
```

5.2.9.5   Implementing Optimizer Statistics Advisor Recommendations

You can implement all recommendations given by the advisor automatically or manually. You can use the following code snippet to implement all recommendations automatically:

```
DECLARE

TNAME VARCHAR2(32767);

RET VARCHAR2(32767);

BEGIN

TNAME := 'RMB_ADVISOR_16';

RET := DBMS_STATS.IMPLEMENT_ADVISOR_TASK(TNAME);

END;
```

Alternatively, you can implement the recommendations manually for each table using the following code snippet:

```
BEGIN

DBMS_STATS.GATHER_TABLE_STATS(OWNNAME=>'CISADM', TABNAME=>'TABLE-NAME',
GRANULARITY=>'ALL', CASCADE=>TRUE, METHOD_OPT=>'FOR ALL COLUMNS SIZE
AUTO')

END;
```

5.2.10 Using the Segment Advisor

A table may experience large number of updates. As a result, there might be performance issues while executing queries on these tables. In such case, we recommend you use the segment advisor. The segment advisor is used for identifying segments which are candidates for a shrink operation (i.e. releasing unused space and moving the High Water Mark).

The segment advisor can generate the advice with different degrees of granularity. For example, you can generate advice for all objects in a tablespace or for a specific table, index, or partition.

We recommend you run the segment advisor for the following:

- Objects with size more than 50 G or 100 G
- Temporary tables (such as, CI_TXN_DETAIL_STG) where there are large number of insertions and deletions

5.2.10.1 Manually Generating Segment Advisor Advice

To run the segment advisor manually, you need to do the following (as shown in the below code snippet):

1. Create a Task
2. Assign an Object to the Task
3. Set the Task Parameters
4. Execute the Task

```
SET SERVEROUTPUT ON
DECLARE
seg_task_id    number;
seg_task_name varchar2(100);
seg_task_desc varchar2(500);
OBJ_ID         number;
BEGIN
seg_task_name := 'ANALYZE_TABLE_DATA';
seg_task_desc := 'Manual Segment Advisor Run for table';
-- Step 1
dbms_advisor.create_task(
advisor_name => 'Segment Advisor',
task_id      => seg_task_id,
task_name    => seg_task_name,
task_desc    => seg_task_desc);
-- Step2
dbms_advisor.create_object(
```

```
task_name  => seg_task_name,

object_type => 'TABLE',

attr1      => 'CISADM',

attr2      => 'CI_BSEG_CALC',

attr3      => NULL,

attr4      => NULL,

attr5      => NULL,

object_id  => obj_id);

-- Step3

dbms_advisor.set_task_parameter(

task_name => seg_task_name,

parameter => 'recommend_all',

value    => 'TRUE');

-- Step4

DBMS_ADVISOR.EXECUTE_TASK(seg_task_name);

FOR cur_rec IN (SELECT f.impact, o.type, o.attr1, o.attr2, f.message,
f.more_info FROM dba_advisor_findings f JOIN dba_advisor_objects o ON
f.object_id  =  o.object_id  AND  f.task_name  =  o.task_name  WHERE
f.task_name = seg_task_name ORDER BY f.impact DESC)

LOOP

DBMS_OUTPUT.put_line('..');

DBMS_OUTPUT.put_line('Type          : ' || cur_rec.type);

DBMS_OUTPUT.put_line('Attr1         : ' || cur_rec.attr1);

DBMS_OUTPUT.put_line('Attr2         : ' || cur_rec.attr2);

DBMS_OUTPUT.put_line('Message       : ' || cur_rec.message);

DBMS_OUTPUT.put_line('More info     : ' || cur_rec.more_info);

END LOOP;

DBMS_ADVISOR.delete_task(task_name => seg_task_name);

EXCEPTION

WHEN OTHERS THEN

DBMS_OUTPUT.put_line('Error                          :   '   ||
DBMS_UTILITY.format_error_backtrace);

DBMS_ADVISOR.delete_task(task_name => seg_task_name);

End;
```

Similarly, you can manually generate segment advisor advice for an index. You just need to change the OBJECT_TYPE to INDEX and specify the index name in the ATTR2 in Step 2.

Using the following SQL statement, you can verify whether the advisor task is completed:

```
SELECT TASK_NAME, STATUS FROM   DBA_ADVISOR_TASKS WHERE
ADVISOR_NAME='SEGMENT ADVISOR' AND TASK_NAME IN ('
ANALYZE_TABLE_DATA');
```

5.2.10.2 Viewing Segment Advisor Advice

We recommend you configure daily job to run the advisor for selected objects in the non-peak hours and view the advisory recommendations. The advice will give an estimate about how much space can be reclaimable. Depending upon the estimate given by the segment advisor, you can decide whether to shrink table or not.

5.2.10.3 Shrinking Tables

Before you shrink a table, you need to enable row movement for the table using the following SQL statement:

```
ALTER TABLE SEG_TABLE ENABLE ROW MOVEMENT;
```

Then, you can shrink a table using the following SQL statement:

```
ALTER TABLE SEG_TABLE SHRINK SPACE COMPACT;
```

Appendix A : New Objects in the Oracle Revenue Management and Billing V8.1.0.0.0 Database

This section lists the objects that are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database. These objects are classified under the following two sections:

- Schema Changes
- New System Data

A.1   Schema Changes

This section lists schema related changes made in the Oracle Revenue Management and Billing V8.1.0.0.0 database.

A.1.1 New Tables

The following tables are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Table	Description
C1_ADJ_DTLS_INTG	Integrated dataset for Adjustments
C1_AIML_CONFIG	Configuration Table for AIML Feature
C1_AIML_HYPERPARAMS	Hyper Paramter Table
C1_AIML_INSTALL_OPTIONS	AIML install option Table
C1_AIML_JOB_PARAMS	AIML Job Parameter Table
C1_AIML_JOBS	AI ML Jobs Table
C1_AIML_LOG	AIML logs table
C1_BR_ASO_BSEG_DETAILS	Bill Readiness Bseg Aso detail table
C1_BR_ASO_BSEG_DETAILS_DYN	Bill Readiness Bseg ASO Dynamic Detail Tablle
C1_BR_ASO_BSEG_SEALINC_MODEL	Bill Readiness Bseg ASO Sealinc Model Table
C1_BR_BILL_CATEGORICAL_PRED	Bill Readiness Bill Categorical Prediction Table
C1_BR_BILL_DETAILS	Bill Readiness Bill historical Details Table
C1_BR_BILL_DETAILS_DYN	Bill Readiness Bill Details Dynamic Table
C1_BR_BILL_PIVEC_HIST	Bill Readiness Bill Pivec history Table
C1_BR_BILL_PIVEC_PRED	Bill Readiness Bill Pivec Prediction Table
C1_BR_BILL_SEALINC_MODEL	Bill Readiness Bill Sealinc Model Table

Table	Description
C1_BR_BILL_SEALINC_PRED	Bill Readiness Bill Sealinc Pred Table
C1_BR_BK_BSEG_DETAILS	Bill Readiness Banking Bseg Details Table
C1_BR_BK_BSEG_DETAILS_DYN	Bill Readiness Banking Bseg Details Dynamic Table
C1_BR_BK_BSEG_SEALINC_MODEL	Bill Readiness Banking Bseg Sealinc Model Table
C1_BR_BSEG_CATEGORICAL_PRED	Bill Readiness Bseg Categorical Pred Table
C1_BR_BSEG_SEALINC_PRED	Bill Readiness Bseg Sealinc Pred Table
C1_BR_CUST_ACCT	Bill Readiness Customer Account Table
C1_BR_INV_VECTOR	Bill Readiness Vector for Bill Id Table
C1_BR_LNIT_MAPPING	Bill Readiness Line Item Mapping Table
C1_BR_PRIC_PARM_MAP	Bill Readiness Pricing Param to UDF Mapping Table
C1_BR_PRICEITEM_POS	Bill Readiness Priceitem Position Table
C1_BR_SQI_MAPPING	Bill Readiness SQI Code Mapping Table
C1_BSEG_DTLS_INTG	Integrated dataset for Bill Segments
C1_CAG_REF_DATA	CAG Reference Data
C1_DELIN_DTLS_INTG	Integrated table for Delinquencies
C1_DELIN_PROC_REL_OBJ_DTL	Delinquency Process Related Object Detail
C1_DELIN_PROC_TYPE_GRC_PRD_DF	Delinquency Grace Period Defer Configuration
C1_DELIN_PROC_TYPE_THRESHOLD	Delinquency Process Type Threshold
C1_DWP_DEAL_PRED	DWP Deal Level Prediction Table
C1_DWP_ENTITY_PRED	DWP Entity Level Prediction Table
C1_DWP_MODEL_PARTITION_INFO	DWP Model Partition Information
C1_DWP_PREDICTION	Deal Win Probability Prediction
C1_DWP_PREDICTION_RAW	DWP Prediction Raw Table
C1_DWP_PRICEITEM_PRED	DWP Priceitem Level Prediction Table
C1_DWP_PRICEITEM_RAW	DWP Priceitem Raw Table
C1_DWP_PRICEITEM_TRAIN	DWP Pricitem Training Table
C1_FT_GL_DTLS_INTG	Integrated dataset for FT & GL
C1_PAY_BILL_ADJ_LOOKUP_INTG	Lookup table for Payments, Bills and Adjustments
C1_PAY_BUS_RULE	Payment Business Rule Table
C1_PAY_DTLS_INTG	Integrated table for Pay & Pay segments
C1_TAD_DAY_PRED	Transaction daily aggregate anomaly detection table

Table	Description
C1_TAD_PRED	Transaction level anomaly detection table

A.1.2 Added Columns

The following columns are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Table	Column	Column Description	Required (Yes or No)
C1_BUS_RULE_DELIN	ADD_DAYS_TO_BILL_DUE_DT	Add Days to Bill Due Date	No
	DELIN_PROC_TYPE_CD	Delinquency Process Type	No
	GRACE_PERIOD_TYPE_FLG	Grace Period Type	No
C1_DELIN_PROC_APPR_DTL	EOG_DT	Grace End Date	No
	SOG_DT	Grace Start Date	No
C1_DELIN_PROC_TYPE	BILL_CNSD_CANC_CRIT_FLG	Bills Considered for Enter/Exit Criteria	No
	GRACE_PERIOD_TYPE_FLG	Grace Period Type	No
	THRSHLD_SW	Enable Threshold Definition	Yes
CI_FILE_REQUEST	CIS_DIVISION	Division	No
CI_FILE_REQUEST_TYPE	DIV_FILTER_REQUIRED	Division Filter Required	No
C1_FT_EXT	ACCT_DIV_CURCY_AMT	Account Division Currency Amount	No
	ACCT_DIV_CUR_EXCHRATE_ID	Account Division Currency Exch Rate ID	No
	ACCT_DIV_CURCY_CD	Account Division Base Currency	No
	ACCT_DIV_EXCHRATE	Account Division Currency Exchange Rate	No
	BILL_CYC_CD	Bill Cycle	No
	IMPL_CURCY_CD	Implementation Currency Code	No
	IMPL_CURRENCY_AMT	Implementation Currency Amount	No

Table	Column	Column Description	Required (Yes or No)
	IMPL_CURRENCY_EXCHR ATE	Implementation Currency Exchange Rate	No
	IMPL_CURRENCY_EXCHR ATE_ID	Implementation Currency Exchange Rate ID	No
	PER_DIV_CUR_EXCHRATE _ID	Person Division Currency Exch Rate ID	No
	PER_DIV_CURCY_AMT	Person Division Base Currency Amount	No
	PER_DIV_CURCY_CD	Person Division Base Currency	No
	PER_DIV_EXCHRATE	Person Division Currency Exchange Rate	No
C1_INVOICE_REQ_DTLS	CUTOFF_DT	Bill Seg End Date	No
	ACCOUNTING_DT	Accounting Date	No
C1_PRICEITEM_REL_DIV	REL_OPERATOR	Relation Operator	No
C1_HEALTH_PLAN	PTD_PRORAT_REQ_SW	Paid Through Date Proration	No
EXT_C1_IND_MEM	CHAR_TYPE_CD_1	Characteristic Type 1	No
	CHAR_TYPE_CD_10	Characteristic Type 10	No
	CHAR_TYPE_CD_2	Characteristic Type 2	No
	CHAR_TYPE_CD_3	Characteristic Type 3	No
	CHAR_TYPE_CD_4	Characteristic Type 4	No
	CHAR_TYPE_CD_5	Characteristic Type 5	No
	CHAR_TYPE_CD_6	Characteristic Type 6	No
	CHAR_TYPE_CD_7	Characteristic Type 7	No
	CHAR_TYPE_CD_8	Characteristic Type 8	No
	CHAR_TYPE_CD_9	Characteristic Type 9	No
	CHAR_VAL_1	Characteristic Value 1	No
	CHAR_VAL_10	Characteristic Value 10	No
	CHAR_VAL_2	Characteristic Value 2	No
	CHAR_VAL_3	Characteristic Value 3	No
	CHAR_VAL_4	Characteristic Value 4	No
	CHAR_VAL_5	Characteristic Value 5	No

Table	Column	Column Description	Required (Yes or No)
	CHAR_VAL_6	Characteristic Value 6	No
	CHAR_VAL_7	Characteristic Value 7	No
	CHAR_VAL_8	Characteristic Value 8	No
	CHAR_VAL_9	Characteristic Value 9	No
	DIVISION_DESCRIPTION	Division Description	No
	HEALTH_PLAN_CD	Health Plan	No
	MEMBER_AUTO_RENEWAL	Member Auto Renewal	No
	MEMBERSHIP_CAT_FLG	Membership Category	No
	MEMBERSHIP_END_DT	Membership End Date	No
	MEMBERSHIP_ID	Membership ID	No
	MEMBERSHIP_START_DT	Membership Start Date	No
	MEMBERSHIP_STATUS	Membership Status	No
	PER_ID	Person ID	No
	PERSON_NAME	Person Name	No
	PRICEITEM_CD	Price Item	No
	PRICING_END_DT	Pricing End Date	No
	PRICING_RULE_ID	Pricing Rule ID	No
	PRICING_RULE_TYPE	Pricing Rule Type	No
	PRICING_RULE_TYPE_CD	Pricing Rule Type	No
	PRICING_START_DT	Pricing Start Date	No
	PRIMARY_IDENTIFIERTYPE	Primary Identifier Type	No
	PRIMARY_IDENTIFIERVALUE	Primary Identifier Value	No
	PRODUCT	Price Item	No
	PRODUCT_CD	Product	No
	PRODUCT_HC_CATEGORY	Product Health Category	No
	RATE_GUARANTEE_END_DT	Rate Guarantee End Date	No
	RATE_GUARANTEE_START_DT	Rate Guarantee Start Date	No

Table	Column	Column Description	Required (Yes or No)
	RATE_GUARANTEE_STATUS	Rate Guarantee Status	No
	RELATIONSHIP_TYPE	Relationship Type	No
	RENEWAL_DATE	Renewal Date	No
	SA_REL_TYPE_CD	Relationship Type	No

A.1.3   Dropped Tables

None

A.1.4   Dropped Columns

None

A.1.5   Dropped Lookups

The following lookups are removed from the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Field	Field Value
C1_CHART_OF_ACCOUNT	Budget
	Company Code
	Funding Arrangement
	GL String
	InterCo
	Natural Account
	Product
	Profit/Cost Center
	TBD
C1_GL_SOURCE	Billable Charge Characteristic
	Constant
	Default
	Distribution Code
	GL String
	Sibling Entity Characteristic

Field	Field Value
REQUEST_TYPE_FLG	Account
	Billable Charge
	Person
	Price Assignment
	Price Item
	Account

A.1.6   Added Views

None

A.1.7   Column Format Change

None

A.2   New System Data

The system data is used to configure various features in Oracle Revenue Management and Billing. This section lists the system data that is newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database.

A.2.1   Algorithm Types

The following algorithm types are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Algorithm Type	Description
C1-360-ACCT	Customer 360 Account Information
C1-360-PROD	Customer 360 product Information
C1-BCHGINFO	Billable Charge Information
C1-C360-PER	Customer 360 Customer Information
C1-CINFOCONF	Customer 360 – Customer Information Field Configuration
C1-CNCLPDBIL	Cancel Overdue Process based on Bill's Unpaid Balance
C1-CREFTEXT	Create Financial Transaction Extension detail post FT create
C1-CREOVDBIL	Overdue Process Creation
C1-CROPREQPR	Create Off-Process Request to adjust Level Funded Accumulation
C1-DCNPWHLEP	Delinquency Process Additional Cancel Criteria for PWH subsidy and LEP charges

Algorithm Type	Description
C1-DENPWHLEP	Delinquency Process Additional Creation Criteria for PWH subsidy and LEP charges
C1-DPAPPRINP	This algorithm is configured for grace start date and end date manual updates to check for approval
C1-EAPFCDTEX	Enhanced AP Request Data Extract for Financial Cloud
C1-EVTDTA	Event Trigger Dates Alignment
C1-EXFINFILE	Create Final File for Extract Batch
C1-GENACCTCL	Generate Member Termination Outbound Message
C1-GENLETEXT	Generic Letter Extract
C1-GENMEMTRM	Generate Member Termination Outbound Message
C1-GENREINST	Generate Members or Accounts Reinstatement Outbound Message
C1-MEMEFFECT	Membership Effectuation Status
C1-MRKEXTBPP	Mark Entities as Extracted Batch Post Processing
C1-PHDUDT	Pharmacy Due Date Calculation
C1-REINSTATE	Reinstate Members or Accounts
C1-REMEXTRBS	Remove extra bill segments
C1-SNDACCTCL	Send Account Cancellation
C1-SNDBILNTF	Send Billing Notification
C1-SNDMEMTRM	Send Member Termination
C1-TERMMEM	Terminated membership status
C1-UPDTERMDT	Determine Termination Effective Date

A.2.2 Algorithms

The following algorithms are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Algorithm	Description
C1-360-PROD	Customer 360 Product Information
C1-BCHGINFO	Billable Charge Information
C1-C360-ACCT	Customer 360 Account Information
C1-C360-PER	Customer 360 Customer Information
C1-CINFOCONF	Customer 360 – Customer Information Field Configuration
C1-DCNPWHLEP	Delinquency Process Additional Cancel Criteria for PWH subsidy and LEP charges
C1-DENPWHLEP	Delinquency Process Additional Creation Criteria for PWH subsidy and LEP charges

Algorithm	Description
C1-DPAPPRINP	This algorithm is configured for grace start date and end date manual updates to check for approval
C1-MEMEFFECT	Membership Effectuation Status
C1-PHDUDT	Pharmacy Due Date Calculation
C1-TERMMEM	Terminated membership status
C1-UPDTERMDT	Determine Termination Effective Date
LPC-DEMO1	Calculate a percentage of amount due on LPC date

A.2.3   Business Services

The following business services are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Business Service	Description
C1_CUST360	Customer 360 wrapper class
C1_GETLHSPARM	Get LHS PARM
C1_PRICEASGNREADNW	Price Assignment
C1_PRODDETAIL	Customer 360 – Product Details
C1_ProductAddDetail	Customer 360 – Additional Product Detail
C1_RetrieveMandtParms	Retrieve mandatory parameters
C1-BillCorrGetDates	Bill Correction – Get Dates
C1-BillCorrGetPricingDetails	Bill Correction Get Pricing details
C1-BillingUnifiedSrch	Billing Unified Search
C1-C360ANOBILL	Customer 360 – Anomaly Bills
C1-C360APAY	Customer 360 – Auto Pay Details
C1-C360COMPBILL	Customer 360 – Completed Bills
C1-C360ERRBILL	Customer 360 – Error Bills
C1-C360ERRSEG	Customer 360 – Error Segments
C1-C360PrListInfo	Customer 360 – Price List Information
C1-C360RDYCMPBILL	Customer 360 – Ready For Completion Bills
C1-C360RVWBILL	Customer 360 – Review Bills
C1-DelProcessTypeSearch	Deliquency Process Type Search
C1-GetAccountCancellationDtlEx	Get Account Cancellation Details Extract

Business Service	Description
C1-GETACCTPERBILCOR	Get Account and Main Person from bill Correction Id
C1-GETACTVPLSTS	Get Active pricelists
C1-GETAGRDPRCNGINF	Customer 360 – Agreed Pricing Details
C1-GetAPRequestDetails	Retrieve A/P Request Details
C1-GetAsgnLevlFlag	Bill Correction Get Pricing Assignment Level
C1-GetBillCorrPartyDetails	Get Party details for bill correction flow using party Id
C1-GetBreakline	Get Extract Breakline
C1-GetDealForUnifiedSrch	Deal Unified Search
C1-GetGenericOutboundDetailExt	Get Generic Outbound Details Extract
C1-GetGlDetails	Retrieve GL Request Details
C1-GetHeaderExtract	Get Header Extract
C1-GetItemListofManualInvoice	Get Item List Details of the Manual Invoice Adjustment
C1-GetMemTermDetailExtract	Get Membership Termination Detail Extract
C1-GetNonEligibileFTs	Get non-eligible FTs
C1-GETPERRELTYPES	Get Person Relationship Types
C1-GetPriceAppUnifiedSrch	Pricing Approval Unified Search
C1-GetPriceLstAsgnUnifiedSrch	Price List Assignment Unified Search
C1-GetTrailerExtract	Get Trailer Extract
C1-INVOKEDWPSERVICE	Invoke Deal Win Probability Service
C1-OBRBreakline	OBR Breakline Business Service
C1-OBRDriverQuery	OBR Driver Query Business Service
C1-OBRHeader	OBR Header Business Service
C1-OBRTrailer	OBR Trailer Business Service
C1-PARAMSTHR	Retrieve Threshold Params type list
C1-PricingUnifSrch	Pricing Unified Search
C1-SQIPARAM	Threshold Parameters List
C1-ThreshParamsList	Threshold Parameters List
C1-TwoDPricingInput	Two Dimensional Pricing Input
C1-WFOPT	Retrieve Bill Readiness Message number
C1-DWPPrediction	Deal Win Probability Prediction Service

A.2.4   Portals

The following portals are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Portal	Description
C1_C360D	Customer 360 Dashboard Portal
C1PAVW	Price Item Pricing

A.2.5   Batch Controls

The following batch controls are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Batch Control	Description
C1ASOCPR	ASO Copy Pricing Rule
C1-BSCSV	Billing Statement Attachment CSV Extract
C1-DBCSV	Draft Billing Attachment CSV Extract
C1-FIACT	Identify Fully-Insured Account Group Memberships Repricing
C1-FTUPD	Update CI_FT_EXT
C1-GENLE	Generate Letter Extracts
C1-GOFBS	Generic Outbound File Creation via Business Service
C1-IFTPN	Increment FT Process Batch Number
C1-IRBHR	Create invoice request when 87ligibl hold is released
C1-MINVE	Manual Invoice Extract
C1-REVFC	This Batch performs Revenue Forcasting
C1-TADPR	Transaction Anomaly Detection Batch
C1ASOCPR	ASO Copy Pricing Rule
C1-DWPPR	Data Preparation and Model Batch for DWP

A.2.6   Foreign Key References

The following foreign key references are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Foreign Key Reference	Description
ACTINF	Account
C1-BLCRG	Billable Charge Information
C1-PAISN	Price Assignment Info String New
C1-WOPT	BAD feature Configuration

A.2.7   Scripts

The following scripts are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Script	Description
C1_END_DATE	Fetch End date from ASO FC
C1-BCEntEdOv	Bill Correction – Correction Entities Edit And Override Action
C1-BCIMPOTHR	Bill Correction – Impacted Bills Zone Condition
C1BilUnSrcSs	Billing Unified Search Script
C1-C360CHACT	Customer 360 – Customer Hierarchy Actions
C1-C360EFFPR	Customer 360 – Effective Pricing Update
C1-DelBlZnCn	Delinquency Process Bill Zone – Check SQL Condition
C1-DIVISION	Service script hide broadcast
C1DLUniSrcSs	Deal Unified Search Script
C1-GetBCBtn	Bill Correction – Return button with label for Correction Entities
C1PricAppUs	Pricing Approval Unified Search Script
C1PricLstAsg	Price List Assignment Unified Search Script
C1PriUnSrcSs	Pricing Unified Search Script
C1-ShdShwPAV	Zone Visibility – Price Assignment New
PRICINGVW_SS	View Price Item Pricing

A.2.8   New Zones in Existing Portals

The following zones are added to the existing portals in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Portal	Zone	Zone Description
C1_PLMNG	C1-PRICINGZN	Price Item Pricing
C1_PMPRC	C1-PRICINGZN	Price Item Pricing
C1_PRCPM	C1-PRICINGZN	Price Item Pricing
C1BILCOR	C1-BLCORENT5	Correction Entities

A.2.9   Zones

The following zones are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Zone	Description
C1_CUST30ZN	Customer 360 Dashboard Zone
C1_LHS_PARM	Get LHS Parameters
C1_PARM_LIST	Fetch Mandatory Params
C1-ACCTCNCLD	Get Account Cancellation Details Extract
C1-BILLUNSRC	Billing Unified Search
C1-BLCORENT5	Correction Entities
C1-BREAKLINE	Get Extract Breakline
C1-BSRDELDPT	Delinquency Process Type Derivation Business Rule
C1-C360PLINF	Customer 360 – Price List Information
C1-DEALUNSRC	Deal Unified Search
C1-DLPTSRCH	Deliquency Process Type Search
C1-GENLETEXT	Generic Letter Extract Zone
C1-GETAPDTLS	Retrieve A/P Details
C1-GETGLDTLS	Retrieve GL Details
C1-GETHEADER	Get Header Extract
C1-GETMEMDTL	Get Membership Termination Detail Extract
C1-GETNELGFT	Get non-eligible FTs
C1-GOFBSXTRC	Get Generic Outbound Details Extract

Zone	Description
C1-GTBCPARTY	Get Party details for bill correction flow using party Id
C1-GTITMLSTM	Get Item List Details of the Manual Invoice Adjustment
C1-GTLOOKUPV	Get Lookup Value
C1-GTTRAILER	Get Trailer Extract
C1-OBRBRK	OBR Breakline Query
C1-OBRDRVQRY	Retrieves the 90ligible account for OBR
C1-OBRHDR	OBR Extract Header Query
C1-OBRTRL	OBR Trailer Query
C1-PARAMSTHR	Get Threshold Params List
C1-PAYPERSRC	Person Search
C1-PERRELDES	Get Person Relationship Types
C1-PLSTSACTV	Get Active Price Lists
C1-PRICAPPUS	Pricing Approval Unified Search
C1-PRICAVWZN	Price Assignment
C1-PRICEUNSR	Pricing Unified Search
C1-PRICLASGN	Price List Assignment Unified Search
C1-PUIDACTPR	Get Party ID Account and Main Person from bill Correction Id
C1-SQIPARMN	Two Dimensional Pricing Params
C1-SRHACPA	Account Agreed Pricing
C1-SRHCUPA	Customer Agreed Pricing
C1-SRHPLPA	Price List Pricing
C1-SRHPRICA	Price Assignment Search
C1-WFOPT	Bill Readiness Error Message Search

A.2.10 UI Maps

The following UI maps are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

UI Map	Description
C1_Customer360Dashboard	Customer 360 Dashboard
C1_Empty_Header	Empty Header

UI Map	Description
C1_LabelFetcher	Fetch and initialize screen labels
C1-BCBLBCHG	Billable Charge Search
C1-BCGETPASGFil	Price Assignment Search
C1-delinProcTypeThresholdConf	Delinquency Process Type Threshold
C1-delinProcTypGrcPrdDefConFrg	Delinquency Process Type Grace Period Defer Config
C1-DelinProcTypThrshldDispFrag	Delinquency Process Type Threshold – Display Fragment
C1-DLDPBSRLUI	Delinquency Process Type Business Rule
C1-HideEnrolmentDate	Hide Enrolment Date
C1-HidePolicyEndDate	Hide Policy End Date
C1-HidePolicyPlanEndDate	Hide Policy Plan End Date
C1-PolicyEditButton	Hide Business Object Edit Button
C1-PriceAssignCharView	Price Assignment Char Section View
C1-PriceAssignDealInfoView	Price Assignment Deal Information Section View
C1-PriceAssignParmView	Price Assignment Parameter Section View
C1-PriceAssignPIView	Price Assignment Price Info Section View
C1-PriceAssignTFMView	Price Assignment TFM Section View
C1-PricingScreenView	Pricing Assignment View Screen
C1-TwoDimensionalPricing	Two-Dimensional Pricing
C1-TwoDimensionalPricingView	Two-Dimensional Pricing View
PRICING_VIEW	View Pricing Information
C1-AIMLMSTCFGInput	AIML Master Config Details (Input UI)
C1-AIMLMSTDetailsView	AIML Master Config Details (View UI)

A.2.11 Lookups

The following lookups are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Field	Field Value	Description
ACT_IF_BLNK_FLG	EROR	Create To Do
	NABS	Next Action Based on Sequence
ACT_IF_DVD_FLG	NABS	Next Action Based on Sequence

Field	Field Value	Description
	OVRD	Override Based on Rule
	RGLS	Return GL String
BFR_AFR_REF_FLG	AFTR	After
	BEFR	Before
BILL_CNSD_CANC_CRIT_FLG	BCGP	Bills in Current Grace Period and of Previous Coverages
	DPDT	Delinquency Initiated Bill and Bills of Previous Coverages
BILL_CORR_ENTY_LVL_FLG	ACAG	Account Agreed
	ACPL	Account Price List
	AIPL	Account Inherited Price List
	CIPL	Customer Inherited Price List
	CUAG	Customer Agreed
	CUPL	Customer Price List
	DFPL	Default Price List
	GLPL	Global Price List
	PCAG	Parent Customer Agreed
	PCIP	Parent Customer Inherited Price List
	PCPL	Parent Customer Price List
	RECU	Recurring Charge
	REGL	Regular Charge
BILL_STATS_BILLING_METHOD	MANL	Manual/Other
	ONDM	On-Demand
	SCHD	Scheduled
BRLT_OPT_TYP_FLG	LNIT	Line Item For ASO Bill Readiness Check
BRPM_OPT_TYP_FLG	PPUD	Pricing Parameter To UDF Mapping
CAL_WD_FLG	CALA	Calendar
	WORK	Work
CHART_OF_ACCT_FLG	BUDG	BUDG
	COMP	Company Code

Field	Field Value	Description
	FUND	Funding Arrangement
	GLST	GL String
	INTC	InterCo
	NACC	Natural Account
	PCCT	Profit/Cost Center
	PLAC	TBD
	PROD	Product
CUDB_OPT_TYP_FLG	RWPP	Number of Rows Per Page
	THNO	Thread Count
DELIN_ENTR_EXIT_FLG	ENTR	Enter
	EXIT	Exit
DISAGG_REQUEST_TYPE_FLG	ACCT	Account
	BCHG	Billable Charge
	PAID	Price Assignment
	PERS	Person
	PRIT	Price Item
DWP_WIN_BUCKET	EROR	Error
	HIGH	High
	INVL	Invalid
	LOW	Low
	MED	Medium
	NOHS	No Data
	OOR	Low
ENABLED_FLG	C	CONDITIONAL
	N	NO
	Y	YES
EXTRACT_SECTION_FLG	BRK	Breakline
	DTL	Detail
	HDR	Header
	TRL	Trailer

Field	Field Value	Description
FIELD_RULE_FLG	N	No
	Y	Yes
GL_SRC_FLG	ACCH	Account Characteristic
	BLCH	Billable Charge Line Item Characteristic
	DCCH	Distribution Code Characteristic
	DFLT	Default
	DSCD	Distribution Code GL Account
	MECF	Match Event Entity GL Account
	PICH	Billable Charge Price Item Characteristic
	PRCH	Person Characteristic
	SECH	Sibling Entity Characteristic
GRACE_PERIOD_TYPE_FLG	DAYS	Day(s)
	MNTH	Month(s)
GRCE_PRD_DEFER_TYPE_FLG	LTBL	Late Billing
	PYRT	Payment Return
GRCE_PRD_UPD_MODE_DEFR_TYP_FLG	NXMN	Next Month
	SMMN	Same Month
GRCE_PRD_UPD_MODE_PAST_EVT_FLG	NXMN	Next Month
	SMMN	Same Month
REF_DATE_FLG	BILL	Bill Completion
	DDTE	Due Date
REL_OPERATOR	<	<
	<=	<=
	==	==
	>	>
	>=	>=
TAD_ANOMALY_FLG	N	No
	X	No data
	Y	Yes

Field	Field Value	Description
TAD_OPT_TYP_FLG	TAGC	Columns used for peer grouping (must-have for all checks)
	TALM	Log Mode
	TALS	Number of spans (days) in history for percentiles
	TAMC	Fields to monitor for anomaly detection (value & frequency)
	TDHI	Upper percentile for high value-outlier detection in a day
	TDLO	Lower percentile for low value-outlier detection in a day
	TDMD	Minimum data needed to predict for each group for daily aggr
	TDVH	Upper percentile for very high value-outlier detection in a
	TDVL	Lower percentile for very low value-outlier detection in a d
	TTHI	Upper percentile for high value-outlier detection in a trans
	TTLO	Lower percentile for low value-outlier detection in a transa
	TTMD	Minimum data needed to predict for each group
	TTVH	Upper percentile for very high value-outlier detection in a
	TTVL	Lower percentile for very low value-outlier detection in a
THRSHLD_TYPE_FLG	AMNT	Amount
	PRCT	Percentage
AIHP_OPT_TYP_FLG	DDDD	TREE_TERM_MAX_DEPTH for DWP Deal level Decision Tree
	DGRD	GLMS_RIDGE_VALUE for DWP Deal level for GLM
	DRDP	TREE_TERM_MAX_DEPTH for DWP PI level for Random Forest

Field	Field Value	Description
	DDIP	TREE_IMPURITY_METRIC for DWP PI level for Decision Tree
	DDMP	TREE_TERM_MINREC_SPLIT for DWP PI level Decision Tree
	DGRP	GLMS_RIDGE_VALUE for DWP PI level for GLM
	DDDP	TREE_TERM_MAX_DEPTH for DWP PI level Decision Tree
	DRDD	TREE_TERM_MAX_DEPTH for DWP Deal level for Random Forest
	DSKP	SVMS_KERNEL_FUNCTION for DWP PI level for SVM
	DRIP	TREE_IMPURITY_METRIC for DWP PI level for Random Forest
	DSKD	SVMS_KERNEL_FUNCTION for DWP Deal level for SVM
	DRID	TREE_IMPURITY_METRIC for DWP Deal level for Random Forest
	DRNP	RFOR_NUM_TREES for DWP PI level for Random Forest
	DSCP	SVMS_CONV_TOLERANCE for DWP PI level for SVM
	DSCD	SVMS_CONV_TOLERANCE for DWP Deal level for SVM
	DDID	TREE_IMPURITY_METRIC for DWP Deal level for Decision Tree
AIML_ENTITY_TYPE	DEAL	Deal Level
AIML_FEATURE_TYPE	DWP	Deal Win Probability
AIML_JOB_STATUS	IPRG	In Progress
	PRFL	PrepFailed
	PRSC	PrepSucess
	EROR	Error
	PEND	Pending
	COMP	Completed
	CNCL	Canceled

Field	Field Value	Description
AIML_JOB_TYPE	DPMB	Data Preparation and Model Building
AIML_OPT_TYP_FLG	RA	Revenue Analyzer Feature Opt-In
	DWP	Deal Win Probability Feature Opt-In
	BAD	Billing Anomaly Detection Feature Opt-In
DEWI_OPT_TYPE_FLG	OTMP	Outlier Minimum Percentage
	DMTD	Default number of months for training data
	PFPI	List of partitioning fields for Price Item
	PTSH	Prediction Threshold High
	TTSP	Minimum class Fraction
	MSCD	Model Status Codes
	OTSP	Outlier Span
	PTSM	Prediction Threshold Low
	TGDF	Training Data Fraction
	CLIM	List of columns to be provided as input to the model
	PNOH	Priceitem Number of hyperparamters
	CIDL	List of columns to be considered for case id, apart from PRI
	ALPI	List of Algorithm for Price item
	ACSD	Accepted Status Codes
	RJSC	Rejected Status Codes
	SCIM	Minimum data required per case ID to create a model
	LGMD	Log Mode
	DALG	Algorithm for deal
	DNOH	Deal Number of hyperparameter
	PMEM	Performance metric for model evaluation
DEWIN_OPT_TYPE_FLG	MSCD	Model Status Codes
	OTMP	Outlier Minimum Percentage
	PMEM	Performance metric for model evaluation
	DMTD	Default number of months for training data

Field	Field Value	Description
	DNOH	Deal Number of hyperparameter
	PTSM	Prediction Threshold Low
	TGDF	Training Data Fraction
	ALPI	List of Algorithm for Price item
	PNOH	Priceitem Number of hyperparamters
	TTSP	Minimum class Fraction
	RJSC	Rejected Status Codes
	LGMD	Log Mode
	CIDL	List of columns to be considered for case id, apart from PRI
	OTSP	Outlier Span
	CLIM	List of columns to be provided as input to the model
	ACSD	Accepted Status Codes
	DALG	Algorithm for deal
	PFPI	List of partitioning fields for Price Item
	PTSH	Prediction Threshold High
	SCIM	Minimum data required per case ID to create a model
DP_OPT_TYP_FLG	PNOH	Priceitem Number of hyperparamters
	PTSM	Prediction Threshold Low
	ACSD	Accepted Status Codes
	PFPI	List of partitioning fields for Price Item
	LGMD	Log Mode
	DMTD	Default number of months for training data
	RJSC	Rejected Status Codes
	SCIM	Minimum data required per case ID to create a model
	DALG	Algorithm for deal
	OTMP	Outlier Minimum Percentage
	OTSP	Outlier Span

Field	Field Value	Description
	PTSH	Prediction Threshold High
	CIDL	List of columns to be considered for case id, apart from PRI
	MSCD	Model Status Codes
	TTSP	Minimum class Fraction
	CLIM	List of columns to be provided as input to the model
	PMEM	Performance metric for model evaluation
	ALPI	List of Algorithm for Price item
	TGDF	Training Data Fraction
	DNOH	Deal Number of hyperparameter
DWP_OPT_TYP_FLG	CIDL	List of Case ID columns excluding PI and DIVISION
	SCIM	Minimum Data Required for Model per Case ID
	ALPI	List of Algorithm for Price item
	PFPI	List of Partitioning Fields for Price Item
	PMEM	Performance metric for model evaluation
	TGDF	Training Data Fraction
	DMTD	Default Number of Months for Training Data
	DNOH	Deal Number of Hyper Parameters
	OTSP	Outlier Span
	TTSP	Minimum Class Fraction
	ACSD	Accepted Status Codes
	PTSH	Prediction Threshold High
	LGMD	Log Mode
	PNOH	Price item Number of Hyper parameters
	DALG	Algorithm for Deal
	OTMP	Outlier Minimum Percentage
	CLIM	List of Model Input Columns
	MSCD	Model Status Codes

Field	Field Value	Description
	PTSM	Prediction Threshold Low
	RJSC	Rejected Status Codes

A.2.12 Characteristic Types

The following characteristic types are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Characteristic Type	Description
C1-BRPAO	Bill Readiness Account/Person Opt In Characteristics
C1-IRSCP	Accounting date of earliest missed coverage
C1-SPCVB	Eligible for Separate Coverage Billing

A.2.13 Feature Configurations

The following feature configurations are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Feature Configuration	Description
C1-C360DASH	PRA_SPREAD_001
C1-AIHYP	Hyperparameters for AIML
C1-AIMLFC	AIML Feature Configuration
C1-DWPFC	DWP Feature Configuration

A.2.14 Zone Types

None

A.2.15 Business Objects

The following business objects are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Business Object	Description
C1_PRICEITEM	Price Item Physical BO
C1_PRICEITEM_BO_DUP	Price Item Physical BO
C1-ExtractDataSource	Extract Data Source
C1-GenericExtractFields	Generic Extract Fields
C1-OvdEvtDtAln	Overdue Event Type Dates Alignment

Business Object	Description
C1-AIMLMST	AIML Configuration

A.2.16 Maintenance Objects

None

A.2.17 To Do Types

The following To Do type is newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

To Do Type	Description
C1-INVRH	Invoice Request Notification for Account

A.2.18 Application Services

The following application services are newly added in the Oracle Revenue Management and Billing V8.1.0.0.0 database:

Application Service	Description
C1_C360D	Customer 360 Dashboard Portal
C1_CUST360	Customer 360 Dashboard
C1PAVW	Price Item Pricing Portal

Appendix B : Application Services Configured for Default User Group

The following default users belonging to the respective user group are shipped with the product:

User	User Group
BKADMIN	ALL_SERVICES, C1_BSERVICES
INADMIN	ALL_SERVICES, INADMIN
INSADMIN	HCADMIN
SYSUSER	ALL_SERVICES

This section lists the application services configured for the default user groups which are shipped with Oracle Revenue Management and Billing Version 8.1.0.0.0.

B.1   ALL_SERVICES

The following table lists all application services configured for the ALL_SERVICES user group:

Application Service	Application Service	Application Service
AFHZONE	C1-CHGTYPSA	C1-EXTSTMLOGZ
C1UPLREQTYPE	C1-CNTRTPPTZ	C1-EXTSTMTAD
C1-DEALAPPR	C1-CONTRACTCHARSVALI	C1-EXTSTMTCHAR
BILLGCONS	C1-CONTRACTTYPECHARS	C1-EXTSTMTED
BILLGRAPH	C1-CTCGSRV	C1-EXTSTMTITEM
C1-ACCBALCNT	C1-CTRLC	C1-EXTSTMTITMCHR
C1-ACCCRCHM	C1-DEFAULTPP	C1-EXTSTMTRC
C1-ACCCURDET	C1-DELPPTMP	C1-EXTSTMTSRZ
C1-ACCDETAILZ	C1-DFLTPPTMP	C1-EXTSTMTZ
C1-ACCDISCREZ	C1-DRRDTLSZ	C1-GETADJ
C1-ACCNBRTYPAS	C1-DUPBTN	C1-GETEFFECTVPRICING
C1-ACCOUNTCURRENT	C1-EDITPPTMP	C1-GETPPTMPL
C1-ACCQUICED	C1-EQUITYDT	C1-GETPRICING
C1-ACCREDIT	C1-EXITEMDEL	C1-INS-POLICY
C1-ACCRLOGZ	C1-EXITEMED	C1-INSDETBAK

Application Service	Application Service	Application Service
C1-ACCSELECT	C1-EXSTMVBNF	C1-ISSUEDATEPOLICYCH
C1-ACCURERR	C1-EXTACQRYZ	C1-LINKPPTMP
C1-ACCURTEXT	C1-EXTAUTREC	C1-LINKPPTMP2
C1-ACNPOLSUMZ	C1-EXTERNALSTATEMENT	C1-MAINPINFR
C1-ACPOLSUMMZ	C1-EXTITEMAD	C1-MAINPPLAN
C1-ACTCATSRV	C1-EXTPENDG	C1-MAINPPTMP
C1-ACTPPTMPL	C1-EXTREOPN	C1-MEMBSP
C1-ACURITEMD	C1-EXTSTCHM	C1-MOVEPPT
C1-ADJAPPRVLREQBOAS	C1-EXTSTIMP	C1-MSGTYPBASISBOAS
C1-APAYEXPCRREQBOAS	C1-EXTSTITCH	C1-NAVACTCUR
C1-APAYEXPCRTYPEBOAS	C1-EXTSTLDB	C1-NAVTOEXST
C1-APPTXN	C1-EXTSTMBNF	C1-OUTAGE
C1-APPTXNLOG	C1-EXTSTMCAN	C1-PAY-REQ
C1-ASGNPL	C1-EXTSTMCLD	C1-PAYMENT
C1-BILLCHARGE	C1-EXTSTMCLS	C1-PAYPLAN
C1-BRD	C1-EXTSTMDTLZ	C1-PAYPLAND
C1-CASEGRPSRV	C1-EXTSTMDZ	C1-PAYPLANTMPLCOMPL
C1-PAYPLANZ	C1-PPDUP	C1-UNLINKPP
C1-PAYTEMPLATEBOAS	C1-PPEDIT	C1-UPLOADCSV
C1-PERBALCNT	C1-PPEDTTASK	C1-WRITEOFFREQ
C1-PIFVIS	C1-PPLANDET	C1ACCPOR
C1-PINFRDISP	C1-PPPROC	C1ACCRATE
C1-PINVFPOST	C1-PPSACCSRC	C1ACMACR
C1-POINFRDET	C1-PPTCNTDETZ	C1ACMACT
C1-POLCANCE	C1-PPTERROR	C1ACMARQ
C1-POLCANZ	C1-PPTMPDISP	C1ACTPER
C1-POLICY	C1-PPTMPDUP	C1ACTREE
C1-POLICYBPA	C1-PPTMPL	C1ADJSTP
C1-POLICYCANRSNSERV	C1-PPTMPLD	C1ADJUPL
C1-POLICYCHAR	C1-PPTMPLDET	C1AGING

Application Service	Application Service	Application Service
C1-POLICYDESC	C1-PPTMPLDETZ	C1APPBOCHNZN
C1-POLICYINVOICEFREQ	C1-PPTMPLVIS	C1APPCHN
C1-POLICYPLAN	C1-PPTMPLZ	C1APPCRT
C1-POLICYSUM	C1-PPTMPPOST	C1APPTXNBOCHN
C1-POLINVDETZ	C1-PRISIM	C1APPTXNBOCHNZN
C1-POLINVEDI	C1-PSTAKEHLD	C1APPTXNGRP
C1-POLINVFRE	C1-REFWOREQ	C1APROF
C1-POLINVFREZ	C1-REQUEST	C1ACTIONFLAG
C1-POLINVFRQ	C1-REQUEST-TYPE	C1BNKREC
C1-POLI_FHZ	C1-RETURNDUP	C1BOCHN
C1-POLNOMINEZ	C1-REVRECSCHZ	C1CNTCR
C1-POLPERORLEAS	C1-RULEBOAS	C1COLDTL
C1-POLSUMZ	C1-SHDETAILSZ	C1COLTYP
C1-PPACCTSRC	C1-SRCHSCPT	C1CONSTRUCT
C1-PPACTV	C1-TXNAGG	C1CSEPOR
C1-PPBTNS	C1-TXNDTL	C1CTRLC
C1-PPDET	C1-HRCHYENTITY	C1DISAGR
C1-PPDETZ	C1-PRSPRODENRL	C1EXCHRT
C1-PPDISP	C1-UNLINK	C1FAAUD
C1_PROPL	C1POLSRCH	C1OFPRP
C1FLRQTY	C1POLSRH	C1_IM_EX
C1FLSRCH	C1POLTYP	PROSADD
C1FOAUD	C1PPCARS	CISACHGTYPE
C1HDRSR	C1PPLAN	C1ADDPRO
C1INSPAY	C1PPTMPL	C1VAR
C1MANAPP	C1PPTMPO	C1VARIANCE
C1MANLOG	C1PPVERSCHZ	C1VIEWRL
C1MANMOD	C1PRICEL	C1WODET
C1MANRES	C1PRISIM	C1_ACCNBRALG
C1MEMBRS	C1PRODUCT	C1_ACCTCHAR

Application Service	Application Service	Application Service
C1MEMBSP	C1PROFILESRVC	C1_ACCUR
C1MMTYPE	C1PSNAPP	C1_ACDTLSRCH
C1MTRADM	C1PSNMOD	C1_ACMM
C1NCISPY	C1PSNRES	C1_ACMS
C1NCPTMP	C1PTNDRH	C1_ADDEXH
C1ODBUPR	C1PTPLP	C1_ADDPL
C1PAYPLAN	C1PYRQTY	C1_ADDPROD
C1PAYPTL	C1RECONDTL	C1_ADD_RTCMP
C1PAYREQ	C1REFSTP	C1_ADD_TIER
C1PAYRQ	C1REFUND	C1_ADMPI
C1PAYSRC	C1REQSTP	C1_ANSPLTCUS
C1PAYUPL	C1REQSTS	C1_APPAD
C1PERRL	C1REQTYP	C1_APPTXN_PRICEASGN
C1PLCYPL	C1RFWORT	C1_APPWF
C1PLCYPN	C1RLCHK	C1_APUR
C1PLCYTY	C1SAPPTM	C1_APVIG
C1POINFR	C1SATYPELISTZ	C1_ASNPL
C1POLCYN	C1SCHEDU	C1_AUDIT
C1POLCYP	C1SETTHR	C1_BACCGRVAL
C1POLICYCANRSN	C1SRCHRL	C1_BACCTDETL
C1POLSCH	C1TXNAGG	C1_BACCVALID
C1_BACTSRCHM	C1_CHKBIL_PA	C1_EXCHRT
C1_BAFHZ	C1_CHKTRDFLG	C1_EXHRT
C1_BCCSH	C1_CIAM	C1_EXPPITM
C1_BCONT	C1_CIGAS	C1_EXSTD
C1_BCON_INFO	C1_CIMAPZ	C1_EXSTL
C1_BCON_SRH	C1_CLACTSRCH	C1_EXSTM
C1_BCUSACCDT	C1_CLCSESRCH	C1_EXSTS
C1_BCUSACCSR	C1_CLCTRCNTR	DBMSFLJB
C1_BCUSGRVAL	C1_COLLN	C1_FILEHDRSR

Application Service	Application Service	Application Service
C1_BCUSSRCHM	C1_COM_VALID	C1_FTRS
C1_BCUSTACDT	C1_COPYBND	C1_F_ACTSRCH
C1_BCUSVALID	C1_COPYPL	C1_F_ADDBNDT
C1_BFHIS	C1_CPBUNDL	C1_F_ADDCHLD
C1_BFH_SRH	C1_CPYBD	C1_F_ADDEXCH
C1_BNDMN	C1_CPYPL	C1_F_ADDMM
C1_BNDPRD	C1_CUSTINFO	C1_F_ADDMMSS
C1_BNDPRS	C1_CUST_HR	C1_F_ADDPL
C1_BO_OPT	C1_DEL_PRD	C1_F_ADDPRBD
C1_BPAYHSRCH	C1_DEL_PROD	C1_F_ADDPRD
C1_BPH_INFO	C1_DISPBUND	C1_F_ADDPRPL
C1_BPYHS	C1_DIVPERREL	C1_F_ADDPRSS
C1_BRD_P	C1_DRRSR	C1_F_ADDRATE
C1_BSRCHOVRD	C1_DSPLY_RT	C1_F_ADMPROD
C1_BSRPT	C1_EDIT	C1_F_ADPROD
C1_BTOGGLECA	C1_EDTBUND	C1_F_ADVAL
C1_BTREESRCH	C1_EDTER	C1_F_APVDTVL
C1_BTST	C1_EDTPL	C1_F_APVNFLT
C1_BUNDLE	C1_EDTPROD	C1_F_APVRJS
C1_BUNDVAL	C1_EDT_PRITM	C1_F_ASGNCUS
C1_BVCAC	C1_EFF_PRC	C1_F_ASGNPTP
C1_CASE_USR	C1_EFF_PRICE	C1_F_CHHSRCH
C1_CCC	C1_EFPRODSRC	C1_F_CIGG3V
C1_F_CLSRCH	C1_F_IGG1MM	C1_INF_PARTY
C1_F_CNCLMM	C1_F_IGG1MS	C1_INVCN
C1_F_CNCLMR	C1_F_IGG2MM	C1_INVSR
C1_F_CONTR	C1_F_IGG2MS	C1_LIST_TIER
C1_F_CON_VAL	C1_F_IGG3MM	C1_MEMBERS
C1_F_COPYPL	C1_F_IGG3MS	C1_MIG
C1_F_COPYSS	C1_F_PLCRT	C1_MIGAS

Application Service	Application Service	Application Service
C1_F_CPYBNDL	C1_F_PLEDT	C1_MNG
C1_F_CPYPL	C1_F_PLVAL	C1_MNGRT
C1_F_CPYPLVL	C1_F_POPITEM	C1_MNGTR
C1_F_CUSSRCH	C1_F_PRCHAR	C1_MOD
C1_F_DELEXCH	C1_F_PRCHARS	C1_MPPA
C1_F_DELSCS	C1_F_PRDVL	C1_NAVIGATE
C1_F_DTVAL	C1_F_PRODVAL	C1_NAVUGATE
C1_F_EDTBNDT	C1_F_PRODVL1	C1_NEXT_ACTION
C1_F_EDTEXHR	C1_F_RSCDVAL	C1_OVR_PRITM
C1_F_EDTMA	C1_F_RTDESC	C1_PAYUP
C1_F_EDTMMBS	C1_F_SAVESCS	C1_PERRL
C1_F_EDTMMP	C1_F_SRPLVAL	C1_PLADPR
C1_F_EDTMMSS	C1_F_VAL_ACT	C1_PLAE
C1_F_EDTPL	C1_F_VAL_ACTDTL	C1_PLASNADD
C1_F_EDTPR	C1_F_VAL_CHH	C1_PLASNEDIT
C1_F_EDTPROD	C1_F_VAL_CLDTL	C1_PLASN_ADD
C1_F_EDTPRPL	C1_F_VAL_CSTDTL	C1_PLASN_EDI
C1_F_EDTPRSS	C1_F_VAL_CUS	C1_PLASSIGN
C1_F_EXCDVAL	C1_GENERICSA	C1_PLASSIGNE
C1_F_EXCHVAL	C1_GENRCMP	C1_PLCASSIGN
C1_F_EXHVAL	C1_GETTIER	C1_PLDISEDIT
C1_F_FH_VAL	C1_GRP	C1_PLEDIT
C1_F_FINHIS	C1_IGAI	C1_PLISTSRCH
C1_F_FINHIS1	C1_IGIMM	C1_PLMNG
C1_F_GENACBO	C1_IGMMB	C1_PLPTYAINF
C1_PLPTYINFO	C1_PROD_ADD	C1_TXNAR
C1_PLSRCH	C1_PROD_EDIT	C1_VWPRD
C1_PLSTOGGLE	C1_PROD_SAVE	CHGTYPE
C1_PLVAL	C1_PROD_SRCH	CHGTYPECD
C1_PLVALIDAT	C1_PROVR_EDT	CIACNBTY

Application Service	Application Service	Application Service
C1_PLVIEW	C1_PRZCR	CIAPAYSTGUPL
C1_PL_ADD	C1_PRZTR	CIAPPACCTYPE
C1_PL_EDIT	C1_PRZ_CR	CIAPPCRIT
C1_PL_PI	C1_PRZ_TR	CIAPPTXNRSN
C1_PMPRC	C1_PTPLA	CICHGTYPE
C1_POLICYTYPE	C1_RATE_DEF	CICPAYPLAN
C1_PPEDT	C1_RECTIFYSRCH	CIDIVPERREL
C1_PPOVR	C1_RLTPM	CIFILEGRP
C1_PPOVRSRCH	C1_RLTVW	CIGETPRICING
C1_PP_DSPINF	C1_RSLV	CILAADUP
C1_PP_PLVAL	C1_RSN	CILAASCP
C1_PRCAD	C1_RTCOM_ADD	CILAAUSP
C1_PRCE_VALD	C1_RTC_VAL	CILACCDEL
C1_PRCPM	C1_RTOPT	CILACCUR
C1_PRC_EDIT	C1_SAVE_TIER	CILACLCP
C1_PRC_OVRD	C1_SHOW_IMG	CILACTCT
C1_PRC_TR	C1_SRCH	CILBBICP
C1_PRC_VALID	C1_SRCHPL	CILBBLLP
C1_PRDPERREL	C1_SRCHPLVAL	CILBMCRP
C1_PRDREL	C1_SRCHPPL	CILBSBHP
C1CUSTPO	C1_SRCHPRD	CILBSCCP
C1DAPROF	C1_SRCH_PROF	CILBSEGP
C1_PRIPARMREFENT	C1_SRPROD	CILBSTMP
C1_PRITSRCH	C1_STRTOLIST	CILCAAHP
C1_PROD	C1_TEMPLATE	CILCAASP
C1_PRODPL	C1_TIER_INP	CILCACCP
C1_PRODVAL	C1_TRLBL	CILCACMP
CILCACRP	CILCSCVP	CILIBDQP
CILCALZP	CILCSCZP	CILIBTVP
CILCAMRP	CILCSPZP	CILICOEP

Application Service	Application Service	Application Service
CILCBCUP	CILCSSQP	CILINDDP
CILCBPGP	CILCSVAP	CILINPFP
CILCBRWP	CILCWOFP	CILINVVP
CILCCCIP	CILDATA	CILIPDQP
CILCCCZP	CILDIVET	CILIPRDP
CILCCIZP	CILDIVEXT	CILIRDQP
CILCCNSP	CILDRVWP	CILIRDSP
CILCCNXP	CILECBLP	CILISATP
CILCCSCP	CILEFKRP	CILITDDP
CILCCSHP	CILEFLDP	CILITDQP
CILCCTXP	CILEMNUP	CILITMPP
CILCDCRP	CILEMOBP	CILITPDP
CILCENRP	CILENAVP	CILKTOSP
CILCFIZP	CILENVOP	CILLCARP
CILCLOAP	CILERPTP	CILLCAZP
CILCNBBP	CILESVCP	CILLCLPP
CILCPABP	CILETBLP	CILLODPP
CILCPASP	CILEUIZP	CILLWOPP
CILCPERP	CILFAFHP	CILMITMP
CILCPIZP	CILFBLCP	CILMITRP
CILCPLAS	CILFBPHP	CILMMRSP
CILCPMPP	CILFDRR	CILMMSUP
CILCPPLP	CILFFNTP	CILMRBHP
CILCPPTMPL	CILFFTBP	CILMRTXP
CILCPREP	CILFFTPP	CILMSIHP
CILCPRMP	CILFMVTP	CILMSLIP
CILCQTEP	CILFSCAP	CILMSLOP
CILCSALP	CILFSFHP	CILMSMHP
CILCSCMP	CILGENACUR	CILMTRDP
CILOAPTP	CILQCASP	CILTASGP

Application Service	Application Service	Application Service
CILODFAP	CILQTDCP	CILTATCP
CILOFACP	CILQTDEP	CILTATPP
CILOFAZP	CILQTDLP	CILTATYP
CILOFORP	CILQTDQP	CILTBCRP
CILOFOSP	CILQTDSP	CILTBCTP
CILOFSUP	CILQTDTP	CILTBFFP
CILOOTGP	CILQTDZP	CILTBFVP
CILOSFAP	CILQTSSP	CILTBIMP
CILPAPHP	CILQTSUP	CILTBLCP
CILPAPSP	CILRCMAP	CILTBLPP
CILPARTY	CILRENGP	CILTBNKP
CILPDCNP	CILRRSMP	CILTBRTP
CILPDCSP	CILRRTCP	CILTBSTP
CILPEPLP	CILRRTSP	CILTBTCP
CILPEQAP	CILRRTVP	CILTBTRP
CILPEVTP	CILRRVMP	CILTBUDP
CILPIREL	CILRULE	CILTBXTP
CILPITXNREL	CILRULTP	CILTCAGP
CILPPAYP	CILSTEXT	CILTCAMP
CILPPCAN	CILSTEXTITEM	CILTCATP
CILPPTSP	CILTACRP	CILTCCCP
CILPQADP	CILTALGP	CILTCCNP
CILPRCITMREL	CILTALTP	CILTCCTP
CILPRICEASGN	CILTAMGP	CILTCETP
CILPRICECOMP	CILTAMTP	CILTCHTP
CILPRICMPTIER	CILTAPAP	CILTCIDP
CILPRITEM	CILTAPFP	CILTCLGP
CILPRLIST	C1DEALDB	CILTCLRP
CILPRLISTASGN	CILTAPSP	CILTCLWP
CILPTCNP	CILTAROP	CILTCNTP

Application Service	Application Service	Application Service
CILQATDP	CILTARTP	CILTCOCP
CILTCPTP	CILTMHTP	CILTSCLP
CILTCQTP	CILTMMTP	CILTSCYP
CILTCRUP	CILTMSGP	CILTSEVP
CILTCURP	CILTNBRP	CILTSICP
CILTCUSP	CILTNCDP	CILTSMIP
CILTDARP	CILTNUXP	CILTSMTP
CILTDASP	CILTOCRP	CILTSOMP
CILTDCAP	CILTOETP	CILTSOPP
CILTDCLP	CILTOPTP	CILTSPRP
CILTDIRP	CILTORAP	CILTSPTP
CILTDPRP	CILTPCRP	CILTSQIP
CILTDRTP	CILTPCTP	CILTSQRP
CILTDSTP	CILTPDRP	CILTSTMP
CILTDWPP	CILTPHTP	CILTSTSP
CILTDWTP	CILTPIFP	CILTSVTP
CILTEBRP	CILTPKGP	CILTSWLP
CILTECRP	CILTPPTP	CILTTACP
CILTETTP	CILTPROP	CILTTAXP
CILTFNDP	CILTPRTP	CILTTGRP
CILTFREP	CILTPSDP	CILTTMRP
CILTFRQP	CILTPSTP	CILTTMTP
CILTGLDP	CILTPTRP	CILTTNSP
CILTGOTP	CILTPYTP	CILTTNTP
CILTIDTP	CILTQRTP	CILTTOUP
CILTINCP	CILTREGP	CILTTSCP
CILTINSP	CILTREPP	CILTTTMP
CILTITSP	CILTRGLP	CILTTZNP
CILTLDIP	CILTRLEP	CILTUOMP
CILTLETP	CILTRSCP	CILTURPP

Application Service	Application Service	Application Service
CILTLKFP	CILTRTYP	CILTUSCP
CILTLNGP	CILTSARP	CILTUSEP
CILTMCRP	CILTSATP	CILTUSGP
CILTWCTP	CILZFNCP	CTXTZONE
CILTWDCP	CILZPORP	DEMO
CILTWETP	CILZRBPP	DISAGGP
CILTWFPP	CILZRPHP	DIV_PRICEITEMS
CILTWPTP	CILZRPOP	DIV_PRICELISTS
CILTWSCP	CILZRPTP	F1-APAYEXPCRTYPEBOAS
CILTWSDP	CILZSCMP	F1-ATTACHMENTBOAS
CILTXNCD	CILZSCRP	F1-BKTCONFIG
CILTXNCDL	CILZSCZP	F1-BOOKMARKS
CILTXNSRC	CILZTLZP	F1-DECRPTBOAS
CILTXNSRCL	CILZZOHP	F1-DFLTAPS
CILUPFTS	CILZZONP	F1-DFLTS
CILVFVDP	CIL_FAVORITES	F1-EXPUSERSREQBOAS
CILVFVSP	CIPOLICY	F1-GENPROC
CILVVLEP	CIPOLPERRL	F1-MIGROBJIMP
CILVVLSP	CIPOLPERROLE	F1-OBJREVBOAS
CILWDWNP	CIPRICEACCOUNT	F1-STASKTYPE
CILWJSDP	CIPRICEPARM	F1-SVCTASK
CILWJSSP	CIPYSRCH	F1-SYNCREQ
CILWNUPP	CIRATEUPLD	F1-SYNCREQIN
CILWNUSP	CIRECON	F1-SYNCREQUESTBOAS
CILWPROP	CIRECONDTL	F1-WEBSVCBOAS
CILXNDNP	CIS_DIV_ALGS	F1ADMIN
CILXOPTP	CIS_DIV_BICIES	F1ANN
CILXSENP	CIS_DIV_CST_LNGS	F1ANNTPM
CILYASTP	CIS_DIV_ID_TYPES	F1ANNTPS
CILYDBPP	CIS_DIV_INV_CURS	F1ANNTYP

Application Service	Application Service	Application Service
CILYDFQP	CIS_DIV_TXN_SRCS	F1APPSEC
CILYDPIP	CIS_DIV_VLD_CTIES	F1ATTACH
CILYROBP	CIVARIANCE	F1ATTACHMENT
CILZAFQP	CMAGING	F1BKTCFG
CILZAUQP	CNCLRSN	F1BKTCFQ
F1BNDLEM	F1MIGRDIMP	FWLBNDLP
F1BNDLES	F1MIGRDS	FWLCTDEP
F1BNDLIM	F1MIGROBJ	FWLFACTP
F1BNDLIS	F1MIGRPLAN	FWLSTRJP
F1BUNEXP	F1MIGRREQ	FWLTBELP
F1BUNIMP	F1MIGRTIMP	FWLTBOJP
F1CATTCH	F1MIGRTX	FWLTBSVP
F1CONFIGLOG	F1MSTCFG	FWLTDARP
F1DEBUG	F1MTXIMP	FWLTEXSP
F1EXLKP	F1OBJREV	FWLTMGCT
F1EXLKPS	F1OBJREVCTL	FWLTOMTP
F1HEALTH	F1OBJRVH	FWLTSCHP
F1HGMAPPING	F1REQ	FWLTUIMP
F1IWSANM	F1REQTYP	FWLXOUTP
F1IWSDPL	F1REVHST	FWLZDEXP
F1IWSSVC	F1STRDIS	FWLZWLZP
F1IWSVCP	F1STREAS	GOTOREC
F1IWSVCS	F1SUBRQQ	PERTREE
F1LCAMRP	F1SYNCRM	POLICYCANRSN
F1LEXTLKUP	F1SYNCRQ	RECDTSTA
F1LTAMTP	F1TBLEXC	RECON
F1MESSAGE	F1UIZONE	RECONDTL
F1MGDEXP	F1USERLOG	SACHGLNK
F1MGDEXS	F1USRCHKOUT	SATYPCHG
F1MGDIMP	F1USRPTL	SATYPES

Application Service	Application Service	Application Service
F1MGDIMS	F1WBSVCM	F1_USRSCR
F1MGOIMP	F1WBSVCS	FILETYPE
F1MGPLNM	F1WEBSVC	F1MGREQS
F1MGPLNS	F1_BTST	F1MIGRDEXP
F1MGREQM	F1_USRFAVSCH	C1PLASGNM
C1-USRLOGINDTLS	C1DEALPASGN	C1REFUPLREQ
C1BCHGUPLREQ	C1GETELIGPT	C1UPLDRQ
C1BILLCYCLEUPDTUPL	C1GLAT	C1UPLREQ
C1CONTRIDERUPDTUPL	C1GLATEMP	C1WOUPLREQ
C1DCDTLC	C1GLATRQ	C1_STDTL
C1DELCTL	C1HOLDUPLREQ	C1_STRTE
C1ELGPA	C1LASGN	C1_STRTY
DBMSJOB	C1PIASGN	CISTMEXCP_SERV
C1DEALSVC	ACRLSRCH	C1-ACCTECR
C1-CUSTINMSG	C1ADDRS	C1HCAPPSER
C1-DEALPRICING	C1ADDRSBO	C1HCBLDT
C1-FTDIST	C1ADDRSDP	C1HCSINF
C1-FTDISTRULE	C1ADDRSRC	C1INMSGP
C1-FTDISTTY	C1BK360	C1INMSRH
C1-GENRQ	C1BKAPPSER	C1INMSTY
C1-INMSG	C1BKBLDT	C1PAREQ
C1-INMSGTYPE	C1BKSINB	C1PARQMN
C1-MEMBERINMSG	C1CUS360	C1PARQTY
C1-PROSPECTCRET	C1DSPT	C1PAYMAN
C1ACCECR	C1DSPTRQ	C1PI
C1ACRLCL	C1DSPTRT	C1PL
C1ACRLTP	C1DSPTTY	C1POLPEL
C1ACRMVW	C1FTDIST	C1REINUPLREQ
C1ADDRDP	C1FTDSRL	C1_ACCRTYPE
C1ADDRDTL	C1FTDSTT	C1_ACCRUAL_SERV

Application Service	Application Service	Application Service
C1ADDRESS	C1FTDSTY	C1_ACTVW
C1_ACTYP	C1_DSPT_REQ	ILM_ARC
C1_ACYVW	C1_TRLIN	ACCTVIEW
C1-ACCTAPAY_SERV	C1-DISC-REPT	C1-DRRTMPLT
C1-MBR-DR-TY	C1-PRC_CALC_SM	C1-PTD-CAL
C1-RETRIEVPROSRV	C1-REVRECPLCY	C1-RN-TY
C1-SCHEDULERMONITOR	C1-SCHPGMQZ	C1-SCHSCHQZ
C1ACCTAPAY	C1APAYRT	C1APAYVW
C1APYINS	C1AWFCHN	C1AWFCRT
C1AWFGRP	C1AWFRSN	C1AWFSET
C1CONADD	C1DISREP	C1DRDIS
C1DSRTY	C1MBRRCN	C1PARAM
C1PDSRCH	C1PERS	C1PERSDP
C1PERSON	C1PRDSVC	C1PRODDP
C1PRODUCTSERVICE	C1PVERDP	C1RCONTY
C1RECOLN	C1RECONCIL	C1RECONTYP
C1REPORT	C1RPTTMP	C1SCHCHN
C1SCHJOB	C1SCHPGM	C1SCHSCH
C1SCJMON	C1SRCAPP	C1SVCDSP
C1VIEPRI	PRICECOMPPRE	C1_BOCHN
C1_CONSTRUCT	C1_DRRSP	C1_DRRTM
C1_DRRTP	C1_ENLOG	C1_ENROL
C1_ENROLLMENT	C1_ENSCH	C1_PAYIN
C1_PRODUCT	C1_PRODUCT_SERVICE	C1_PRODVER
C1_SRCBUSSPRD	C1_SRCTECHPRD	CIAPPCHELGBL
CICONACT	CONRULE	CONSTRUCT
DDPRCSM	ACCT_SUBSCRPTN_SERV	C1-PRCRULE
C1-PRC_CALC_SM	C1-PRRLTYP	C1-SUBSCRTYPE
C1BILLSORT	C1BLLLVLUPLREQ	C1BLLSRTUPLREQ
C1ENTITYREPORT	DBMSRNJB	C1-DLDBACTNS

Application Service	Application Service	Application Service
C1PRICINGGROUP	C1PROAPP	C1PRTYP
C1REPORTTMP	C1RPTAUD	C1RPTDEF
C1SUBSTP	C1SUBTVW	C1-DLAPPRTOD
C1-ACCUDATA	C1-CUSTREGTEMPL_SERV	C1-CUSTREGTYPE
C1-GETPRICINGENTITY	C1-PICINGRULE	C1-PRICEASGNTREE
C1ACUDAT	C1CREGSR	C1CTRGBK
C1CTRGHC	C1DIVPRC	C1MASPRI
C1MPRIRQ	C1MPRISR	C1RETMPL
C1DLAPDB	CIDATAEXSER	DTEX_TYP
PRICECOMPSEQ	C1CUREG	C1CURETY
C1CUSTREG	C1CUSTRG	C1DTEXFL
AUDITEVENT	C1-AUDEVTYPE	C1-BANKING
C1-HEALTHCARE	C1-PRICETREE	C1-STATE
C1ADEVSR	C1AUDEVT	C1AUDTY
C1OFFADJ	C1RETMPLBK	C1RETMPLHC
C1STATE	C1VIPRIN	C1_BILL
CILCSSEP	C1DELTYP	C1-OFFPRO
C1DTSERH	C1ENHR	C1ENHRSR
C1ENTDTL	C1-DLTODOLST	C1360CUSTHIER
C1GETELIGPRO	C1HIERARCHY	C1HRCHYENTITY
C1HRYENT	C1INREQ	C1INRETY
C1INVRED	C1PATCH	C1PISL
GETDEALTYPE	C1PROSPO	C1PRSEAR
C1PRSSASP	C1REFPRI	C1SERDSC
C1SFTPUS	C1SLFSER	C1TPSTRT
C1TRBLHC	C1TMCND	C1_PROSPECT
C1-DEALAPPRWF	C1GETELIGPLPRO	C1_HLTH_PLAN
C1_ALRPT	C1360REVAMT	C1_CONSTRUCT
C1_CREF	C1_DEAL	C1_DEALFETCHRATE
C1BLHRY360	C1_HEVD	C1_PDEAL

Application Service	Application Service	Application Service
C1CUSTDEALINFO	C1KPVARIATION	C1_PRSENROLLMENT
C1_REF	C1GETELIGPROD	CMPERTESTASE
C1STHRY360	CUSPRCDT	DBMSSCHD
DWNLFILE	C1OFPREQ	C1OFPRED
PORTPRAC	PORTT	PRODSTAT
CANCPAYM	PRICEITEM_SERV	C1-BENEFITS
C1-BENFITPKG	C1-DEALRVW	C1-EXTCTTEMP
C1-EXTRACTTEMPLATE	C1-FIELDMAP	C1-FIELDMAP_SERV
C1-GETFIPRCRULE	C1-TNC	C1BENFTP
C1BENFTS	C1DEAL1	C1DLPRT
C1DLTMPT	C1EXTCTTEMP	C1EXTTMP
C1FLDMAP	C1GEORTA	C1GEORTAR
C1_QUESN	C1IACUDT	C1PLSIM
C1PLSM	C1PLSMPL	C1PLSMVW
C1PRICELISTSIM	C1QUESRH	C1QUESTION
C1QUEVEW	C1RELSTR	C1RMACCSTAT
C1RMACCTSTAT	C1RMWRKB	C1RVTRND
C1STPDL	C1TCMAP	C1TERCO
C1TERMNCO	C1TNCSRH	C1UNPINV
C1_DEAL_MAPPINGS	C1_DEAL_PRICELIST	C1_DEAL_TEMPLATE
C1_F_POLSRCH	C1_MEMRL_SUBT	C1_RTSC
C1-BUSRULE	C1-BUSRULVAL	C1-STMSAACCT
C1BENSTY	C1BUSRD	C1BUSRUL
C1CONTDL	C1_HCPRODUCT	C1DIAGCE
C1MEIDTY	C1_DIV	C1_GLDL_SERV
C1_MARKETPRODUCT	C1_OFFER	C1_PRODDTLS
C1BDLSRC	C1BUNDLE	C1GLDLL
C1MPSRC	C1MRP	C1OFFER
C1OFRSRC	C1PDSRC	C1PRDSRC
C1PROM	C1-AUTOPAYREQ_SERV	C1-PLNINFO

Application Service	Application Service	Application Service
C1APAY	C1APAYREQ	C1APAYRQ
C1APRQTY	C1HEALTH	C1HPHP
C1PLAN	C1REFWOI	C1TRLBILL
C1TRLBLSEG	C1TRLFT	C1-CCUNISRCH
C1-DELIN-PRC-TYP	C1-DELIN-PROC	C1-DELIN-PROC-EVT
C1DELPT	C1DIVGRP	C1DLCLD
C1DLEVT	C1DLINEVNT	C1DLNPRC
C1DPSRCH	C1EXTTDS	C1LDLCLP
C1_DIV_GRP_SVC	C1DLMSPI	C1_BLPTC
C1_BLST	C1BILCOR	C1BILLCORRTYPE
C1BLCRSR	C1BLCRTY	C1HCHLCK
C1PAVW	C1_C360D	C1_CUST360

B.2   C1_BSERVICES

The following table lists all application services configured for the C1_BSERVICES user group:

Application Service	Application Service	Application Service
AFHZONE	C1-PIFVIS	C1AGING
C1BKSINB	C1-PINFRDISP	C1APPBOCHNZN
F1ALG	C1-PINVFPOST	C1APPCHN
BILLGCONS	C1-POINFRDET	C1APPCRT
BILLGRAPH	C1-POLICY	C1APPRESP
C1-ACCBALCNT	C1-POLICYINVOICEFREQ	C1APPTXNBOCHN
C1-ACCNBRTYPAS	C1-POLINVDETZ	C1APPTXNBOCHNZN
C1-ADJAPPRVLREQBOAS	C1-POLINVFRE	C1APPTXNCHAIN
C1-APAYEXPCRREQBOAS	C1-POLINVFREZ	C1APPTXNCRI
C1-APAYEXPCRTYPEBOAS	C1-POLINVFRQ	C1APPTXNCRT
C1-APAY_STG_UP	C1-PRISIM	C1APPTXNGRP
C1-APPRSN	C1-REFWOREQ	C1APROF
C1-APPTXN	C1-REGENUI	ACCMULID
C1-APPTXNLOG	C1-REQUEST	C1BNKREC

Application Service	Application Service	Application Service
C1-ASAPU	C1-REQUEST-TYPE	C1BOCHN
C1-ASGNPL	C1-RULEBOAS	C1CASEG
C1-BRD	C1-SRCHSCPT	C1CASETYPEMP
C1-CASEASGNSRV	C1-TXNAGG	C1CHECKFT
C1-CASEGRPSRV	C1-TXNDTL	C1COLDTL
C1-CONSVPROGBOAS	F1CRNCY	C1COLLTYP
C1-CONTRACTTYPECHARS	F1ICON	C1COLTYP
C1-CTCGSRV	C1-WRITEOFFREQ	C1CPROG
C1-GETEFFECTVPRICING	C1ACCRATE	C1CSTYSR
C1-GETPRICING	C1ACMACT	C1DISAGR
C1-MAINPINFR	C1ACTCAT	C1EXCHRT
C1-OUTAGE	C1ACTPER	ACTNOCON
C1-PAY-REQ	C1ACTREE	C1FLRQTY
C1-PAYTEMPLATEBOAS	C1ACTYRSTY	C1FLSRCH
C1-PERBALCNT	C1ADJSTP	C1IRSPP
C1-PERIDSER	C1ADJUPL	C1MANAPP
C1MANLOG	C1REQTYP	C1_ANSPLTCUS
C1MANMOD	C1RFWORT	C1_APCS
C1MANRES	C1RLCHK	C1_APPAD
C1NCISPY	C1RSTCAT	C1_APPTXN_PRICEASGN
C1NCPTMP	C1SACOLLECT	F1-BOOKMARKS
C1ODBUPR	C1SACTHI	C1_APUR
C1PASGAPPROVE	C1SCHEDU	C1_APVIG
C1PASGREADMODIFY	C1SCHTMP	C1_ASNPL
C1PASGREADRESOLVE	C1SETTHR	C1_AUDIT
C1PAYMAN	C1SRCHRL	C1_BACCGRVAL
C1PAYPTL	C1TXNAGG	C1_BACCTDETL
C1PAYREQ	ADJDETAI	C1_BACCVALID
C1PAYRQ	USGSETT	C1_BACTSRCHM
C1PAYSRC	C1TXNFD	C1_BAFH
C1PAYUPL	USGMISIN	C1_BAFHZ

Application Service	Application Service	Application Service
C1POINFR	USGMIS	C1_BCCSH
C1PPCARS	C1UNAPPR	C1_BCONT
C1PRESTGDTLS	C1VAR	C1_BCON_INFO
C1PRISIM	C1VIEWRL	C1_BCON_SRH
C1PRODUCT	C1WODET	C1_BCUSACCDT
C1PROFILESRVC	C1_ACCNBRALG	C1_BCUSACCSR
C1PSNAPP	C1_ACCNBRTYP	C1_BCUSGRVAL
C1PSNMOD	C1_ACCTCHAR	C1_BCUSSRCHM
C1PSNRES	C1_ACDTLSRCH	C1_BCUSTACDT
C1PTNDRH	C1_ACMM	C1_BCUSVALID
C1PTPLP	C1_ACMS	C1_BDTLSRCHM
C1PYRQTY	C1_ADDEXH	C1_BFHIS
C1REFSTP	C1_ADDPL	C1_BFH_SRH
C1REFUND	C1_ADDPROD	C1_BNDMN
C1REQSTP	C1_ADD_RTCMP	C1_BNDPRD
C1REQSTS	C1_ADD_TIER	C1_BNDPRS
C1REQTYP	C1_ADMPI	C1_F_ADVAL
C1_BO_OPT	C1_DIVPERREL	C1_F_APVDTVL
C1_BPAYHSRCH	C1_DSPLY_RT	C1_F_APVNFLT
C1_BPH_INFO	C1_EDIT	C1_F_APVRJS
C1_BPYHS	C1_EDTBD	C1_F_ASGNCUS
C1_BRD_P	C1_EDTBUND	C1_F_ASGNPTP
C1_BSRCHOVRD	C1_EDTER	C1_F_CHHSRCH
C1_BSRPT	C1_EDTPL	C1_F_CIGG3V
C1_BTOGGLECA	C1_EDTPROD	C1_F_CNCLMM
C1_BTREESRCH	C1_EDT_PRITM	C1_F_CNCLMR
C1_BTST	C1_EFF_PRC	C1_F_CONTR
C1_BUNDLE	C1_EFF_PRICE	C1_F_CON_VAL
C1_BUNDVAL	C1_EFPRODSRC	C1_F_COPYPL
C1_BVCAC	C1_EXCHRT	C1_F_COPYSS
C1_CHKBIL_PA	C1_EXHRT	C1_F_CPYBNDL

Application Service	Application Service	Application Service
C1_CHKTRDFLG	C1_EXPPITM	C1_F_CPYPL
C1_CIAM	C1_DEALFETCHRATE	C1_F_CPYPLVL
C1_CIGAS	C1_FTRS	C1_F_CUSSRCH
C1_COLLN	C1_F_ACTSRCH	C1_F_DELEXCH
C1_COLL_NZN	C1_F_ADDBNDT	C1_F_DELSCS
C1_COM_VALID	C1_F_ADDCHLD	C1_F_DTVAL
C1_COPYBND	C1_F_ADDEXCH	C1_F_EDTBNDT
C1_COPYPL	C1_F_ADDMM	C1_F_EDTEXHR
C1_CPBUNDL	C1_F_ADDMMSS	C1_F_EDTMA
C1_CPYBD	C1_F_ADDPL	C1_F_EDTMMBS
C1_CPYPL	C1_F_ADDPRBD	C1_F_EDTMMP
C1_CUSTINFO	C1_F_ADDPRD	C1_F_EDTMMSS
C1_CUST_HR	C1_F_ADDPRPL	C1_F_EDTPL
C1_DEGREE	C1_F_ADDPRSS	C1_F_EDTPR
C1_DEL_PRD	C1_F_ADDRATE	C1_F_EDTPROD
C1_DEL_PROD	C1_F_ADMPROD	C1_F_EDTPRPL
C1_DISPBUND	C1_F_ADPROD	C1_PLASSIGNE
C1_F_EDTPRSS	C1_GENRCMP	C1_PLCASSIGN
C1_F_EXCDVAL	C1_GETTIER	C1_PLDISEDIT
C1_F_EXCHVAL	C1_GRP	C1_PLEDIT
C1_F_EXHVAL	C1_IGAI	C1_PLISTSRCH
C1_F_FH_VAL	C1_IGIMM	C1_PLMNG
C1_F_FINHIS	C1_IGMMB	C1_PLPTYAINF
C1_F_FINHIS1	C1_INF_PARTY	C1_PLPTYINFO
C1_F_GENACBO	C1_INVCN	C1_PLSRCH
C1_F_IGG1MM	C1_INVSR	C1_PLSTOGGLE
C1_F_IGG1MS	C1_LIST_TIER	C1_PLVAL
C1_F_IGG2MM	C1_MEMBERS	C1_PLVALIDAT
C1_F_IGG2MS	C1_MIG	C1_PLVIEW
C1_F_IGG3MM	C1_MIGAS	C1_PL_ADD
C1_F_IGG3MS	C1_MNG	C1_PL_EDIT

Application Service	Application Service	Application Service
C1_F_PLCRT	C1_MNGRT	C1_PL_PI
C1_F_PLEDT	C1_MNGTR	C1_PMPRC
C1_F_PLVAL	C1_MOD	C1_PPEDT
C1_F_POPITEM	C1_MPPA	C1_PPOVR
C1_F_PRCHAR	C1_NAVIGATE	C1_PPOVRSRCH
C1_F_PRCHARS	C1_NAVUGATE	C1_PP_DSPINF
C1_F_PRDVL	C1_OVR_PRITM	C1_PP_PLVAL
C1_F_PRODVAL	C1_PAYUP	C1_PRCAD
C1_F_PRODVL1	C1_PAY_BTN	C1_PRCE_VALD
C1_F_RSCDVAL	C1_PERRL	C1_PRCPM
C1_F_RTDESC	C1_PLADPR	C1_PRC_EDIT
C1_F_SAVESCS	C1_PLAE	C1_PRC_OVRD
C1_F_SRPLVAL	C1_PLASNADD	C1_PRC_TR
C1_F_VAL_ACT	C1_PLASNEDIT	C1_PRC_VALID
C1_F_VAL_ACTDTL	C1_PLASN_ADD	C1_PRDPERREL
C1_F_VAL_CHH	C1_PLASN_EDI	C1_PRDREL
C1_F_VAL_CUS	C1_PLASSIGN	CILACTTY
GETDEALTYPE	C1_SRCHPLVAL	CILBBICP
C1_PROSPECT	C1_SRCHPPL	CILBBLLP
C1_PRITSRCH	C1_SRCHPRD	CILBSBHP
C1_PROD	C1_SRCH_PROF	CILBSCCP
C1_PRODPL	C1_SRCH_TEMP	CILBSEGP
C1_PRODVAL	C1_SRPROD	CILBSTMP
C1_PROD_ADD	C1_STRTOLIST	CILCAASP
C1_PROD_EDIT	C1_TEMPLATE	CILCACCP
C1_PROD_SAVE	C1_TIER_INP	CILCACMP
C1_PROD_SRCH	C1_TRLBL	CILCALZP
C1_PROVR_EDT	C1_TXNAR	CILCAMRP
C1_PRZCR	C1_VWPRD	CILCASEEXTN
C1_PRZTR	CIACNBTY	CILCBCUP
C1_PRZ_CR	CIACTTYP	CILCBRWP

Application Service	Application Service	Application Service
C1_PRZ_TR	CIAPAYSTGUPL	CILCCCIP
C1_PTPLA	CIAPPACCTYPE	CILCCCZP
C1_PYHST	CIAPPACTTYPE	CILCCIZP
C1_RATE_DEF	CIAPPCHELGBL	CILCCNSP
C1_RECTIFYSRCH	CIAPPCRIT	CILCCNXP
C1_RLTPM	CIAPPTXNCHAIN	CILCCSCP
C1_RLTVW	CIAPPTXNRSN	CILCCSHP
C1_RSLV	CIDIVPERREL	CILCCTXP
C1_RSN	CIDIVPRITMPERREL	CILCENRP
C1_RTCOM_ADD	CIFILEGRP	CILCFIZP
C1_RTC_VAL	CIGETPRICING	CILCONPREF
C1_RTOPT	CILAADUP	CILCPERP
C1_RTSC	CILAASCP	CILCPLAS
C1_SAVE_TIER	CILAAUSP	CILCPPLP
C1_SHOW_IMG	CILACLCP	CILCPRMP
C1_SRCH	CILACTCT	CILCQTEP
C1_SRCHPL	CILACTHI	CILQATDP
CILCSALP	CILICOEP	CILQCASP
CILCSESA	CILITDDP	CILQTDEP
CILCSSEP	CILITDQP	CILQTDLP
CILCSVAP	CILITPDP	CILQTDQP
F1ICONQ	CILLCAZP	CILQTDSP
CILDIVET	CILLODPP	CILQTDTP
CILDIVEXT	CILMRBHP	CILQTDZP
CILDRVWP	CILPAPHP	CILQTSSP
CILECBLP	CILPAPSP	CILQTSUP
CILEFKRP	CILPARTY	CILRCMAP
CILEFLDP	CILPDCNP	CILRENGP
CILEMNUP	CILPDCSP	CILRRSMP
CILEMOBP	CILPEPLP	CILRRTCP
CILEMPDTLS	CILPEQAP	CILRRTSP

Application Service	Application Service	Application Service
CILENAVP	CILPEVTP	CILRRTVP
CILENVOP	CILPICHAR	CILRRVMP
CILERPTP	CILPIDIV	CILRSCAT
CILESVCP	CILPILANG	CILRSTTY
CILETBLP	CILPIREL	CILRULE
CILEUIZP	CILPITXNREL	CILRULTP
CILEXCHRATE	CILPPAYP	CILSCHEDULE
CILFAFHP	CILPPCAN	CILTACRP
CILFBLCP	CILPPTSP	CILTALGP
CILFFEXP	CILPQADP	CILTALTP
CILFFNTP	CILPRCITMREL	CILTAMGP
CILFFTBP	CILPRICELISTCHAR	CILTAMTP
CILFFTPP	CILPRITEM	CILTAPAP
CILFLGRP	CILPRLIST	CILTAPFP
CILFMVTP	CILPRLISTDIV	CILTAPRP
CILFSFHP	CILPRLISTL	CILTAPSP
CILIBTVP	CILPTCNP	CILTLNGP
CILTAROP	CILTCPRP	CILTMCRP
CILTARTP	CILTCQTP	CILTMHTP
CILTASGP	CILTCRUP	CILTMSGP
CILTATCP	CILTCURP	CILTNBRP
CILTATPP	CILTCUSP	CILTNCDP
CILTATYP	CILTCVTP	CILTNUXP
CILTBCRP	CILTDARP	CILTOCRP
CILTBCTP	CILTDASP	CILTOETP
CILTBFFP	CILTDCAP	CILTOPTP
CILTBFVP	CILTDCLP	CILTORAP
CILTBIMP	CILTDIRP	CILTPCRP
CILTBLCP	CILTDLOP	CILTPCTP
CILTBLPP	CILTDPRP	CILTPDRP
CILTBNKP	CILTDSTP	CILTPHTP

Application Service	Application Service	Application Service
CILTBRTP	CILTDWPP	CILTPKGP
CILTBSTP	CILTDWTP	CILTPMDP
CILTBTCP	CILTEBRP	CILTPPTP
CILTBTRP	CILTECRP	CILTPROP
CILTBUDP	CILTETTP	CILTPRTP
CILTBXTP	CILTFAAP	CILTPSDP
CILTCAMP	CILTFNDP	CILTPSTP
CILTCATP	CILTFRQP	CILTPTRP
CILTCCCP	CILTFWLP	CILTPYTP
CILTCCTP	CILTGLDP	CILTQRTP
CILTCHTP	CILTIDTP	CILTRGLP
CILTCIDP	CILTINCP	CILTRLEP
CILTCLGP	CILTINSP	CILTRSCP
CILTCLWP	CILTITTP	CILTRTYP
CILTCNTP	F1MENU	CILTSATP
CILTCOCP	CILTLETP	CILTSCLP
CILTCOTP	CILTLKFP	CILXJSVP
CILTSCYP	CILTWSDP	CILXNDNP
CILTSICP	CILTXNDETAIL	CILXOPTP
CILTSOMP	CILTXNDISAGGEXC	CILXRCVP
CILTSOPP	CILTXNDISAGGREQ	CILXRTTP
CILTSQIP	CILTXNHEADER	CILXSENP
CILTSQRP	CILTXNRECTYPE	F1LANG
CILTSVTP	CILTXNSOURCE	CILXTPCP
CILTSWLP	CILTXNSRC	CILXXSCP
CILTTACP	CILTXNSRCD	CILXXUPP
CILTTAXP	CILTXNSRCL	CILYASTP
CILTTGRP	CILUPFTS	CILYDBPP
CILTTMRP	CILVFVDP	CILYDFQP
CILTTMTP	CILVFVSP	CILYDPIP
CILTTNSP	CILVVLEP	F1-MASTERCONFIG

Application Service	Application Service	Application Service
CILTTNTP	CILVVLSP	CILYROBP
CILTTOUP	CILWDWNP	CILZAFQP
CILTTRAP	CILWJSDP	CILZAUQP
CILTTRCP	CILWJSSP	CILZFNCP
CILTTTMP	CILWNUPP	CILZPORP
CILTTZNP	CILWNUSP	CILZRBPP
CILTUOMP	CILWPROP	CILZRPHP
CILTURPP	CILXADPP	CILZRPOP
F1LKUP	CILXAIEP	CILZSCMP
CILTUSEP	CILXAIIP	CILZSCRP
CILTUSGP	CILXCLSP	CILZSCZP
CILTWCTP	CILXCONP	CILZTLZP
CILTWDCP	CILXENHP	CILZZOHP
CILTWETP	CILXFRMP	CILZZONP
CILTWFPP	CILXGRPP	CIL_FAVORITES
CILTWPTP	CILXJDBP	CIMOAPPCHAIN
CILTWSCP	CILXJMSP	F1MIGRTIMP
CIPCHT3L	F1-WEBSVCBOAS	F1MIGRTX
CIPFAFHP	F1ADMIN	F1MTXIMP
CIPOLICY	F1APPSEC	F1OBJREVCTL
CIPRICEACCOUNT	F1ATTACH	F1OBJRVH
CIPRICEPARM	F1ATTACHMENT	F1REQ
CIPYSRCH	F1BUNEXP	F1REVHST
CIRECON	F1BUNIMP	F1STRDIS
CIRECONSEG	F1CATTCH	F1STREAS
CIRSTTYP	F1CONFIGLOG	F1SUBRQQ
CIS_DIV_ALGS	F1DEBUG	F1SYNCRM
CIS_DIV_BICIES	F1EXLKP	F1SYNCRQ
CIS_DIV_CST_LNGS	F1EXLKPS	F1TBLEXC
CIS_DIV_ID_TYPES	F1LCAMRP	F1UIZONE
CIS_DIV_INV_CURS	F1LEXTLKUP	F1USERLOG

Application Service	Application Service	Application Service
CIS_DIV_TXN_SRCS	F1LTAMTP	F1USRCHKOUT
CIS_DIV_VLD_CTIES	F1MESSAGE	F1WBSVCM
CTXTZONE	F1MGDEXP	F1WBSVCS
DIVS	F1MGDEXS	F1WEBSVC
DIV_PRICEITEMS	F1MGDIMP	F1_BTST
DIV_PRICELISTS	F1MGDIMS	F1_USRFAVSCH
F1-APAYEXPCRTYPEBOAS	F1MGOIMP	FILETYPE
F1-ATTACHMENTBOAS	F1MGPLNM	FWLBNDLP
F1PHNTYP	F1MGPLNS	FWLCTDEP
F1-DFLTS	F1MGREQM	FWLFACTP
F1-GENPROC	F1MGREQS	FWLSTRJP
F1-MIGROBJIMP	F1MIGRDEXP	FWLTBELP
F1-STASKTYPE	F1MIGRDIMP	FWLTBOJP
F1-SVCTASK	F1MIGRDS	FWLTBSVP
F1-SYNCREQ	F1MIGROBJ	FWLTDARP
F1-SYNCREQIN	F1MIGRPLAN	GOTOREC
F1-SYNCREQUESTBOAS	F1MIGRREQ	PERTREE
FWLTEXSP	FWLXOUTP	VALIDCHARS
FWLTMGCT	FWLZDEXP	C1LASGN
FWLTOMTP	FWLZWLZP	C1PIASGN
FWLTSCHP	FWLTUIMP	C1PLASGNM
C1-BILLCHARGE	C1ELGPA	C1REFUPLREQ
C1BCHGUPLREQ	C1GETELIGPT	C1UPLDRQ
C1BILLCYCLEUPDTUPL	C1GLAT	C1UPLREQ
C1CONTRIDERUPDTUPL	C1GLATEMP	C1WOUPLREQ
C1DCDTLC	C1GLATRQ	C1_STRTE
C1DELCTL	C1HOLDUPLREQ	CILCPASP
ACRLSRCH	C1ADDRESS	C1DSPT
C1-ACCTECR	C1ADDRS	C1DSPTRQ
C1-FTDIST	C1ADDRSBO	C1DSPTRT
C1-FTDISTRULE	C1ADDRSDP	C1DSPTTY

Application Service	Application Service	Application Service
C1-FTDISTTY	C1ADDRSRC	C1FTDIST
C1TNCSRH	C1BK360	C1FTDSRL
C1ACCECR	C1BKAPPSER	C1FTDSTT
C1ACRLCL	C1BKBLDT	C1FTDSTY
C1ACRLTP	C1TRLFT	C1HCSINF
C1ACRMVW	C1PL	C1_ACTVW
C1ADDRDP	C1SAPPTM	C1_ACTYP
C1ADDRDTL	C1_ACCRUAL_SERV	C1_TRLIN
C1_ACYVW	C1_DSPT_REQ	F1-ARQPR
F1UGRP	F1-LKPIL	F1-SICRL
F1UGRPQ	F1-MGDIM	F1-SRCRL
F1ZONEQ	F1-MGDPR	F1-SRLRQ
C1-AUTOPAYREQ_SERV	F1-MGOAP	F1-STATSM
C1APAY	F1-MGOPR	F1-STCRL
F1-BFCRL	F1-MGTAP	F1-STKDF
F1-BSFLG	F1-MGTPR	F1-STKTR
F1-BUNPR	F1-NDPUR	F1-SUBRQ
C1APAYREQ	F1-ORCRL	F1-SYNEF
F1-FCTRN	F1-OUCRL	F1-SYNIL
F1-FKVBP	C1BUNDLE	F1-SYNRQ
F1-FLUSH	F1ACGRPM	F1-SYSRQ
F1-ILMIN	F1-REQTY	F1-TDCRL
F1-LANG	F1-REVPR	F1-TDEER
F1-LDAP	F1-SAKRQ	F1-TDPG
C1APAYRQ	ACCTVIEW	C1-ACCTAPAY_SERV
C1-DISC-REPT	C1-DRRTMPLT	C1-PRC_CALC_SM
C1-REVRECSCHZ	C1-SCHEDULERMONITOR	C1-SCHPGMQZ
C1-SCHSCHQZ	C1APAYRT	C1APAYVW
C1APYINS	C1AWFCHN	C1AWFCRT
C1AWFGRP	C1AWFRSN	C1AWFSET
C1CONADD	BFEECONT	BILLVARI

Application Service	Application Service	Application Service
C1PARAM	C1PDSRCH	C1PERS
C1PERSDP	C1PERSON	C1PRDSVC
C1PRODDP	C1PRODUCTSERVICE	C1PVERDP
C1REPORT	C1RPTTMP	C1SCHCHN
C1SCHJOB	C1SCHPGM	C1SCHSCH
C1SCJMON	C1SRCAPP	C1SVCDSP
C1VIEPRI	C1-DEALAPPR	C1_BOCHN
C1_CONSTRUCT	C1_DRRSP	C1_DRRSR
C1_DRRTM	C1_DRRTP	C1_ENLOG
C1_ENROL	C1_ENROLLMENT	C1_ENSCH
C1_PRODUCT	C1_PRODUCT_SERVICE	C1_PRODVER
CICONACT	CILFDRR	CONRULE
CONSTRUCT	DDPRCSM	PRICECOMPPRE
ACCT_SUBSCRPTN_SERV	C1-PRC_CALC_SM	C1-PRRLTYP
C1-SUBSCRTYPE	C1ACTSBS	C1ASBSVW
C1BANK	C1BANKVW	C1ENTITYREPORT
C1PRICINGGROUP	C1PROAPP	C1PRTYP
C1RPTAUD	C1RPTDEF	C1SUBSTP
C1SUBTVW	C1_SRCBUSSPRD	C1_SRCTECHPRD
C1-CUSTREGTEMPL_SERV	C1-CUSTREGTYPE	C1-DUPBTN
C1-GETPRICINGENTITY	C1-PRICEASGNTREE	C1MASPRI
C1MPRIRQ	C1MPRISR	C1RETMPL
F1MSTCFG	F1OUMSTQ	F1OUMSTY
PRICECOMPSEQ	C1CREGSR	C1CTRGBK
C1CUREG	C1CURETY	C1CUSTREG
AUDITEVENT	C1-AUDEVTYPE	C1-BANKING
C1-PRICETREE	C1ADEVSR	C1AUDEVT
C1AUDTY	C1RETMPLBK	C1VIPRIN
C1_BILL	USRACCS	WEIGHTAV
C1-HRCHYENTITY	C1ADDPRO	C1CUSTPO

Application Service	Application Service	Application Service
C1DAPROF	C1DEALDB	C1DEALPASGN
C1DEALSVC	C1DELTYP	USMISINV
C1DTSERH	C1ENHR	C1ENHRSR
C1ENTDTL	C1FILEMS	C1OFPREQ
C1-DLAPPRTOD	C1GETELIGPRO	C1HIERARCHY
C1HRCHYENTITY	C1HRYENT	C1INREQ
C1INRETY	C1INVRED	C1PISL
C1OFPRED	C1PROSPO	C1PRSEAR
C1PRSSASP	C1REFPRI	C1SERDSC
C1SLFSER	C1_ALRPT	C1-DLDBACTNS
C1_CONSTRUCT	C1_CREF	CANCPAYM
PRICEITEM_SERV	C1_DEAL	C1_DEALAPPSER
C1_HEVD	C1_PDEAL	C1_PRSENROLLMENT
C1_REF	CANCPAYM	CDUPPROD
CMPERTESTASE	C1APRQTY	CNSTRTEM
CONTEXTR	CRITBLAN	CUSDREN
CUSPRCDT	CUSTHRCH	CUSTINVM
DATAVAL	DENTREJ	DUMMYACT
DUMMYCIS	F1TODOMG	ICRGRPID
INCRADDR	INCRBILL	INCRINAC
INCRSTAC	INCRUSAC	INCURRAD
INVCARGR	INVLDCSK	INVOICSE
INVSTLAC	MGCEXP	MISSETCO
MULCSKY	NOBILLCH	NOCISKEY
NOCUSTYP	NOSTDPRC	NUSG
OVRDPRIC	OVRRDPRC	C1-DLTODOLST
PNDPYMNT	C1TRLBILL	PORTT
PRDPROF	PRODSTAT	PROITMPR
PROSADD	C1TRLBLSEG	C1DLAPDB
SETACCMP	STDPLREV	STNPRLST

Application Service	Application Service	Application Service
TBDCONIN	TBDINQAC	TRADING
TRANSREJ	TRIALBL	TRLBILDT
TRSREJPR	C1GETELIGPROD	C1GETELIGPLPRO
UAINVCNS	USAGINVA	USGACC
C1-DEALRVW	C1-EXTCTTEMP	C1-EXTRACTTEMPLATE
C1-FIELDMAP	C1-FIELDMAP_SERV	C1-PROSPECTCRET
C1-PRSPRODENRL	C1-TNC	C1DEAL1
C1DLPRT	C1DLTMPT	C1EXTCTTEMP
C1EXTTMP	C1PLSIM	C1PLSM
C1PLSMPL	C1PLSMVW	C1PRICELISTSIM
C1QUESTION	C1STPDL	C1TCMAP
C1TERCO	F1ACGRPQ	F1ALGQ
F1ALGTQ	F1APPSVM	F1APPSVQ
F1BOQ	F1BSVQ	F1BTCHQ
F1CHRTYP	F1CHRTYQ	F1DTARQ
F1FCFGQ	F1FIELD	F1FKRFQ
F1FLDQ	F1LKUPQ	F1MANCQ
F1MENUQ	F1MOQ	F1MSG
F1MSGC	F1MSGQ	F1NAVKQ
F1NAVOQ	F1PRTL	F1PRTLQ
F1SCRQ	F1TABLE	F1TBLQ
F1TDDASH	F1TMZNM	F1TODO
F1TODOEQ	F1UIMPQ	F1WRKCAL
F1WRKCLQ	F1ZONE	C1DIVGRP
C1_DIV_GRP_SVC	F1BCHJOB	F1BJSRCH
F1BUSOBJ	C1_BLST	C1BILCOR
C1BILLCORRTYPE	C1BLCRSR	C1BLCRTY
F1ALGENQ	F1ALGENT	F1BTCHTH
F1BTCTRL	F1BTRQ	F1BUSSVC
F1DTAR	F1FCFG	F1MO

Application Service	Application Service	Application Service
F1MSTQRY	F1SCRIPT	F1UIMAP
C1PAVW	C1_C360D	C1_CUST360

B.3   HCADMIN

The following table lists all application services configured for the HCADMIN user group:

Application Service	Application Service	Application Service
AFHZONE	C1-INS-POLICY	C1-SRCHSCPT
C1UPLREQTYPE	C1-INSDETBAK	C1-UNLINK
BILLGCONS	C1-MAINPINFR	C1-UNLINKPP
BILLGRAPH	C1-MEMBSP	C1-UPLOADCSV
C1-ACCBALCNT	C1-NAVACTCUR	C1-WRITEOFFREQ
C1-ACCCURDET	C1-NAVTOEXST	C1ACCRATE
C1-ACCDISCREZ	C1-PAY-REQ	C1ACINSP
C1-ACCURTEXT	C1-PAYMENT	C1ACTPER
C1-ACNPOLSUMZ	C1-PAYTEMPLATEBOAS	C1ACTREE
C1-ACPOLSUMMZ	C1-PERBALCNT	C1ADJSTP
C1-ADJAPPRVLREQBOAS	C1-PIFVIS	C1ADJUPL
C1-APAYEXPCRREQBOAS	C1-PINFRDISP	C1APPBOCHNZN
C1-APAYEXPCRTYPEBOAS	C1-PINVFPOST	C1APPCHN
C1-APPRSN	C1-POINFRDET	C1APPCRT
C1-APPTXN	C1-POLICYINVOICEFREQ	C1APPRESP
C1-APPTXNLOG	C1-POLICYPLAN	C1APPTXNBOCHN
C1-ASAPU	C1-POLINVDETZ	C1APPTXNBOCHNZN
C1-ASGNPL	C1-POLINVEDI	C1APPTXNCHAIN
C1-BILLCHARGE	C1-POLINVFRE	C1APPTXNCRI
C1-BRD	C1-POLINVFREZ	C1APPTXNCRT
C1-CNTRTPPTZ	C1-POLINVFRQ	C1APPTXNGRP
C1-CONTRACTCHARSVALI	C1-PPACCTSRC	C1BOCHN
C1-CONTRACTTYPECHARS	C1-PPPROC	C1FLRQTY
C1-DEFAULTPP	C1-PPTERROR	C1FLSRCH
C1-DFLTPPTMP	C1-QUICKPAGINATION	C1INSPAY

Application Service	Application Service	Application Service
C1-DRRDTLSZ	C1-REFWOREQ	C1MANAPP
C1-DUPBTN	C1-REQUEST-TYPE	C1MANLOG
C1-GETADJ	C1-RETURNDUP	C1MANMOD
C1-GETEFFECTVPRICING	C1-REVRECSCHZ	C1MANRES
C1-GETPPTMPL	C1-SHDETAILSZ	C1MEMBRS
C1MEMBSP	C1PTPLP	C1_BRD_P
C1NCISPY	C1PYRQTY	C1_BUNDLE
C1NCPTMP	C1REFSTP	C1_CHKBIL_PA
C1ODBUPR	C1REFUND	C1_CHKTRDFLG
C1PASGAPPROVE	C1REQSTS	C1_CIGAS
C1PASGREADMODIFY	C1REQTYP	C1_CIMAPZ
C1PASGREADRESOLVE	C1RFWORT	C1_COM_VALID
C1PAYMAN	C1SAPPTM	C1_COPYPL
C1PAYPTL	C1SATYPELISTZ	C1_CPBUNDL
C1PAYREQ	C1SCHEDU	C1_CPYPL
C1PAYRQ	C1VAR	C1_CUSTINFO
C1PAYSRC	C1WODET	C1_DEL_PRD
C1PAYUPL	C1_ADDEXH	C1_DEL_PROD
C1PERRL	C1_ADDPL	C1_DISPBUND
C1PLCYPL	C1_ADDPROD	C1_DRRSR
C1PLCYPN	C1_ADD_RTCMP	C1_DSPLY_RT
C1PLCYTY	C1_ADD_TIER	C1_EDTBUND
C1POINFR	C1_ADMPI	C1_EDTER
C1POLACL	C1_ANSPLTCUS	C1_EDTPL
C1POLCYN	C1_APCS	C1_EDTPROD
C1POLCYP	C1_APPAD	C1_EDT_PRITM
C1POLPEL	C1_APPTXN_PRICEASGN	C1_EFF_PRC
C1POLSCH	C1_APPWF	C1_EFF_PRICE
C1POLSRCH	C1_APUR	C1_EFPRODSRC
C1POLTYP	C1_APVIG	C1_EXCHRT
C1PPCARS	C1_ASNPL	C1_EXHRT

Application Service	Application Service	Application Service
C1PPDUP	C1_BACCGRVAL	C1_EXPPITM
C1PRISIM	C1_BAFHZ	C1_FTRS
C1PRODUCT	C1_BFHIS	C1_F_ADDCHLD
C1PSNAPP	C1_BNDMN	C1_F_ADDEXCH
C1PSNMOD	C1_BNDPRD	C1_F_ADDPL
C1PSNRES	C1_BNDPRS	C1_F_ADDPRD
C1PTNDRH	C1_BO_OPT	C1_F_ADDPRPL
C1_F_ADDPRSS	C1_F_IGG2MS	C1_OVR_PRITM
C1_F_ADDRATE	C1_F_IGG3MM	C1_PAYUP
C1_F_ADMPROD	C1_F_IGG3MS	C1_PCUSSRCH
C1_F_ADPROD	C1_F_PERSRCH	C1_PLADPR
C1_F_APVDTVL	C1_F_PLCRT	C1_PLAE
C1_F_APVNFLT	C1_F_PLEDT	C1_PLASNADD
C1_F_ASGNCUS	C1_F_PLVAL	C1_PLASNEDIT
C1_F_ASGNPTP	C1_F_POPITEM	C1_PLASN_ADD
C1_F_CIGG3V	C1_F_PRCHAR	C1_PLASN_EDI
C1_F_COPYPL	C1_F_PRCHARS	C1_PLASSIGN
C1_F_CPYBNDL	C1_F_PRDVL	C1_PLASSIGNE
C1_F_CPYPL	C1_F_PRODVAL	C1_PLCASSIGN
C1_F_CPYPLVL	C1_F_PRODVL1	C1_PLEDIT
C1_F_CUSSRCH	C1_F_RSCDVAL	C1_PLISTSRCH
C1_F_DELEXCH	C1_F_RTDESC	C1_PLMNG
C1_F_DELSCS	C1_F_SAVESCS	C1_PLPTYAINF
C1_F_DTVAL	C1_F_SRPLVAL	C1_PLPTYINFO
C1_F_EDTEXHR	C1_F_VAL_CUS	C1_PLSRCH
C1_F_EDTMMP	C1_GENERICSA	C1_PLSTOGGLE
C1_F_EDTPL	C1_GENRCMP	C1_PLVAL
C1_F_EDTPR	C1_GETTIER	C1_PLVALIDAT
C1_F_EDTPROD	C1_GRP	C1_PLVIEW
C1_F_EDTPRPL	C1_IGMMB	C1_PL_ADD
C1_F_EDTPRSS	C1_INF_PARTY	C1_PL_EDIT

Application Service	Application Service	Application Service
C1_F_EXCDVAL	C1_INVC	C1_PL_PI
C1_F_EXCHVAL	C1_LIST_TIER	C1_PMPRC
C1_F_EXHVAL	C1_MIG	C1_POLICYTYPE
C1_F_GENACBO	C1_MIGAS	C1_PPEDT
C1_F_IGG1MM	C1_MNGRT	C1_PPOVR
C1_F_IGG1MS	C1_MNGTR	C1_PPOVRSRCH
C1_F_IGG2MM	C1_MPPA	C1_PP_DSPINF
C1_PP_PLVAL	C1_SRCHPL	CILBSBHP
C1_PRCAD	C1_SRCHPLVAL	CILBSCCP
C1_PRCE_VALD	C1_SRCHPPL	CILBSEGP
C1_PRCPM	C1_SRCHPRD	CILBSTMP
C1_PRC_EDIT	C1_SRCH_PROF	CILCAAHP
C1_PRC_OVRD	C1_SRPROD	CILCAASP
C1_PRC_TR	C1_STRTOLIST	CILCACCP
C1_PRC_VALID	C1_TEMPLATE	CILCALZP
C1_PRDREL	C1_TIER_INP	CILCAMRP
C1-OFFPRO	C1_VWPRD	CILCBCUP
C1_PRITSRCH	CHGTYPE	CILCCCIP
C1_PROD	CHGTYPECD	CILCCCZP
C1_PRODPL	CIACNBTY	CILCCIZP
C1_PROD_ADD	CIAPAYSTGUPL	CILCCNSP
C1_PROD_EDIT	CIAPPACCTYPE	CILCCNXP
C1_PROD_SRCH	CIAPPCHELGBL	CILCCSCP
C1_PROVR_EDT	CIAPPCRIT	CILCCSHP
C1_PRZCR	CIAPPTXNCHAIN	CILCCTXP
C1_PRZTR	CIAPPTXNRSN	CILCFIZP
C1_PRZ_CR	CICASE	CILCPERP
C1_PRZ_TR	CICASECREATE	CILCPLAS
C1_PTPLA	CICHGTYPE	CILCPPLP
C1_RATE_DEF	CICREATEPAYMENTS	CILCPRMP
C1_RECTIFYSRCH	CIGETPRICING	CILCSALP

Application Service	Application Service	Application Service
C1_RSN	CILAADUP	CILCSSEP
C1_RTCOM_ADD	CILAASCP	CILCSVAP
C1_RTC_VAL	CILAAUSP	F1ALG
C1_RTOPT	CILACCDEL	CILDIVET
C1_SAVE_TIER	CILACLCP	CILDIVEXT
C1_SHOW_IMG	CILBBICP	CILECBLP
C1_SRCH	CILBBLLP	CILEFKRP
CILEFLDP	CILPILANG	CILRRVMP
CILEMNUP	CILPIREL	CILSACHG
CILEMOBP	CILPITXNREL	CILTACRP
CILENAVP	CILPOLMO	CILTALGP
CILENVOP	CILPPAYP	CILTALTP
CILERPTP	CILPPCAN	CILTAMGP
CILESVCP	CILPPTSP	CILTAMTP
CILETBLP	CILPQADP	CILTAPAP
CILEUIZP	CILPRCITMREL	CILTAPFP
CILEXCHRATE	CILPRICELISTCHAR	CILTAPSP
CILFAFHP	CILPRITEM	CILTAROP
CILFBLCP	CILPRLIST	CILTARTP
CILFBPHP	CILPRLISTDIV	CILTASGP
CILFDRR	CILPRLISTL	CILTATCP
CILFFNTP	CILPTCNP	CILTATPP
CILFFTBP	CILQATDP	CILTATYP
CILFFTPP	CILQCASP	CILTBCRP
CILFLGRP	CILQTDEP	CILTBCTP
CILFMVTP	CILQTDLP	CILTBFFP
CILFSFHP	CILQTDQP	CILTBFVP
CILITPDP	CILQTDSP	CILTBIMP
CILLODPP	CILQTDTP	CILTBLCP
CILPAPHP	CILQTDZP	CILTBLPP
CILPAPSP	CILQTSSP	CILTBNKP

Application Service	Application Service	Application Service
CILPDCNP	CILQTSUP	CILTBRTP
CILPDCSP	CILRCMAP	CILTBSTP
CILPEPLP	CILRENGP	CILTBTCP
CILPEQAP	CILRRSMP	CILTBTRP
CILPEVTP	CILRRTCP	CILTBXTP
CILPICHAR	CILRRTSP	CILTCAMP
CILPIDIV	CILRRTVP	CILTCATP
CILTCCCP	CILTITTP	CILTSARP
CILTCCTP	F1IWSOPR	CILTSATP
CILTCHTP	CILTLETP	CILTSCLP
CILTCIDP	CILTLKFP	CILTSCYP
CILTCLGP	CILTLNGP	CILTSICP
CILTCLRP	CILTMCRP	CILTSOMP
CILTCLWP	CILTMHTP	CILTSOPP
CILTCNTP	CILTMSGP	CILTSQIP
CILTCOCP	CILTNUXP	CILTSQRP
CILTCQTP	CILTOCRP	CILTSTMP
CILTCURP	CILTOETP	CILTSVTP
CILTCUSP	CILTOPTP	CILTSWLP
CILTDARP	CILTORAP	CILTTACP
CILTDASP	CILTPCRP	CILTTAXP
CILTDCAP	CILTPCTP	CILTTGRP
CILTDCLP	CILTPDRP	CILTTMRP
CILTDIRP	CILTPHTP	CILTTMTP
CILTDPRP	CILTPIFP	CILTTNSP
CILTDSTP	CILTPKGP	CILTTNTP
CILTDWPP	CILTPMDP	CILTTOUP
CILTDWTP	CILTPPTP	CILTTRAP
CILTEBRP	CILTPRTP	CILTTTMP
CILTECRP	CILTPSDP	CILTTZNP
CILTETTP	CILTPSTP	CILTUOMP

Application Service	Application Service	Application Service
CILTFNDP	CILTPTRP	CILTURPP
CILTFRQP	CILTPYTP	F1CRNCY
CILTFWLP	CILTQRTP	CILTUSEP
CILTGLDP	CILTRGLP	CILTUSGP
CILTIDTP	CILTRLEP	CILTWCTP
CILTINCP	CILTRSCP	CILTWDCP
CILTINSP	CILTRTYP	CILTWETP
CILTWFPP	CILXOPTP	CISATYCHG
CILTWPTP	CILXRCVP	CTXTZONE
CILTWSCP	CILXRTTP	DIVS
CILTWSDP	CILXSENP	DIV_PRICEITEMS
CILTXNDETAIL	C1TRLFT	DIV_PRICELISTS
CILTXNSRC	CILXTPCP	F1-APAYEXPCRTYPEBOAS
CILTXNSRCD	CILXXSCP	F1-ATTACHMENTBOAS
CILTXNSRCL	CILXXUPP	F1-DECRPTBOAS
CILUPFTS	CILYASTP	F1ICON
CILVFVDP	CILYDBPP	F1-DFLTS
CILVFVSP	CILYDFQP	F1-EXPUSERSREQBOAS
CILVVLEP	CILYDPIP	F1-GENPROC
CILVVLSP	F1IWSSVCOPR	F1-MIGROBJIMP
CILWDWNP	CILYROBP	F1-STASKTYPE
CILWJSDP	CILZAFQP	F1-SVCTASK
CILWJSSP	CILZAUQP	F1-SYNCREQ
CILWNUPP	CILZFNCP	F1-SYNCREQIN
CILWNUSP	CILZPORP	F1-SYNCREQUESTBOAS
CILWPROP	CILZRBPP	F1-WEBSVCBOAS
CILXADPP	CILZRPHP	F1ADMIN
CILXAIEP	CILZRPOP	F1ATTACH
CILXAIIP	CILZRPTP	F1ATTACHMENT
CILXCLSP	CILZSCRP	F1CATTCH
CILXCONP	CILZSCZP	F1CONFIGLOG

Application Service	Application Service	Application Service
CILXENHP	CILZTLZP	F1DEBUG
CILXFRMP	CILZZOHP	F1EXLKP
CILXGRPP	CILZZONP	F1EXLKPS
CILXJDBP	CIL_FAVORITES	F1LCAMRP
CILXJMSP	CIPRICEACCOUNT	F1LEXTLKUP
CILXJSVP	CISACHG	F1LTAMTP
CILXNDNP	CISACHGTYPE	F1MGDEXP
F1MGDEXS	F1_USRFAVSCH	F1SUBRQQ
F1MGDIMP	FILETYPE	F1SYNCRM
F1MGDIMS	FWLCTDEP	F1SYNCRQ
F1MGOIMP	FWLFACTP	F1TBLEXC
F1MGPLNM	FWLSTRJP	F1UIZONE
F1MGPLNS	FWLTBELP	F1USERLOG
F1MGREQM	FWLTBOJP	F1WBSVCM
F1MGREQS	FWLTBSVP	F1WBSVCS
F1MIGRDEXP	FWLTDARP	F1WEBSVC
F1MIGRDIMP	FWLTEXSP	F1_BTST
F1MIGRDS	FWLTMGCT	F1REQTYP
F1MIGROBJ	FWLTOMTP	F1STRDIS
F1MIGRPLAN	FWLTSCHP	F1STREAS
F1MIGRREQ	FWLTUIMP	PERTREE
F1MIGRTIMP	FWLXOUTP	SACHGLNK
F1MIGRTX	FWLZDEXP	SATYPCHG
F1MTXIMP	FWLZWLZP	C1LASGN
F1REQ	GOTOREC	C1PIASGN
C1BCHGUPLREQ	C1DELCTL	C1PLASGNM
C1BILLCYCLEUPDTUPL	C1ELGPA	C1REFUPLREQ
C1CONTRIDERUPDTUPL	C1GETELIGPT	C1UPLDRQ
C1DCDTLC	C1HOLDUPLREQ	C1UPLREQ
C1WOUPLREQ	CILCPASP	C1HCSINF
C1-ACCNBRTYPAS	C1ADDRESS	C1INMSGP

Application Service	Application Service	Application Service
C1-CUSTINMSG	C1ADDRS	C1INMSRH
C1-GENRQ	C1ADDRSBO	C1INMSTY
C1-INMSG	C1ADDRSRC	C1PAREQ
C1-INMSGTYPE	C1CUS360	C1PARQMN
C1-MEMBERINMSG	C1DSPT	C1PARQTY
C1-POLPERORLEAS	C1DSPTRQ	C1PI
C1-PROSPECTCRET	C1DSPTRT	C1PL
C1-REQUEST	C1DSPTTY	C1PRICEASGN
C1ADDRDP	C1HCAPPSER	C1REINUPLREQ
C1ADDRDTL	C1HCBLDT	CILTTHDP
C1_DSPT_REQ	CIPOLPERROLE	F1-ARQPR
F1ICONQ	F1-LKPIL	F1-SICRL
F1LANG	F1-MGDIM	F1-SRCRL
F1LKUP	F1-MGDPR	F1-SRLRQ
F1PHNTYP	F1-MGOAP	F1-STATSM
F1UGRP	F1-MGOPR	F1-STCRL
F1-BFCRL	F1-MGTAP	F1-STKDF
F1-BSFLG	F1-MGTPR	F1-STKTR
F1-BUNPR	F1-NDPUR	F1-SUBRQ
F1UGRPQ	F1-ORCRL	F1-SYNEF
F1-FCTRN	F1-OUCRL	F1-SYNIL
F1-FKVBP	F1ALGQ	F1-SYNRQ
F1-FLUSH	F1ALGTQ	F1-SYSRQ
F1-ILMIN	F1-REQTY	F1-TDCRL
F1-LANG	F1-REVPR	F1-TDEER
F1-LDAP	F1-SAKRQ	F1-TDPG
F1MENU	ACCTVIEW	C1-ACCTAPAY_SERV
C1-DISC-REPT	C1-DRRTMPLT	C1-MBR-DR-TY
C1-REVRECPLCY	C1ACCTAPAY	C1APAYRT
C1APAYVW	C1APYINS	C1DISREP
C1DRDIS	C1DSRTY	C1ENTDTL

Application Service	Application Service	Application Service
C1OFPRP	C1MBRRCN	C1PARAM
C1PERS	C1PERSDP	C1PERSON
C1RCONTY	C1RECOLN	C1RECONCIL
C1RECONTYP	C1SRCAPP	C1VIEWRL
C1_BPYHS	C1_DRRSP	C1_DRRTM
C1_DRRTP	C1_INVCN	C1_PAYIN
C1_PRODUCT	C1_RLTPM	C1_RLTVW
CILRULTP	CONRULE	PRICECOMPPRE
GETDEALTYPE	C1-PRRLTYP	C1-RULEBOAS
C1-TXNAGG	C1-TXNDTL	C1-TXNREC
C1_TRLBL	C1BILLLVL	C1BILLSORT
C1_TRLIN	C1BLLLVLUPLREQ	C1BLLSRTUPLREQ
C1DISAGR	C1ENTITYREPORT	C1PRICINGGROUP
C1PROAPP	C1PRTYP	C1SRCHRL
C1TXNAGG	TRIALBL	F1TODOMG
C1TXNFD	C1OFPRED	C1GETELIGPLPRO
C1_BUNDVAL	C1_COPYBND	C1_CPYBD
C1OFPREQ	C1_PRICE	C1_TXNAR
CILTXNSOURCE	CIPRICEPARM	F1APPLYBNDL
F1BNDLEM	F1BNDLES	F1BNDLIM
F1BNDLIS	F1BUNEXP	F1BUNIMP
F1IWSDPL	F1IWSSVC	F1IWSVCP
F1IWSVCS	FWLBNDLP	C1-ACCUDATA
C1-CUSTREGTEMPL_SERV	C1-CUSTREGTYPE	C1-GETPRICINGENTITY
C1-PICINGRULE	C1ACUDAT	C1MASPRI
C1MPRISR	C1RETMPL	F1OUMSTQ
F1OUMSTY	PRICECOMPSEQ	C1CREGSR
C1CTRGHC	C1CUREG	C1CURETY
C1CUSTREG	C1CUSTRG	AUDITEVENT
C1-AUDEVTYPE	C1-HEALTHCARE	C1ADEVSR

Application Service	Application Service	Application Service
C1AUDEVT	C1AUDTY	C1RETMPLHC
C1STATE	C1_BILL	C1INREQ
C1INRETY	C1INVRED	C1TRBLHC
C1-BENEFITS	C1-BENFITPKG	C1-FIELDMAP
C1-FIELDMAP_SERV	C1-GETFIPRCRULE	C1-TNC
C1BENFTP	C1BENFTS	C1FLDMAP
C1GEORTA	C1GEORTAR	C1RELSTR
C1TERCO	C1TERMNCO	C1TNCSRH
C1_MEMRL_SUBT	PRICEITEM_SERV	C1-BUSRULE
C1-BUSRULVAL	C1BENSTY	C1BUSRD
C1BUSRUL	C1MEIDTY	C1_HCPRODUCT
C1_HLTH_PLAN	F1APPSVM	F1APPSVQ
F1BOQ	F1BSVQ	F1BTCHQ
F1CHRTYP	F1CHRTYQ	F1DTARQ
F1FCFGQ	F1FIELD	F1FKRFQ
F1FLDQ	F1LKUPQ	F1MANCQ
F1MENUQ	F1MESSAGE	F1MOQ
F1MSG	F1MSGC	F1MSGQ
F1NAVKQ	F1NAVOQ	F1PRTL
F1PRTLQ	F1SCRQ	F1TABLE
F1TBLQ	F1TDDASH	F1TMZNM
F1TODO	F1TODOEQ	F1UIMPQ
F1WRKCAL	F1WRKCLQ	F1ZONE
F1ZONEQ	C1-AUTOPAYREQ_SERV	C1-PLNINFO
C1APAY	C1APAYREQ	C1APAYRQ
C1HEALTH	C1HPHP	C1PLAN
C1_STRTE	C1ADDRSDP	C1GLAT
C1GLATEMP	C1GLATRQ	C1REFWOI
C1TRLBILL	C1TRLBLSEG	C1-DELIN-PRC-TYP
C1-DELIN-PROC	C1-DELIN-PROC-EVT	C1DELPT

Application Service	Application Service	Application Service
C1DLCLD	C1DLEVT	C1DLINEVNT
C1DLNPRC	C1DPSRCH	C1LDLCLP
C1_BLPTC	F1BCHJOB	F1BJSRCH
F1BUSOBJ	C1_DIV_GRP_SVC	C1DIVGRP
C1HCHLCK	F1ALGENQ	F1ALGENT
F1BTCHTH	F1BTCTRL	F1BTRQ
F1BUSSVC	F1DTAR	F1FCFG
F1MO	F1SCRIPT	F1UIMAP
C1PAVW	-	-

B.4   INADMIN

The following table lists all application services configured for the INADMIN user group:

Application Service	Application Service	Application Service
AFHZONE	C1-CNTRTPPTZ	C1-EXTSTMICHZ
C1UPLREQTYPE	C1-CONTRACTCHARSVALI	C1-EXTSTMLOGZ
BILLGCONS	C1-CONTRACTTYPECHARS	C1-EXTSTMTAD
BILLGRAPH	C1-CTRLC	C1-EXTSTMTCHAR
C1-ACCBALCNT	C1-DEFAULTPP	C1-EXTSTMTED
C1-ACCCRCHM	C1-DELPPTMP	C1-EXTSTMTITEM
C1-ACCCURDET	C1-DFLTPPTMP	C1-EXTSTMTITMCHR
C1-ACCDETAILZ	C1-DRRDTLSZ	C1-EXTSTMTRC
C1-ACCDISCREZ	C1-DUPBTN	C1-EXTSTMTSRZ
C1-ACCOUNTCURRENT	C1-EDITPPTMP	C1-EXTSTMTZ
C1-ACCQUICED	C1-EQUITYDT	C1-GETADJ
C1-ACCREDIT	C1-EXITEMDEL	C1-GETEFFECTVPRICING
C1-ACCRLOGZ	C1-EXITEMED	C1-GETPPTMPL
C1-ACCSELECT	C1-EXSTMVBNF	C1-INSDETBAK
C1-ACCURERR	C1-EXTACQRYZ	C1-ISSUEDATEPOLICYCH
C1-ACCURTEXT	C1-EXTAUTREC	C1-LINKPPTMP
C1-ACNPOLSUMZ	C1-EXTERNALSTATEMENT	C1-LINKPPTMP2

Application Service	Application Service	Application Service
C1-ACPOLSUMMZ	C1-EXTITEMAD	C1-MAINPINFR
C1-ACTPPTMPL	C1-EXTPENDG	C1-MAINPPLAN
C1-ACURITEMD	C1-EXTREOPN	C1-MAINPPTMP
C1-ADJAPPRVLREQBOAS	C1-EXTSTCHM	C1-MOVEPPT
C1-APAYEXPCRREQBOAS	C1-EXTSTIMP	C1-NAVACTCUR
C1-APAYEXPCRTYPEBOAS	C1-EXTSTITCH	C1-NAVTOEXST
C1-APPRSN	C1-EXTSTLDB	C1-PAY-REQ
C1-APPTXN	C1-EXTSTMBNF	C1-PAYMENT
C1-APPTXNLOG	C1-EXTSTMCAN	C1-PAYPLAN
C1-ASAPU	C1-EXTSTMCLD	C1-PAYPLAND
C1-ASGNPL	C1-EXTSTMCLS	C1-PAYPLANTMPLCOMPL
C1-BILLCHARGE	C1-EXTSTMDTLZ	C1-PAYPLANZ
C1-BRD	C1-EXTSTMDZ	C1-PAYPLNBPA
C1-PAYTEMPLATEBOAS	C1-PPDUP	C1ACINSP
C1-PERBALCNT	C1-PPEDIT	C1ACTPER
C1-PIFVIS	C1-PPEDTTASK	C1ACTREE
C1-PINFRDISP	C1-PPLANDET	C1ADJSTP
C1-PINVFPOST	C1-PPPROC	C1ADJUPL
C1-POINFRDET	C1-PPSACCSRC	C1APPBOCHNZN
C1-POLCANCE	C1-PPTCNTDETZ	C1APPCHN
C1-POLCANZ	C1-PPTERROR	C1APPCRT
C1-POLICY	C1-PPTMPDISP	C1APPRESP
C1-POLICYBPA	C1-PPTMPDUP	C1APPTXNBOCHN
C1-POLICYCANRSNSERV	C1-PPTMPL	C1APPTXNBOCHNZN
C1-POLICYCHAR	C1-PPTMPLD	C1APPTXNCHAIN
C1-POLICYDESC	C1-PPTMPLDET	C1APPTXNCRI
C1-POLICYINVOICEFREQ	C1-PPTMPLDETZ	C1APPTXNCRT
C1-POLICYSUM	C1-PPTMPLVIS	C1APPTXNGRP
C1-POLINVDETZ	C1-PPTMPLZ	C1BOCHN
C1-POLINVEDI	C1-PPTMPPOST	C1CCACCT
C1-POLINVFRE	C1-PSTAKEHLD	C1CCPORT

Application Service	Application Service	Application Service
C1-POLINVFREZ	C1-QUICKPAGINATION	C1CNTCR
C1-POLINVFRQ	C1-RECVAL	C1CTRLC
C1-POLI_FHZ	C1-REFWOREQ	C1FLRQTY
C1-POLNOMINEZ	C1-REQUEST-TYPE	C1FLSRCH
C1-POLPERORLEAS	C1-RETURNDUP	C1INSPAY
C1-POLREINSTSR	C1LISTBL	F1TODOMG
C1-POLSUMZ	C1-SHDETAILSZ	C1MANAPP
C1-PPACCTSRC	C1-SRCHSCPT	C1MANLOG
C1-PPACTV	C1-UNLINK	C1MANMOD
C1-PPBTNS	C1-UNLINKPP	C1MANRES
C1-PPDET	C1-UPLOADCSV	C1NCISPY
C1-PPDETZ	C1-WRITEOFFREQ	C1NCPTMP
C1-PPDISP	C1ACCRATE	C1ODBUPR
C1PASGAPPROVE	C1PTPLP	C1_BACCGRVAL
C1PASGREADMODIFY	C1PYRQTY	C1_BAFHZ
C1PASGREADRESOLVE	C1RECDTLSTAT	C1_BFHIS
C1PAYMAN	C1RECONDTL	C1_BNDMN
C1PAYPLAN	C1REFSTP	C1_BNDPRD
C1PAYPTL	C1REFUND	C1_BNDPRS
C1PAYREQ	C1REQSTS	C1_BO_OPT
C1PAYRQ	C1REQTYP	C1_BRD_P
C1PAYSRC	C1RFWORT	C1_BUNDLE
C1PAYUPL	C1SAPPTM	C1_CHKBIL_PA
C1PERRL	C1SATYPELISTZ	C1_CHKTRDFLG
C1POINFR	C1SCHEDU	C1_CIGAS
C1POLACL	C1VAR	C1_CIMAPZ
C1POLICYCANRSN	C1VARIANCE	C1_COM_VALID
C1POLPEL	C1WODET	C1_COPYPL
C1POLSRH	C1_ACCUR	C1_CPBUNDL
C1POLTYP	C1_ACUNV	C1_CPYPL
C1PPCARS	C1_ADDEXH	C1_CUSTINFO

Application Service	Application Service	Application Service
C1PPDUP	C1_ADDPL	C1_DEL_PRD
C1PPLAN	C1_ADDPROD	C1_DEL_PROD
C1PPSRH	C1_ADD_RTCMP	C1_DISPBUND
C1PPSRS	C1_ADD_TIER	PRICECOMPPRE
C1PPTMPL	C1_ADMPI	C1_DSPLY_RT
C1PPTMPO	C1_ANSPLTCUS	C1_EDTBUND
C1PPVERSCHZ	C1_APCS	C1_EDTER
C1PRISIM	C1_APPAD	C1_EDTPL
C1PRODUCT	C1_APPTXN_PRICEASGN	C1_EDTPROD
C1PSNAPP	C1_APPWF	C1_EDT_PRITM
C1PSNMOD	C1_APUR	C1_EFF_PRC
C1PSNRES	C1_APVIG	C1_EFF_PRICE
C1PTNDRH	C1_ASNPL	C1_EFPRODSRC
C1_EXCHRT	C1_F_EDTMMP	C1_F_VAL_CUS
C1_EXHRT	C1_F_EDTPL	C1_GENERICSA
C1_EXPPITM	C1_F_EDTPR	C1_GENRCMP
C1_EXSTD	C1_F_EDTPROD	C1_GETTIER
C1_EXSTL	C1_F_EDTPRPL	C1_GRP
C1_EXSTM	C1_F_EDTPRSS	C1_IGMMB
C1_EXSTS	C1_F_EXCDVAL	C1_INF_PARTY
C1_FTRS	C1_F_EXCHVAL	C1_INS_SRCH
C1_F_ADDCHLD	C1_F_EXHVAL	C1_INVC
C1_F_ADDEXCH	C1_F_GENACBO	C1_LIST_TIER
C1_F_ADDPL	C1_F_IGG1MM	C1_MIG
C1_F_ADDPRD	C1_F_IGG1MS	C1_MIGAS
C1_F_ADDPRPL	C1_F_IGG2MM	C1_MNGRT
C1_F_ADDPRSS	C1_F_IGG2MS	C1_MNGTR
C1_F_ADDRATE	C1_F_IGG3MM	C1_MPPA
C1_F_ADMPROD	C1_F_IGG3MS	C1_OVR_PRITM
C1_F_ADPROD	C1_F_PERSRCH	C1_PAYUP
C1_F_APVDTVL	C1_F_PLCRT	C1_PCUSSRCH

Application Service	Application Service	Application Service
C1_F_APVNFLT	C1_F_PLEDT	C1_PLADPR
C1_F_ASGNCUS	C1_F_PLVAL	C1_PLAE
C1_F_ASGNPTP	C1_F_POLSRCH	C1_PLASNADD
C1_F_CIGG3V	C1_F_POPITEM	C1_PLASNEDIT
C1_F_COPYPL	C1_F_PRCHAR	C1_PLASN_ADD
C1_F_CPYBNDL	C1_F_PRCHARS	C1_PLASN_EDI
C1_F_CPYPL	C1_F_PRDVL	C1_PLASSIGN
C1_F_CPYPLVL	C1_F_PRODVAL	C1_PLASSIGNE
C1_F_CUSSRCH	C1_F_PRODVL1	C1_PLCASSIGN
C1_F_DELEXCH	C1_F_RSCDVAL	C1_PLEDIT
C1_F_DELSCS	C1_F_RTDESC	C1_PLISTSRCH
C1_F_DTVAL	C1_F_SAVESCS	C1_PLMNG
C1_F_EDTEXHR	C1_F_SRPLVAL	C1_PLPTYAINF
C1_PLPTYINFO	C1_PRZCR	CIAPPCHELGBL
C1_PLSRCH	C1_PRZTR	CIAPPCRIT
C1_PLSTOGGLE	C1_PRZ_CR	CIAPPTXNCHAIN
C1_PLVAL	C1_PRZ_TR	CIAPPTXNRSN
C1_PLVALIDAT	C1_PTPLA	CICASE
C1_PLVIEW	C1_RATE_DEF	CICASECREATE
C1_PL_ADD	C1_RECON	CICHGTYPE
C1_PL_EDIT	C1_RECTIFYSRCH	CICPAYPLAN
C1_PL_PI	C1_RSN	CICREATEPAYMENTS
C1_PMPRC	C1_RTCOM_ADD	CIGETPRICING
C1_PPEDT	C1_RTC_VAL	CILAADUP
C1_PPOVR	C1_RTOPT	CILAASCP
C1_PPOVRSRCH	C1_SAVE_TIER	CILAAUSP
C1_PP_DSPINF	C1_SHOW_IMG	CILACCDEL
C1_PP_PLVAL	C1_SRCH	CILACLCP
C1_PRCAD	C1_SRCHPL	CILBBICP
C1_PRCE_VALD	C1_SRCHPLVAL	CILBBLLP
C1_PRCPM	C1_SRCHPPL	CILBMCRP

Application Service	Application Service	Application Service
C1_PRC_EDIT	C1_SRCHPRD	CILBSBHP
C1_PRC_OVRD	C1_SRCH_PROF	CILBSCCP
C1_PRC_TR	C1_SRPROD	CILBSEGP
C1_PRC_VALID	C1_STRTOLIST	CILBSTMP
C1_PRDREL	C1_TEMPLATE	CILCAAHP
C1GETELIGPLPRO	C1_TIER_INP	CILCAASP
C1_PRITSRCH	C1_VIEW	CILCACCP
C1_PROD	C1_VWPRD	CILCALZP
C1_PRODPL	CHGTYPE	CILCAMRP
C1_PROD_ADD	CHGTYPECD	CILCBCUP
C1_PROD_EDIT	CIACNBTY	CILCCCIP
C1_PROD_SRCH	CIAPAYSTGUPL	CILCCCZP
C1_PROVR_EDT	CIAPPACCTYPE	CILCCIZP
CILCCNSP	CILFBLCP	CILPRLIST
CILCCNXP	CILFBPHP	CILPRLISTDIV
CILCCSCP	CONRULE	CILPRLISTL
CILCCSHP	CILFFNTP	CILPTCNP
CILCCTXP	CILFFTBP	CILQATDP
CILCFIZP	CILFFTPP	CILQCASP
CILCLOAP	CILFLGRP	CILQTDEP
CILCPERP	CILFMVTP	CILQTDLP
CILCPLAS	CILFSFHP	CILQTDQP
CILCPPLP	CILITPDP	CILQTDSP
CILCPPTMPL	CILLODPP	CILQTDTP
CILCPRMP	CILPAPHP	CILQTDZP
CILCSALP	CILPAPSP	CILQTSSP
CILCSSEP	CILPDCNP	CILQTSUP
CILCSVAP	CILPDCSP	CILRCMAP
F1ALG	CILPEPLP	CILRENGP
CILDIVET	CILPEQAP	CILRRSMP
CILDIVEXT	CILPEVTP	CILRRTCP

Application Service	Application Service	Application Service
CILECBLP	CILPICHAR	CILRRTSP
CILEFKRP	CILPIDIV	CILRRTVP
CILEFLDP	CILPILANG	CILRRVMP
CILEMNUP	CILPIREL	CILSACHG
CILEMOBP	CILPITXNREL	CILSTEXTITEM
CILENAVP	CILPOLMO	CILTACRP
CILENVOP	CILPPAYP	CILTALGP
CILERPTP	CILPPCAN	CILTALTP
CILESVCP	CILPPTSP	CILTAMGP
CILETBLP	CILPQADP	CILTAMTP
CILEUIZP	CILPRCITMREL	CILTAPAP
CILEXCHRATE	CILPRICELISTCHAR	CILTAPFP
CILFAFHP	CILPRITEM	CILTAPRP
CILTAPSP	CILTCQTP	CILTOETP
CILTAROP	CILTCURP	CILTOPTP
CILTARTP	CILTCUSP	CILTORAP
CILTASGP	CILTDARP	CILTPCRP
CILTATCP	CILTDASP	CILTPDRP
CILTATPP	CILTDCAP	CILTPHTP
CILTATYP	CILTDCLP	CILTPIFP
CILTBCRP	CILTDIRP	CILTPKGP
CILTBCTP	CILTDPRP	CILTPMDP
CILTBFFP	CILTDSTP	CILTPPTP
CILTBFVP	CILTDWPP	CILTPRTP
CILTBIMP	CILTDWTP	CILTPSDP
CILTBLCP	CILTEBRP	CILTPSTP
CILTBLPP	CILTECRP	CILTPTRP
CILTBNKP	CILTFNDP	CILTPYTP
CILTBRTP	CILTFRQP	CILTQRTP
CILTBSTP	CILTFWLP	CILTRGLP
CILTBTCP	CILTGLDP	CILTRLEP

Application Service	Application Service	Application Service
CILTBTRP	CILTIDTP	CILTRSCP
CILTBXTP	CILTINCP	CILTRTYP
CILTCAMP	CILTINSP	CILTSATP
CILTCATP	CILTITTP	CILTSCLP
CILTCCCP	F1MENU	CILTSCYP
CILTCCTP	CILTLETP	CILTSICP
CILTCHTP	CILTLKFP	CILTSOMP
CILTCIDP	CILTLNGP	CILTSOPP
CILTCLGP	CILTMCRP	CILTSQIP
CILTCLRP	CILTMHTP	CILTSQRP
CILTCLWP	CILTMSGP	CILTSTMP
CILTCNTP	CILTNUXP	CILTSVTP
CILTCOCP	CILTOCRP	CILTSWLP
CILTTACP	CILWDWNP	CILYROBP
CILTTAXP	CILWJSDP	CILZAFQP
CILTTGRP	CILWJSSP	CILZAUQP
CILTTMRP	CILWNUPP	CILZFNCP
CILTTMTP	CILWNUSP	CILZPORP
CILTTNSP	CILWPROP	CILZRBPP
CILTTNTP	CILXADPP	CILZRPHP
CILTTOUP	CILXAIEP	CILZRPOP
CILTTRAP	CILXAIIP	CILZRPTP
CILTTTMP	CILXCLSP	CILZSCRP
CILTTZNP	CILXCONP	CILZSCZP
CILTUOMP	CILXENHP	CILZTLZP
CILTURPP	CILXFRMP	CILZZOHP
F1CRNCY	CILXGRPP	CILZZONP
CILTUSEP	CILXJDBP	CIL_FAVORITES
CILTUSGP	CILXJMSP	CIPOLICY
CILTWCTP	CILXJSVP	CIPOLPERRL
CILTWDCP	CILXNDNP	CIPOLPERROLE

Application Service	Application Service	Application Service
CILTWETP	CILXOPTP	CIPOLREINSTRSN
CILTWPTP	CILXRCVP	CIPRICEACCOUNT
CILTWSCP	CILXRTTP	CIREC
CILTWSDP	CILXSENP	CIRECCUSTSUB
CILTXNDETAIL	F1ICON	CIRECON
CILTXNSRC	CILXTPCP	CIRECONDTL
CILTXNSRCD	CILXXSCP	CIRECONSEG
CILTXNSRCL	CILXXUPP	CIRECPRTL
CILUPFTS	CILYASTP	CISACHG
CILVFVDP	CILYDBPP	CISACHGTYPE
CILVFVSP	CILYDFQP	CISATYCHG
CILVVLEP	CILYDPIP	CIVARIANCE
CILVVLSP	C1TRLFT	CNCLRSN
CTXTZONE	F1MGDIMP	FILETYPE
DIVS	F1MGDIMS	FWLCTDEP
DIV_PRICEITEMS	F1MGOIMP	FWLFACTP
DIV_PRICELISTS	F1MGPLNM	FWLSTRJP
F1-APAYEXPCRTYPEBOAS	F1MGPLNS	FWLTBELP
F1-ATTACHMENTBOAS	F1MGREQM	FWLTBOJP
F1-DECRPTBOAS	F1MGREQS	FWLTBSVP
F1ICONQ	F1MIGRDEXP	FWLTDARP
F1-DFLTS	F1MIGRDIMP	FWLTEXSP
F1-EXPUSERSREQBOAS	F1MIGRDS	FWLTMGCT
F1-GENPROC	F1MIGROBJ	FWLTOMTP
F1-MIGROBJIMP	F1MIGRPLAN	FWLTSCHP
F1-STASKTYPE	F1MIGRREQ	FWLTUIMP
F1-SVCTASK	F1MIGRTIMP	FWLXOUTP
F1-SYNCREQ	F1MIGRTX	FWLZDEXP
F1-SYNCREQIN	F1MTXIMP	FWLZWLZP
F1-SYNCREQUESTBOAS	F1REQ	GOTOREC
F1-WEBSVCBOAS	F1REQTYP	LISTBILLVIEW

Application Service	Application Service	Application Service
F1ADMIN	F1STRDIS	PERTREE
F1ATTACH	F1STREAS	POLICYCANRSN
F1ATTACHMENT	F1SUBRQQ	RECDTSTA
F1CATTCH	F1SYNCRM	RECON
F1CONFIGLOG	F1SYNCRQ	RECONDTL
F1DEBUG	F1TBLEXC	RSTRSN
F1EXLKP	F1UIZONE	SACHGLNK
F1EXLKPS	F1USERLOG	SATYPCHG
F1LCAMRP	F1WBSVCM	SATYPES
F1LEXTLKUP	F1WBSVCS	F1_BTST
F1LTAMTP	F1WEBSVC	F1_USRFAVSCH
F1MGDEXP	F1MGDEXS	C1LASGN
C1BCHGUPLREQ	C1DELCTL	C1PIASGN
C1BILLCYCLEUPDTUPL	C1ELGPA	C1PLASGNM
C1CONTRIDERUPDTUPL	C1GETELIGPT	C1REFUPLREQ
C1DCDTLC	C1HOLDUPLREQ	C1UPLDRQ
C1UPLREQ	C1WOUPLREQ	CILCPASP
C1-PROSPECTCRET	C1ADDRS	C1DSPTTY
C1ACRLCL	C1ADDRSBO	C1PAREQ
C1ACRLTP	C1ADDRSRC	C1PARQMN
C1ADDRDP	C1DSPT	C1PARQTY
C1ADDRDTL	C1DSPTRQ	C1PI
C1ADDRESS	C1DSPTRT	C1PL
C1PRICEASGN	C1_DSPT_REQ	F1-ARQPR
F1LANG	F1-LKPIL	F1-SICRL
F1LKUP	F1-MGDIM	F1-SRCRL
F1PHNTYP	F1-MGDPR	F1-SRLRQ
F1UGRP	F1-MGOAP	F1-STATSM
F1UGRPQ	F1-MGOPR	F1-STCRL
F1-BFCRL	F1-MGTAP	F1-STKDF
F1-BSFLG	F1-MGTPR	F1-STKTR

Application Service	Application Service	Application Service
F1-BUNPR	F1-NDPUR	F1-SUBRQ
C1TRLBLSEG	F1-ORCRL	F1-SYNEF
F1-FCTRN	F1-OUCRL	F1-SYNIL
F1-FKVBP	F1ACGRPM	F1-SYNRQ
F1-FLUSH	F1ACGRPQ	F1-SYSRQ
F1-ILMIN	F1-REQTY	F1-TDCRL
F1-LANG	F1-REVPR	F1-TDEER
F1-LDAP	F1-SAKRQ	C1TRLBILL
C1-DISC-REPT	C1-PTD-CAL	C1APAYRT
C1OFPRED	C1OFPREQ	C1PARAM
C1PERS	C1PERSDP	C1PERSON
C1SRCAPP	C1VIEWRL	C1_INVCN
C1_PRODUCT	C1_RLTPM	C1_RLTVW
CILRULTP	C1-PRRLTYP	C1ENTITYREPORT
C1PROAPP	C1PRTYP	C1_PRICE
CIPRICEPARM	C1-CUSTREGTEMPL_SERV	C1-CUSTREGTYPE
C1-GETPRICINGENTITY	C1MASPRI	C1MPRISR
C1RETMPL	F1OUMSTQ	F1OUMSTY
PRICECOMPSEQ	C1CREGSR	C1CTRGHC
C1CUREG	C1CURETY	C1CUSTREG
C1CUSTRG	AUDITEVENT	C1-AUDEVTYPE
C1-HEALTHCARE	C1ADEVSR	C1AUDEVT
C1AUDTY	C1RETMPLHC	C1ENTDTL
C1INREQ	C1INRETY	C1INVRED
GETDEALTYPE	C1-FIELDMAP	C1-FIELDMAP_SERV
C1-TNC	C1FLDMAP	C1RELSTR
C1TERCO	C1TERMNCO	C1TNCSRH
C1_MEMRL_SUBT	PRICEITEM_SERV	C1MEIDTY
C1BENSTY	C1BUSRD	F1ALGQ
F1ALGTQ	F1APPSVM	F1APPSVQ

Application Service	Application Service	Application Service
F1BOQ	F1BSVQ	F1BTCHQ
F1CHRTYP	F1CHRTYQ	F1DTARQ
F1FCFGQ	F1FIELD	F1FKRFQ
F1FLDQ	F1LKUPQ	F1MANCQ
F1MENUQ	F1MOQ	F1MSG
F1MSGC	F1MSGQ	F1NAVKQ
F1NAVOQ	F1PRTL	F1PRTLQ
F1SCRQ	F1TABLE	F1TBLQ
F1TDDASH	F1TMZNM	F1TODO
F1TODOEQ	F1UIMPQ	F1WRKCAL
F1WRKCLQ	F1ZONE	F1ZONEQ
C1-AUTOPAYREQ_SERV	C1APAY	C1APAYREQ
C1APAYRQ	F1BCHJOB	F1BJSRCH
F1BUSOBJ	C1HCHLCK	F1ALGENQ
F1ALGENT	F1BTCHTH	F1BTCTRL
F1BTRQ	F1BUSSVC	F1DTAR
F1FCFG	F1MO	F1SCRIPT
F1UIMAP	C1PAVW	-

Appendix C : 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 25.4:

1. 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:

        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:

        Linux:

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

        Windows:

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

Appendix D : New Objects in the Oracle Utilities Application Framework V25.4 Database

This section lists the objects that are newly added in the Oracle Utilities Application Framework V25.4 database. These objects are classified under the following two sections:

- Schema Changes
- New System Data

D.1 Schema Changes

This section lists schema related changes made in the Oracle Utilities Application Framework V25.4 database.

D.1.1 New Tables

The following tables are newly added in the Oracle Utilities Application Framework V25.4 database:

Table	Description
CI_BATCH_CTRL_OPT	Batch Control Option
F1_ATTACHMENT_DATA	Attachment Data
F1_PATCH_DETAILS	Patch Details
F1_PROD_METRIC_SNPSHT	Product Metric Snapshot
F1_PROD_METRIC_SNPSHT_K	Product Metric Snapshot Key
F1_PROD_METRIC_SNPSHT_VAL	Product Metric Values
F1_PROD_METRIC_TYPE	Product Metric Type
F1_PROD_METRIC_TYPE_L	Product Metric Type Language

D.1.2 Added Views

The following view is newly added in the Oracle Utilities Application Framework V25.4 database:

View	Description
F1_SIBSCH_TBLS_VW	Sibling Schema Tables View

D.1.3   Dropped Tables

None

D.1.4   Added Columns

The following columns are newly added in the Oracle Utilities Application Framework V25.4 database:

Table	Column	Column Description	Required (Yes or No)
CI_BATCH_CTRL	BASE_BATCH_FLG	Base Batch Control	Yes
	BATCH_TEMPLATE_XFLG	Batch Template	No
F1_ATTACHMENT	ATTCH_CONT_LOC_FLG	Content Location	Yes
	ATTCH_FILE_REF	Internal File Reference	No
F1_REQ_TYPE	OWNER_FLG	Owner	No
F1_REQ_TYPE_L	OWNER_FLG	Owner	No
F1_SIBSCH_TBLS_VW	SYSTEM_TBL_SW	System Table	No
	TBL_NAME	Table	No
CI_PORTAL	PORTAL_ROLE_FLG	Portal Role	Yes
CI_ZONE	ZONE_ROLE_FLG	Zone Role	Yes

D.1.5   Dropped Columns

None

D.1.6   Dropped Lookups

None

D.1.7   Column Format Change

None

D.2   New System Data

The system data is used to configure various features in Oracle Utilities Application Framework. This section lists the system data that is newly added in the Oracle Utilities Application Framework V25.4 database.

D.2.1   Algorithms

The following algorithms are newly added in the Oracle Utilities Application Framework V25.4 database:

Algorithm	Description
F1-BSBO	Determine Business Service BO
F1-BTCBO	Determine Batch Control BO
F1BTRINFO	Batch Run Information
F1-BTRUNBO	Determine Batch Run BO
F1CHKAPPRUSR	Check Request Approval User
F1CHKREQTBL	Orphan Records Request Validation
F1CLNSNAP	Clean Up Product Metric Snapshot
F1CONFSUB	Confirm Request Submission
F1CPMSNAP	Create Product Metric Snapshot
F1-DABO	Determine Data Area BO
F1DELBKUPS	Delete Backup Tables
F1DELCNFENT	Delete Configuration Entities Validation
F1DELCNFENTA	Delete Configuration Entities Algorithm
F1ENVSPEPREC	Allow Insert Only when Importing
F1EXTURLVAL	External URL Validation
F1-FCFGBO	Determine Feature Configuration BO
F1FCGVAL	Feature Configuration Validation
F1GETIWS	Select IWS for a Web Service Category
F1GETSPEC	Create an API Specification File
F1METSNPINFO	Product Metric Snapshot Information
F1MGDIMPCNL	Migration Data Set Import – Transition to Canceled
F1-MOBO	Determine Maintenance Object BO
F1MOTBLTREE	Maintenance Object Table Tree

Algorithm	Description
F1ORDREQPOST	Orphan Record Deletion – Post-Processing
F1PRVNTCM	Prevent CM Values
F1REQCHKCNT	Orphan Record Deletion – Check Record Counts
F1REQCLNUP	Create Cleanup Request
F1REQDELREC	Delete Orphan Records
F1REQSETFLG	Data Correction Request – Set Flags
F1REQTODO	Create Request Monitoring To Do
F1RQTBLINF	Orphan Data Cleanup Information
F1-SCRBO	Determine Script BO
F1-SUBRQN-SJ	Submit Request Deferred Monitor No Cache
F1-SUBRQ-SJ	Submit Request Deferred Monitor
F1-UIMAPBO	Determine UI Map BO

D.2.2 Algorithm Types

The following algorithm types are newly added in the Oracle Utilities Application Framework V25.4 database:

Algorithm Type	Description
F1ADDWARNTR	Add Warning on Transition
F1BTRINFO	Batch Run Information
F1CHKAPPRUSR	Check Request Approval User
F1CHKREQTBL	Orphan Records Request Validation
F1CLNSNAP	Clean Up Product Metric Snapshot
F1CPMSNAP	Create Product Metric Snapshot
F1DELBKUPS	Delete Backup Tables
F1DELCNFENT	Delete Configuration Entities Validation
F1DELCNFENTT	Delete Configuration Entities Algorithm Type
F1ENVSPEPREC	Allow Insert Only when Importing
F1EXTURLVAL	External URL Validation
F1FCGVAL	Feature Configuration Validation
F1GETIWS	Select IWS for a Web Service Category
F1GETSPEC	Create an API Specification File

Algorithm Type	Description
F1-MASKNBR	Number Masking
F1METSNPINFO	Product Metric Snapshot Information
F1MGDIMPCNL	Migration Data Set Import – Transition to Canceled
F1MOTBLTREE	Maintenance Object Table Tree
F1ORDREQPOST	Orphan Record Deletion – Post-Processing
F1PRVNTCM	Prevent CM Values
F1REQCHKCNT	Orphan Record Deletion – Check Record Counts
F1REQCLNUP	Create Cleanup Request
F1REQDELREC	Delete Orphan Records
F1REQSETFLG	Data Correction Request – Set Flags
F1REQTODO	Create Request Monitoring To Do
F1RQTBLINF	Orphan Data Cleanup Information

D.2.3 Zones

The following zones are newly added in the Oracle Utilities Application Framework V25.4 database:

Zone	Description
F1-ALGEALG	Algorithms
F1-ALGENTD	Algorithm Entity
F1-ALGENTS	Algorithm Entity Search
F1-ALGETYP	Algorithm Types
F1-FILINTRCS	Records Summary
F1-FILINTREC	File Integration Record
F1-FUNCSRH	Function Search
F1-LANGCNT	Count of Enabled Languages
F1-MGPLNQ2	Included Entities
F1-MODETAILS	Maintenance Object Additional Information
F1-MOERD	Entity Relationship Diagram
F1-MOREL	Maintenance Object Relationship Information
F1-MSTCFGRC	Related Configurations
F1-MTXOBJFL	Check finalized migration child records
F1-MYPFLOWS	My Process Flows

Zone	Description
F1-RELTDCMP	Related To Do Entries for Completion
F1-REQTYQ1	Request Type Information
F1-REQTYSRCH	Request Type Search
F1-SCRADINF	Script Additional Information
F1-SCRREF	Script References
F1-SDR-HCZ	Zones with Potential Hard-coded Labels
F1-TDDCTXT	Filters
F1-USERFAVS	Retrieve the User Favorites
F1ACTBLOS	Active Jobs with Batch Level Of Service
F1BOMNTTMP	###MODESCR
F1BSM	Business Service
F1BSREF	Business Service References
F1BSSE	Schema Editor
F1BSSETXT	Schema Editor
F1BTCALGS	Algorithms
F1BTCINGRP	Next Available Batch Control in Group
F1BTCOPTS	Options
F1BTCPRGS	Batch Program Search
F1BTCREF	Batch Control References
F1BTCTRLM	Batch Control
F1BTRCNCR	Concurrent Batch Runs
F1BTRFILES	Batch Run Files
F1BTRHSETM	Elapsed Time Histogram
F1BTRHSRCP	Volume Histogram
F1BTRHSRPS	Throughput Histogram
F1BTRHST	Previous 20 Runs
F1BTRJOBS	Batch Jobs
F1BTRPRM	Batch Parameters
F1BTRQ	Batch Run Search
F1BTRQ1	Batch Run Information
F1BTRTDES	Sample To Do Entries

Zone	Description
F1BTRTHDSUM	Batch Run Threads Summary
F1BTRTHMSG	Batch Instance Messages
F1BTRTHSUM	Threads Analysis
F1CFGDELMO	Entities to Delete
F1CFGDELQ	Configuration Selection
F1CFGDELSMO	Configuration Entity
F1CFGDELSUM	Configuration Summary
F1DAREF	Data Area References
F1DASE	Schema Editor
F1DASETXT	Schema Editor
F1DTARM	Data Area
F1EXTFKCST	Tables not in MO Referencing a Table
F1FCFGM	Feature Configuration
F1FCFGMSGS	External System Messages
F1FCFGOPTS	Options
F1HTMLED	HTML Editor
F1HTMLOED	HTML Override Editor
F1MFGACT	Master Configuration Actions
F1MGDIMS4	Non-Final Data Sets
F1MOALGS	Algorithms
F1MOBOS	Business Objects
F1MOM	Maintenance Object
F1MOOPTS	Options
F1MOREF	Maintenance Object References
F1MOTBLS	Tables Information
F1MOTBLTREE	Maintenance Object Table Tree Node
F1MSNAP	Product Metric Snapshot
F1MSNAPQ	Product Metric Snapshot Search
F1MSNAPQ1	Product Metric Snapshot Information
F1MTRCT	Product Metric Type
F1MTRCTQ	Product Metric Type Search

Zone	Description
F1MTRCTQ1	Code / Description
F1PATCHINST	Installation History Summary
F1PATCHLST	Maintenance Pack Details
F1PRGTMP	Program Component Search By Template
F1PRTLOPTS	Options
F1SCRDAS	Data Areas
F1SCRELIG	Script Eligibility
F1SCRM	Script
F1SCRQ3	Additional Information
F1SCRSE	Schema Editor
F1SCRSTEP	Step Details
F1SCRSTEPS	Steps
F1SDBCFG	Sidebar Configuration
F1SVCPRGS	Service Program Search
F1TBLFKCONST	Table Foreign Key Constraints
F1UIMAPM	UI Map
F1UIMPREF	UI Map References
F1UIMPSE	Schema Editor

D.2.4 Zone Types

None

D.2.5 New Zones in Existing Portals

The following zones are added to the existing portals in the Oracle Utilities Application Framework V25.4 database:

Portal	Zone	Zone Description
F1BTCHTH	F1BTRJOBS	Batch Jobs
	F1BTRPRM	Batch Parameters
	F1BTRUNM	Batch Run
F1CFGDEL	F1CFGDELQ	Configuration Selection
F1MSTCFG	F1-MSTCFGRC	Related Configurations

Portal	Zone	Zone Description
F1PRTL	F1PRTLOPTS	Options
F1TBLEXC	F1-SDR-HCZ	Zones with Potential Hard-coded Labels
F1TDDASH	F1-TDDCTXT	Filters

D.2.6 UI Maps

The following UI maps are newly added in the Oracle Utilities Application Framework V25.4 database:

UI Map	Description
F1-AttachURLdisp	Attachment URL Display
F1-AttachURLinp	Attachment URL Input
F1-BatchControlActions	Batch Control Actions
F1-BatchControlLOSDisp	Batch Control Level of Service
F1-BatchCtrlAlgsInp	Batch Control Algorithms Input
F1-BatchCtrlDisp	Batch Control Display
F1-BatchCtrlInp	Batch Control Input
F1-BatchCtrlParmsDisp	Batch Control Parameters Display
F1-BatchCtrlParmsInp	Batch Control Parameters Input
F1-BatchJobBatchControlInp	Batch Job Batch Control Input
F1-BatchRunActions	Batch Run Actions
F1-BatchRunChart	Batch Run Chart
F1-BatchRunDownloadLog	Batch Run Download Log File
F1-BatchRunStatus	Batch Run Status Display
F1-BatchSubmissionUser	Batch Submission User
F1-BOStatusTransitionRulesDisp	Business Object Next Statuses Display
F1-BusinessServiceActions	Business Service Record Actions
F1-BusSvcZoneDisp	Business Service Zone Display
F1-BusSvcZoneInp	Business Service Zone Input
F1-CnfEntitiesButtons	Delete Configuration Entities Buttons
F1-CnfEntitiesInput	CSV Configuration Entities Input
F1-ConfigurationDeleteFilter	Configuration Delete Filters
F1-ConfigurationDeleteMOFilter	Configuration Delete MO Filter
F1-ConfirmDownload	Attachment Download Confirmation Popup

UI Map	Description
F1CurToDo	Current To Do Zone
F1-DataCorrectionReqActions	Data Correction Request Actions
F1-DeletedEntitiesTable	Table used to display deleted entities
F1-DetailedDescriptionDispExp	Detailed Description in Expanded Section
F1-ExternalMetricNameDisplay	Display External Metric Name
F1fcfgTypeDisp	Feature Type Configuration Display
F1fcfgTypeInp	Feature Type Configuration Input
F1-FeatureCfgMsgs	Feature Configuration Messages
F1-FeatureConfigTypeInp	Feature Type Configuration Input
F1-FileIntRecActions	File Integration Record Actions
F1-GenTreeFrag	Generic Tree Fragment
F1-HijriDatesDisp	Hijri Dates - Display
F1-HTMLEditor	HTML Editor
F1-LaunchReleaseNotes	Launch Release Notes
F1-MaintObjAddlInfo	Maintenance Object Additional Information
F1-MaintObjMainAddlInfo	Maintenance Object Main Information
F1-MasterConfigurationActions	Master Configuration - Actions
F1-MetricValueDisplay	Display External Names and Metric Values
F1-MgrDataSetImpActions	Migration Data Set Import Actions
F1-MigrImpNonFinalSearchFilter	Migration Data Set Import - Non-Final Filters
F1-MOERD	Maintenance Object Relationships
F1-MyProcFlowsFilter	My Process Flows - Query Filter
F1-OptConfigFeatureInfo	Option Configuration - Feature Config Info
F1-PatchListFilter	Patch List Filters
F1-PatchSummaryFilter	Patch Summary Filters
F1-PKInfo	Primary Key Element Display
F1-PortalMODisp	Maintenance Portal Display
F1-PortalMOInput	Maintenance Portal Information
F1-ProductMetricSnapshotFilter	Product Metric Snapshot - Filter
F1-ReqQueryFilter	Request Query Filter
F1-ScrDAsInp	Script Data Areas Maintenance

UI Map	Description
F1-ScrEligDisp	Script Eligibility Display
F1-ScrEligInp	Script Eligibility Maintenance
F1-ScriptActions	Script Actions
F1-ScriptAlgTypeInfo	Script Algorithm Type Information
F1-ScriptRecordActions	Script Record Actions
F1-ScrMainInp	Script Main Elements Input
F1-ScrStepEditor	Script Step Editor
F1-ScrStepM	Script Step Maintenance
F1-ScrStepsEditor	Script Steps Editor
F1-ScrStepsM	Script Steps Maintenance
F1-ScrStepVW	Script Step Display
F1-ToDoAddLog	To Do Entry - Add Log Entry
F1ToDoDshCtxt	To Do Dashboard Context
F1-ViewPlugInHardParms	View Plug-in Spot Hard Parameters

D.2.7   Maintenance Objects

The following maintenance objects are newly in the Oracle Utilities Application Framework V25.4 database:

Maintenance Object	Description
F1-PRDMTRSNP	Product Metric Snapshot
F1-PRDMTRTYP	Product Metric Type

D.2.8   To Do Types

The following To Do types are newly added in the Oracle Utilities Application Framework V25.4 database:

To Do Type	Description
F1-RQERR	Request Error Notification
F1-RQMON	Request Monitoring Notification

D.2.9 Business Services

The following business services are newly added in the Oracle Utilities Application Framework V25.4 database:

Business Service	Description
F1ACTBLOS	Active Jobs with Batch Level Of Service
F1-BatchProgramSearch	Batch Program Search
F1-BatchRunUpdate	Batch Run Update
F1BTCHTHSTS	Threads by Status
F1BTCINGRP	Next Available Batch Control in Group
F1-BtcProgInfo	Batch Control Program Information
F1-CountRecords	Count Records
F1CURTODO	Current To Do Entry Zone
F1EXTFKCST	Tables not in MO Referencing a Table
F1-LANGCNT	Count of Enabled Languages
F1-MODETAILS	Maintenance Object Additional Information
F1-MOREL	Maintenance Object Relationship Information
F1MOTBLTREE	Maintenance Object Table Tree Node
F1-MTXOBJFL	Check finalized migration child records
F1-PortalVisibilityOptions	Retrieve Portal Visibility Options
F1-PortalVisibilityOptionss	Do not use
F1-RELTDCMP	Related To Do Entries for Completion
F1-RenumberScriptSteps	Renumber Script Steps
F1-RetrieveBatchOption	Retrieve Batch Option Value(s)
F1-SCRADINF	Script Additional Information
F1SDBCFG	Sidebar Configuration
F1-SelectOrphanRecordsSQL	Create Orphan Record SQL
F1TBLFKCONST	Table Foreign Key Constraints
F1-USERFAVS	Retrieve the User Favorites

D.2.10 Portals

The following portals are newly added in the Oracle Utilities Application Framework V25.4 database:

Portal	Description
F1ALGENQ	Algorithm Entity Query
F1ALGENT	Algorithm Entity
F1BSREF	Business Service References
F1BSSCH	Business Service Schema
F1BTCALG	Batch Control Algorithms
F1BTCOPT	Batch Control Options
F1BTCREF	Batch Control References
F1BTCTRL	Batch Control
F1BTRERR	Batch Run Errors
F1BTRFIL	Batch Run Files
F1BTRHST	Batch Run History
F1BTRQ	Batch Run Query
F1BTRTHA	Batch Run Threads Analysis
F1BTRTHS	Batch Run Threads
F1BUSSVC	Business Service
F1CFGDEL	Configuration Deletion
F1DTAR	Data Area
F1DTARRF	Data Area References
F1DTARSCH	Data Area Schema
F1FCFG	Feature Configuration
F1FLINRC	File Integration Record
F1MO	Maintenance Object
F1MOALG	Maintenance Object Algorithms
F1MOBOS	Maintenance Object Business Objects
F1MOOPT	Maintenance Object Options
F1MOREF	Maintenance Object References
F1MOREL	Maintenance Object Relationship

Portal	Description
F1MSNAP	Product Metric Snapshot
F1MSNAPQ	Product Metric Snapshot Query
F1MSTQRY	Master Configuration Query
F1MTRCT	Product Metric Type
F1MTRCTQ	Product Metric Type Query
F1REQL	Request Log
F1REQTYPL	Request Type Log
F1REQTYQ	Request Type Query
F1SCRDA	Script Data Areas
F1SCRELG	Script Eligibility
F1SCRIPT	Script
F1SCRREF	Script References
F1SCRSCH	Script Schema
F1SDBMAIN	Sidebar - Main
F1SDBPREF	Sidebar - Favorites
F1SDBTOOL	Sidebar - Tools
F1UIMAP	UI Map
F1UIMREF	UI Map References
F1UIMSCH	UI Map Schema
F1WHATSN	What's New

D.2.11 Business Objects

The following business objects are newly added in the Oracle Utilities Application Framework V25.4 database:

Business Object	Description
F1-BackupTableCleanup	Backup Table Cleanup
F1-BackupTableCleanupType	Backup Table Cleanup Type
F1-BatchCtrl	Batch Control
F1-BatchGeneralParameter	Batch General Parameter
F1-BatchRunLite	Batch Run - Main Details
F1-BatchTemplate	Batch Template

Business Object	Description
F1-BusinessService	Business Service
F1-DataArea	Data Area
F1-DataCorrectionRoot	Data Correction Request Root
F1-DELCFG	Delete Configuration Entities
F1-DeleteConfigEntities	Delete Configuration Entities
F1-ExternalUrl	External URL
F1-FeatureConfigType	Feature Type Configuration
F1-FeatureConfiguration	Feature Configuration
F1-MaintenanceObject	Maintenance Object
F1-OrphanRecDelType	Orphan Record Deletion Type
F1-OrphanRecordDeletion	Orphan Record Deletion
F1-PatchComponent	Patch Component
F1-ProductMetricSnapshotRoot	Product Metric Snapshot Root
F1-ProductMetricType	Product Metric Type
F1-ProductMetricTypePhysicalBO	Physical BO for Product Metric Type
F1-RequestPhysicalBO	Physical BO for Request
F1-Script	Script
F1-ScriptFunction	Script Function
F1-SidebarConfig	Sidebar Configuration
F1-UIMap	UI Map

D.2.12 Lookups

The following lookups are newly added in the Oracle Utilities Application Framework V25.4 database:

Field	Field Value	Description
ATTCH_CONT_LOC_FLG	F1IN	Internal
	F1OS	Object Storage
	F1UL	External URL
ATTCH_DATA_USAGE_FLG	F1UD	Upload File Details
BASE_BATCH_FLG	F1IN	Internal
BATCH_CTRL_OPT_FLG	F1BG	Batch Group
DATAEXP_MO_OPT_FLG	F1GE	Generalized Export

Field	Field Value	Description
	F1NO	Not Allowed
	F1SE	Specialized Export
MSTCFG_QRY_FLG	N	No
	Y	Yes
PORTAL_ROLE_FLG	AIO	All-in-one
	DASH	Dashboard
	MNT	Maintenance
	QRY	Query
	SDMI	More Information Sidebar
	SDMN	Main Sidebar
UI_VIEW_FLG	CMP	Compact
	STD	Standard
ZONE_ROLE_FLG	AIO	All-in-one List
	LOG	Entity Log
	MNT	Entity Maintenance

D.2.13 Foreign Key References

The following foreign key references are newly added in the Oracle Utilities Application Framework V25.4 database:

Foreign Key Reference	Description
F1BTRUN	Batch Run
F1METRIC	Product Metric Type
F1METSNP	Product Metric Snapshot

D.2.14 Batch Controls

The following batch controls are newly added in the Oracle Utilities Application Framework V25.4 database:

Batch Control	Description
F1-APIEX	Generate API Specifications
F1-FLENC	Field Encryption for a Maintenance Object
F1FSPLIT	File Split Template

Batch Control	Description
F1-ILMCR	ILM Crawler Template
F1-PMTRC	Product Metric Type Monitor
F1SUBRQN	Request Monitor (Deferred No Cache)

D.2.15 Application Services

The following application services are newly added in the Oracle Utilities Application Framework V25.4 database:

Application Service	Description
F1ACCLOG	Show Access Logs (Debugging Tool)
F1ALGENQ	Algorithm Entity Query Portal
F1ALGENT	Algorithm Entity Portal
F1-APIEX	Generate API Specifications
F1BTCTRL	Batch Control Portal
F1BTRQ	Batch Run Query Portal
F1BUSSVC	Business Service Portal
F1CFGDEL	Configuration Deletion Portal
F1CFGDEL-REQBO	Delete Configuration Entities
F1-DATACORRECTIONRBO	Data Correction Request BO
F1DTAR	Data Area Portal
F1FCFG	Feature Configuration Portal
F1-FLENC	Field Encryption for a Maintenance Object
F1FLINRC	File Integration Record Portal
F1MO	Maintenance Object Portal
F1MSNAP	Product Metric Snapshot Portal
F1MSNAPQ	Product Metric Snapshot Query Portal
F1MSTQRY	Master Configuration Query Portal
F1MTRCT	Product Metric Type Portal
F1MTRCTQ	Product Metric Type Query Portal
F1-PMTRC	Product Metric Type Monitor
F1-PRDMTRCSNPSHT	Product Metric Snapshot MO
F1-PRDMTRCTYPE	Product Metric Type MO

Application Service	Description
F1-RELNOTE	Release Notes
F1REQTYQ	Request Type Query Portal
F1SCRIPT	Script Portal
F1SCRTEST	Test a Service
F1UIMAP	UI Map Portal
F1WHATSN	What's New Portal

D.2.16 Characteristic Types

The following characteristic types are newly added in the Oracle Utilities Application Framework V25.4 database:

Characteristic Type	Description
F1ENCAL	Attachment Encryption Algorithm
F1-FKREF	Foreign Key Reference
F1-PRDID	Product ID
F1PRTL	Portal

D.2.17 Scripts

The following scripts are newly added in the Oracle Utilities Application Framework V25.4 database:

Script	Description
F1ReqTyFV	Request - Filter Validation
F1_DelCnfEnt	Delete Configuration Entities
F1_DelCnfVal	Delete Configuration Entities Validation
F1_DlCnfEntD	Delete Configuration Entities Display
F1ADDWARNTR	Add Warning on Transition
F1AlgEntDisp	Algorithm Entity Details Display
F1AttchShare	Share Attachment Details
F1BsGenSchem	Generate Business Service Schema
F1BsM	Business Service Maintenance
F1btcAct	Batch Control Actions
F1btcActSS	Batch Control Actions
F1btcAlgent	Batch Control Algorithm Entities

Script	Description
F1btcDispDet	Batch Control Template Display Details
F1BtchLOS	Batch Level of Service
F1BtchPrg	Batch Program Search
F1BtcOpt	Batch Control Options Maintenance
F1BtcTmplD	Batch Template - Display
F1btctrlD	Batch Control - Display
F1BtctrlM	Batch Control Maintenance
F1btctrlP	Batch Control - UI Pre-processing
F1btctrlT	Batch Control - UI Post-processing
F1BTRAct	Batch Run Actions
F1BtrActVis	Batch Run Actions Visibility
F1BtrCtxSet	Set portal context
F1BtrInfo	Batch Run Information
F1BtrLogs	Get batch run and thread logs
F1BusSvcD	Business Service - Display
F1BusSvcP	Business Service - UI Pre-processing
F1BusSvcT	Business Service - UI Post-processing
F1CfgDelAct	Configuration Deletion Actions
F1CfgDelActS	Configuration Deletion Actions
F1CondButton	Render button conditionally
F1CondTab	Set Conditional checkbox indication for Portal Tabs zone
F1CPMSNAP	Create Product Metric Snapshot
F1CtxSet	Set portal context
F1CurToDo	Current To Do Zone
F1CurToDoAct	Current To Do Zone Actions
F1DataAreaD	Data Area - Display
F1DataAreaM	Data Area Maintenance
F1DataAreaP	Data Area - UI Pre-processing
F1DataAreaPT	Data Area - UI Post-processing
F1ENVSPEPREC	Allow Insert Only when Importing
F1EXTURLVAL	External URL Validation

Script	Description
F1fcfgAct	Feature Configuration Maintenance Actions
F1fcfgD	Feature Configuration - Display
F1fcfgM	Feature Configuration - Maintenance
F1fcfgMsg	Feature Configuration Messages Maintenance
F1fcfgMsgVis	Feature Configuration Messages Visibility
F1fcfgP	Feature Configuration - UI Pre-processing
F1fcfgT	Feature Configuration - UI Post-processing
F1fcfgTypeD	Feature Type Configuration - Display
F1fcfgTypeP	Feature Type Configuration - UI Pre-processing
F1FCGVAL	Feature Configuration Validation
F1GenMnt	Generate Portal Maintenance Artifacts
F1GETIWS	Select IWS for a Web Service Category
F1GETSPEC	Create an API Specification File
F1HTMLEditor	HTML Editor
F1LangCount	Switch Language - Visibility
F1LRelNote	Launch Release Notes
F1MaintObjM	Maintenance Object Maintenance
F1MdsPCnl	Migration Data Set - Transition to Pending Cancel
F1MdsPCnlSS	Migration Data Set - Transition to Pending Cancel
F1METSNPINFO	Product Metric Snapshot Information
F1MGDIMPCNL	Migration Data Set Import - Transition to Canceled
F1MigrExport	Migration Data Set Export Services
F1MigrImport	Migration Data Set Import Services
F1MOAct	Maintenance Object Actions
F1MOActSS	Maintenance Object Actions
F1MOBPATmp	###MODESCR - Maintenance
F1MoD	Maintenance Object - Display
F1MOERD	Maintenance Object Relationships
F1MOOpt	MO Options Maintenance
F1MoP	Maintenance Object - UI Pre-processing
F1MoT	Maintenance Object - UI Post-processing

Script	Description
F1MoTblTree	Maintenance Object Table Tree
F1ORDREQDISP	Orphan Record Deletion - Display
F1ORDREQPOST	Orphan Record Deletion - Post-Processing
F1PMSDisp	Product Metric Snapshot Display
F1PMTDisp	Product Metric Type Display
F1PrdMtrTypM	Product Metric Type - Maintain
F1ProcFlM	Process Flow Actions
F1ProcFlSS	Process Flow Actions
F1PrtlMOInf	Maintenance Portal UI Configuration
F1PRVNTCM	Prevent CM Values
F1RBckCupD	Backup Table Cleanup - Display
F1RelCfgVis	Related Configuration - Zone Visibility
F1RelNoteVis	Release Notes Link - Visibility
F1REQCHKCNT	Orphan Record Deletion - Check Record Counts
F1ReqPrvwAct	Request - Preview Action
F1REQSETFLG	Data Correction Request - Set Flags
F1REQTODO	Create Request Monitoring To Do
F1RequestM	Request - Maintain
F1RQTBLINF	Orphan Data Cleanup Information
F1ScrActVis	Script Actions Visibility
F1ScrDAs	Script Data Areas Maintenance
F1ScrElig	Script Eligibility
F1ScriptD	Script - Display
F1ScriptM	Script Maintenance
F1ScriptP	Script - UI Pre-processing
F1ScriptPT	Script - UI Post-processing
F1ScrStepAct	Script Actions
F1ScrStepInf	Script Step Information
F1ScrStepM	Script Step Maintenance
F1ScrStepsM	Script Steps Maintenance
F1ScrTest	Test a Service

Script	Description
F1ScrStepUI	Script Step Maintenance UI Information
F1ScrStepVW	Script Step Display
F1SDBCFG	Sidebar Configuration
F1SvcTskM	Service Task Maintenance
F1ToDoCmpRel	Complete Related To Do Entries
F1ToDoDshCtx	To Do Dashboard Context
F1UIMapD	UI Map - Display
F1UIMapM	UI Map - Maintenance
F1UIMapP	UI Map - UI Pre-processing
F1UIMapT	UI Map - UI Post-processing

Appendix E : Oracle   Utilities   Application Framework System Table Guide

This section lists the system tables owned by Oracle Utilities Application Framework V25.4 and explains the data standards of the system tables. The data standards are required for the installation of Oracle Utilities Application Framework, development within Oracle Utilities Application Framework, and for the configuration and customization of Oracle Revenue Management and Billing. Adhering to the data standards is a prerequisite for seamless upgrade to future releases.

This section contains the following topics:

- About the Application Framework System Tables
- System Table Standards
- Guidelines for System Table Updates
- System Table List

E.1   About the Application Framework System Tables

System tables are a subset of the tables that must be populated at the time of installation of the product. They include metadata and configuration tables. The data stored in the system tables are the information that Oracle Utilities Application Framework product operations are based on.

As the product adds more functionality, the list of system tables can grow. The complete list of the system tables can be found in the System Table List section.

E.2   System Table Standards

System table standards must be observed for the following reasons:

- The product installation and upgrade process and customer modification data extract processes depend on the data prefix and owner flag values to determine the system data owned by each product.
- The standards ensure that there will be no data conflict in the product being developed and the future Oracle Utilities Application Framework release.
- The standards also ensure that there will be no data conflict between customer modifications and future Oracle Utilities product releases.
- The data prefix is used to prevent the test data from being released to production.

Note: All test data added to the system data tables must be prefixed by ZZ (all upper case) for the installation and upgrade utility to recognize them as test data.

E.3 Guidelines for System Table Updates

This section describes guidelines for updating the system tables. It contains the following topics:

- Business Configuration Tables
- Development and Implementation System Tables

E.3.1 Business Configuration Tables

Most data in the tables in this group belongs to the customer. But these tables are shipped with some initial data for the customer to login to the system and begin configuring the product. Unless specified otherwise, the initial data is maintained by Oracle Utilities Application Framework and subject to subsequent upgrade.

E.3.1.1 Application Security and User Profile

These tables define the access rights of a User Group to Application Services and Application Users.

Properties	Description
Tables	SC_ACCESS_CNTL, SC USER, SC_USR_GRP_PROF, SC_USR_GRP_USR, SC_USER_GROUP, SC_USER_GROUP_L
Initial Data	User Group `ALL SERVICES` and default system user `SYSUSER`. Upon installation the system default User Group `ALL SERVICES` is given unrestricted accesses to all services defined in Oracle Utilities Application Framework.

Note: When a new service is added to the system, all actions defined for the service must be made available to the User Group `ALL SERVICES`.

E.3.1.2 Currency Code

The ISO 4217 three-letter codes are taken as the standard code for the representation of the currency.

Properties	Description
Tables	CI_CURRENCY_CD, CI_CURRENCY_CD_L
Initial Data	**United States Dollar** (USD).

E.3.1.3 Display Profile

The Display Profile Code is referenced in the User (SC_USER) table.

Properties	Description
Tables	CI_DISP_PROF, CI_DISP_PROF_L
Initial Data	**North America** (NORTHAM), **HIJRI Format** (HIJRI) and **Europe** (EURO).

Note: To use HIJRI Format display profile, additional configuration is needed to define the mappings between Hijri and Gregorian dates. See the Display Profile documentation for more information.

E.3.1.4   Installation Options

Installation option has only one row that is shipped with the initial installation of Oracle Utilities Application Framework. The columns that can be updated in these tables have customer data and will not be overridden by the upgrade process unless a special script is written and included in the upgrade process.

Properties	Description
Tables	F1_INSTALLATION, CI_INSTALL_ALG, CI_INSTALL_MSG, CI_INSTALL_MSG_L, CI_INSTALL_PROD
Initial Data	Option 11111

Note: The system data owner of an environment is defined in the Installation Option. This Owner Flag value is stamped on all system data that is added to this environment. The installation default value is Customer Modification (CM). This value must be changed in the base product development environments.

E.3.1.5   Language Code

Language code must be a valid code defined in ISO 639-2 Alpha-3. Adding a new language code to the table without translating all language dependent objects in the system can cause errors when a user chooses the language.

Properties	Description
Tables	CI_LANGUAGE
Initial Data	**English** (ENG)

E.3.1.6   Time Zone

The installation options require a valid time zone. A value for UTC (Coordinated Universal Time) is provided. Implementations should define the appropriate time zone and update the installation option value accordingly.

Properties	Description
Tables	CI_TIME_ZONE, CI_TIME_ZONE_L
Initial Data	**UTC**

E.3.1.7 To Do Role

New To Do Types released will be linked to the default To Do Role and set to the product assigned priority value initially. These initial settings can be overridden by the implementation.

Properties	Description
Tables	CI_ROLE(L), CI_TD_VAL_ROLE
Initial Data	**F1_DFLT**

E.3.2 Development and Implementation System Tables

This section defines the standards for the system tables that contain data for application development. The data in these tables implement business logic and UI functions shared by various products and product extensions in the same database.

E.3.2.1 Standards

When adding a new data, the owner flag value of the environment must prefix certain fields of these tables. For example, when a developer adds a new algorithm type to an Oracle Revenue Management and Billing environment, C1 should prefix the new Algorithm Type code. The fields that are subject to this rule are listed in Standard Data Fields property.

The data that is already in these tables cannot be modified if the data owner is different than the environment owner. This prevents the developers from accidentally modifying system data that belongs to Oracle Utilities Application Framework or Oracle Revenue Management and Billing. However, some fields are exempt from this rule and can be modified by Customer Modification. These fields are listed in the Customer Modification Fields property.

Note that when upgrading, if the system finds a record in the target environment with a primary key that matches system data, the record will be updated with the system data. For example, if an implementation adds an option to the MO table (CI_MD_MO_OPT) and subsequently, the product releases that same option configuration, the product's row overrides the CM row, "taking ownership".

E.3.2.2 Algorithm Type

Properties	Description
Tables	CI_ALG_TYPE, CI_ALG_TYPE_L, CI_ALG_TYPE_PRM, CI_ALG_TYPE_PRM_L
Standard Data Fields	**Algorithm Type** (ALG_TYPE_CD)
Customer Modification	None

E.3.2.3   Algorithm

Properties	Description
Tables	CI_ALG, CI_ALG_L, CI_ALG_PARM, CI_ALG_VER
Standard Data Fields	**Algorithm** (ALG_CD)
Customer Modification	None

E.3.2.4   Application Security

Properties	Description
Tables	SC_APP_SERVICE, SC_APP_SERVICE_L, CI_APP_SVC_ACC
Standard Data Fields	**Application Service ID** (APP_SVC_ID)
Customer Modification	None

E.3.2.5   Batch Control

Properties	Description
Tables	CI_BATCH_CTRL, CI_BATCH_CTRL_L, CI_BATCH_CTRL_P, CI_BATCH_CTRL_P_L
Standard Data Fields	**Batch Process** (BATCH_CD), **Program Name** (PROGRAM_NAME)
Customer Modification	• **Next Batch Number** (NEXT_BATCH_NBR), **Last Update Instance** (LAST_UPDATE_INST), **Last Update Date time** (LAST_UPDATE_DTTM) and the batch process update these columns. • **Time Interval** (TIMER_INTERVAL), **Thread Count** (BATCH_THREAD_CNT), **Maximum Commit Records** (MAX_COMMIT_RECS), **User** (USER_ID), **Language** (LANGUAGE_CD), **Email Address** (EMAILID), **Start Program Debug Tracing** (TRC_PGM_STRT_SW), **End Program Debug Trace** (TRC_PGM_END_SW), **SQL Debug Tracing** (TRC_SQL_SW) and **Standard Debug Tracing** (TRC_STD_SW) on CI_BATCH_CTRL Table. • **Batch Parameter Value** (BATCH_PARM_VAL) and **Security flag** (TEXT_SECURITY_FLG) on Batch Control Parameters Table (CI_BATCH_CTRL_P)

E.3.2.6   Business Object

Properties	Description
Tables	F1_BUS_OBJ, F1_BUS_OBJ_L, F1_BUS_OBJ_ALG, F1_BUS_OBJ_OPT, F1_BUS_OBJ_STATUS, F1_BUS_OBJ_STATUS_L, F1_BUS_OBJ_STATUS_ALG, F1_BUS_OBJ_STATUS_OPT, F1_BUS_OBJ_STATUS_RSN, F1_BUS_OBJ_STATUS_RSN_L, F1_BUS_OBJ_STATUS_RSN_CHAR, F1_BUS_OBJ_TR_RULE, F1_BUS_OBJ_TR_RULE_L
Standard Data Fields	**Business Object** (BUS_OBJ_CD), **Status Reason** (BO_STATUS_REASON_CD)
Customer Modification	**Batch Control** (BATCH_CD), **Alert** (BO_ALERT_FLG), **Sequence** (SORT_SEQ5), **Status Reason** (STATUS_REASON_FLG) fields on Business Object Status Table (F1_BUS_OBJ_STATUS). **Instance Control** (INSTANCE_CTRL_FLG), **Application Service** (APP_SVC_ID) on Business Object Table (F1_BUS_OBJ). **Status Reason Selection** (STATUS_REASON_SELECT_FLG) on Status Reason Table (F1_BUS_OBJ_STATUS_RSN).

E.3.2.7   Business Service

Properties	Description
Tables	F1_BUS_SVC, F1_BUS_SVC_L
Standard Data Fields	**Business Service** (BUS_SVC_CD)
Customer Modification	**Application Service** (APP_SVC_ID)

E.3.2.8   Characteristics

Properties	Description
Tables	CI_CHAR_TYPE, CI_CHAR_TYPE_L, CI_CHAR_ENTITY, CI_CHAR_VAL, CI_CHAR_VAL_L
Standard Data Fields	**Characteristic Type** (CHAR_TYPE_CD), **Characteristic Value** (CHAR_VAL) on CI_CHAR_VAL **Note:** If the characteristic type is customizable, the customer can insert a new characteristic value. CM must be prefixed when the implementation team introduces a new characteristic value.
Customer Modification	**Adhoc Characteristic Value Validation Rule** (ADHOC_VAL_ALG_CD), **Allow Search by Characteristic Value** (SEARCH_FLG)

E.3.2.9   Content Migration Assistant

Properties	Description
Tables	F1_MIGR_PLAN, F1_MIGR_PLAN_L, F1_MIGR_PLAN_INSTR, F1_MIGR_PLAN_INSTR_L, F1_MIGR_PLAN_INSTR_ALG, F1_MIGR_REQ, F1_MIGR_REQ_L, F1_MIGR_REQ_INSTR, F1_MIGR_REQ_INST_R_L, F1_MIGR_REQ_INSTR_ENTITY, F1_MIGR_REQ_INCL_REQ
Standard Data Fields	**Migration Plan Code** (MIGR_PLAN_CD), **Migration Request Code** (MIGR_REQ_CD)
Customer Modification	None

E.3.2.10   Data Area

Properties	Description
Tables	F1_DATA_AREA, F1_DATA_AREA_L
Standard Data Fields	**Data Area Code** (DATA_AREA_CD)
Customer Modification	None

E.3.2.11   Data Export Control

Properties	Description
Tables	F1_DATA_EXPORT_CTRL, F1_DATA_EXPORT_CTRL_LOG, F1_DATA_EXPORT_CTRL_LOG_PARM
Standard Data Fields	**F1_DATA_EXPORT_CTRL** (DATA_EXPORT_CD)
Customer Modification	None

E.3.2.12   Display Icon

Properties	Description
Tables	CI_DISP_ICON, CI_DISP_ICON_L
Standard Data Fields	**Display Icon Code** (DISP_ICON_CD)
Customer Modification	None

E.3.2.13   Extendable Lookup

Properties	Description
Tables	F1_EXT_LOOKUP_VAL,F1_EXT_LOOKUP_VAL_L, F1_EXT_LOOKUP_VAL_CHAR

Properties	Description
Standard Data Fields	**Business Object** (BUS_OBJ_CD), **Extendable Lookup Value** (F1_EXT_LOOKUP_VALUE)
Customer Modification	• **Business Object Data Area** (BO_DATA_AREA) • **Override Description** (DESCR_OVRD) on Extendable Lookup Field Value Language Table (F1_EXT_LOOKUP_VAL_L)

E.3.2.14   File Integration

Properties	Description
Tables	F1_FILE_INT_REC, F1_FILE_INT_REC_L, F1_FILE_INT_REC_ALG, F1_FILE_INT_TYPE, F1_FILE_INT_TYPE_L
Standard Data Fields	**File Integration Record** (FILE_INT_REC_CD), **File Integration Type** (FILE_INT_TYPE_CD)
Customer Modification	None

E.3.2.15   Foreign Key Reference

Properties	Description
Tables	CI_FK_REF, CI_FK_REF_L
Standard Data Fields	**FK Reference Code** (FK_REF_CD)
Customer Modification	**Info Program Name** (INFO_PRG), **Zone** (ZONE_CD)

E.3.2.16   Inbound Web Service

Properties	Description
Tables	F1_IWS_SVC_L, F1_IWS_SVC, F1_IWS_SVC_OPER_L, F1_IWS_SVC_OPER, F1_IWS_SVC_OPER_PARM, F1_IWS_ANN_L, F1_IWS_ANN_PARM, F1_IWS_ANN, F1_IWS_ANN_TYPE_L, F1_IWS_ANN_TYPE, F1_IWS_ANN_TYPE_PARM, F1_IWS_ANN_TYPE_PARM_L
Standard Data Fields	**Webservice Name** (IN_SVC_NAME), **Annotation** (ANN_CD), **Annotation Type** (ANN_TYPE_CD)
Customer Modification	**Debug** (DEBUG_SW), **Active** (ACTIVE_SW), **Trace** (TRACE_SW), **Request XSL** (REQUEST_XSL), **Response XSL** (RESPONSE_XSL)

E.3.2.17   Key Ring

Properties	Description
Tables	F1_CRYPTO_KEY_RING, F1_CRYPTO_KEY_RING_L
Standard Data Fields	**Key Ring** (KEY_RING_CD)

Properties	Description
Customer Modification	None

E.3.2.18 Lookup

Properties	Description
Tables	CI_LOOKUP_FIELD, CI_LOOKUP_VAL, CI_LOOKUP_VAL_L
Standard Data Fields	**Field Name** (FIELD_NAME) • A lookup field name must have corresponding field metadata. The name of the lookup field column must be assigned to avoid conflicts among different products. If you follow the standards for database field names, a Customer Modification lookup field name will be automatically Customer Modification prefixed. **Field Value** (FIELD_VALUE) • If a lookup field is customizable, Customer Modification can insert new lookup values. X or Y must prefix when implementers introduce a new lookup value. • Product development may add lookup values to Oracle Utilities Application Framework owned lookup field's value. When extended new value is added, the Owner Flag is used to prefix the value. For example, when the Oracle Revenue Management and Billing product adds a new value to the algorithm entity flag (ALG_ENTITY_FLG), it is prefixed with C1.
Customer Modification	**Override Description** (DESCR_OVRD) on Lookup Field Value Language Table (CI_LOOKUP_VAL_L)

E.3.2.19 Map

Properties	Description
Tables	F1_MAP, F1_MAP_L
Standard Data Fields	**UI Map** (MAP_CD)
Customer Modification	None

E.3.2.20 Managed Content

Properties	Description
Tables	F1_MANAG_CONTENT, F1_MANAG_CONTENT_L
Standard Data Fields	**Managed Content** (MANAG_CONTENT_CD)
Customer Modification	None

E.3.2.21   Market Configuration

Properties	Description
Tables	F1_MKTCFG
Standard Data Fields	**Market Configuration Code** (MKTCFG_CD)
Customer Modification	None

E.3.2.22   Messages

Properties	Description
Tables	CI_MSG_CATEGORY, CI_MSG_CATEGORY_L, CI_MSG, CI_MSG_L
Standard Data Fields	**Message Category** (MESSAGE_CAT_NBR) • Messages are grouped in categories and each category has message numbers between 1 and 99999. A range of message categories is assigned to a product. An implementation may only use categories assigned for customization use. • Implementer Message Categories are 80000 and 90000 • Reserved for Tests – 99999 **Message Number** (MESSAGE_NBR) for message categories • Message numbers below 1000 are reserved for common messages. Implementers must not use message numbers below 1000. **Message Number** (MESSAGE_NBR) for Java message categories • Subsystem Standard Messages - 00001 thru 02000 • Reserved - 02001 thru 09999 • Published Messages - 10001 thru 11000 • Package Messages - 10001 thru 90000 • Reserved - 90001 thru 99999 • Each package is allocated 100 message numbers, each starting from 101. • Published Messages are messages that are special-interest messages that implementations need to know about and are therefore published in the user docs. Examples of these include messages that are highly likely to be changed for an implementation or messages that are embedded into other texts/messages and therefore the message number is never shown. • Reserved message number ranges are for future use and therefore must not be used by all products.

Properties	Description
Customer Modification	**Override Description** (DESCRLONG_OVRD), **Message Text Override** (MESSAGE_TEXT_OVRD)

E.3.2.23   Meta Data - BI

Properties	Description
Tables	F1_MD_BI_TBL, F1_MD_BI_TBL_L, F1_MD_BI_TBL_FLD
Standard Data Fields	**Table Name** (BI_TBL_NAME)
Customer Modification	None

E.3.2.24   Metadata - Table and Field

Properties	Description
Tables	CI_MD_TBL, CI_MD_TBL_FLD, CI_MD_TBL_L, CI_MD_TBL_FLD_L, CI_MD_FLD, CI_MD_FLD_L, CI_MD_IDX, CI_MD_IDX_FLD, F1_DB_OBJECTS_REPO
Standard Data Fields	**Table Name (TBL_NAME)** • Table names must match with the physical table name or view name in the database. **Field Name (FLD_NAME)** • Field name must match with the physical column name in the database unless the field is a work field. Field name does not have to follow the prefixing standard unless the field is a work field or customer modification field. **Index Code (IDX_CD)** • Index name must match the physical index name in the database. **Note:** F1_DB_OBJECTS_REPO table stores information about Indexes, Sequences, Triggers, and other database objects excluding Tables, Fields, and Indexes (as they are already stored in the other Metadata tables).
Customer Modification	• **Audit Switches** (AUDIT_INSERT_SW, AUDIT_UPDATE_SW, AUDIT_DELETE_SW), **Override label** (OVRD_LABEL) on MD Table Field Table (CI_MD_TBL_FLD). • **Audit Program Name** (AUDIT_PGM_NAME), **Audit Table Name** (AUDIT_TBL_NAME), **Audit Program Type** (AUDIT_PGM_TYPE_FLG), **Key Validation** (KEY_VALIDATION_FLG) and **Caching Strategy** (CACHE_FLG) on MD Table (CI_MD_TBL). • **Override Label** (OVRD_LABEL) and **Customer Specific Description** (DESCRLONG_OVRD) on Field Table.

E.3.2.25   Metadata – Constraints

Properties	Description
Tables	CI_MD_CONST, CI_MD_CONST_FLD

Standard Data Fields	**Constraint ID** (CONST_ID)
	• Index Name for Primary Constraints
	• <Index Name>Rnn for Foreign Key Constraints Where,
	    ○ nn: integer
	    ○ 01 through 99

Customer Modification	None

E.3.2.26   Metadata - Menu

Menus can be extended to support multiple products by adding a new menu line to an existing menu. The sequence number on the menu line language table (CI_MD_MENU_LINE_L) determines the order the menu lines appear. Within the same sequence, alphabetic sorting is used.

Properties	Description
Tables	CI_MD_MENU, CI_MD_MENU_L, CI_MD_MENU_ITEM, CI_MD_MENU_ITEM_L, CI_MD_MENU_LINE, CI_MD_MENU_LINE_L
Standard Data Fields	**Menu Name** (MENU_NAME), **Menu Item ID** (MENU_ITEM_ID), **Menu Line ID** (MENU_LINE_ID)
Customer Modification	**Override Label** (OVRD_LABEL) on Menu Line Language Table (CI_MD_MENU_LINE_L)

E.3.2.27   Metadata - Program, Location and Services

Properties	Description
Tables	CI_MD_PRG_COM, CI_MD_PRG_LOC, CI_MD_SVC, CI_MD_SVC_L, CI_MD_SVC_PRG, CI_MD_PRG_ MOD, CI_MD_PRG_EL_AT, CI_MD_PRG_ELEM, CI_MD_PRG_SEC, CI_MD_PRG_SQL, CI_MD_PRG_VAR, CI_MD_PRG_TAB
Standard Data Fields	**Program Component ID** (PROG_COM_ID), **Location ID** (LOC_ID), **Program Component Name** (PROG_COM_NAME), **Service Name** (SVC_NAME), **Navigation Key** (NAVIGATION_KEY)
Customer Modification	**User Exit Program Name** (USER_EXIT_PGM_NAME) on Program Components Table (CI_MD_PRG_COM)

E.3.2.28 Metadata - Maintenance Object

Properties	Description
Tables	CI_MD_MO, CI_MD_MO_L, CI_MD_MO_TBL, CI_MD_MO_OPT, CI_MD_MO_ALG
Standard Data Fields	**Maintenance Object** (MAINT_OBJ_CD)
Customer Modification	None

E.3.2.29 Metadata - Work Tables

Properties	Description
Tables	CI_MD_WRK_TBL, CI_MD_WRK_TBL_L, CI_MD_WRK_TBLFLD, CI_MD_MO_WRK
Standard Data Fields	**Work Table Name** (WRK_TBL_NAME)
Customer Modification	None

E.3.2.30 Metadata - Search Object

Properties	Description
Tables	CI_MD_SO, CI_MD_SO_L, CI_MD_SO_RSFLD, CI_MD_SO_RSFLDAT, CI_MD_SOCG, CI_MD_SOCG_FLD, CI_MD_SOCG_FLDAT, CI_MD_SOCG_L, CI_MD_SOCG_SORT
Standard Data Fields	**Search Object** (SO_CD)
Customer Modification	None

E.3.2.31 Navigation Option

Properties	Description
Tables	CI_NAV_OPT, CI_NAV_OPT_L, CI_NAV_OPT_CTXT, CI_NAV_OPT_USG, CI_MD_NAV
Standard Data Fields	**Navigation Option Code** (NAV_OPT_CD), **Navigation Key** (NAVIGATION_KEY)
Customer Modification	None

E.3.2.32   Outbound Message Type

Properties	Description
Tables	F1_OUTMSG_TYPE, F1_OUTMSG_TYPE_L
Standard Data Fields	**Outbound Message Type Code** (OUTMSG_TYPE_CD)
Customer Modification	**Priority** (OUTMSG_PRIOR_FLG)

E.3.2.33   Portal and Zone

Properties	Description
Tables	CI_PORTAL, CI_PORTAL_L, CI_PORTAL_ZONE, C1_PORTAL_OPT, CI_ZONE, CI_ZONE_L, CI_ZONE_PRM, CI_ZONE_HDL, CI_ZONE_HDL_L, CI_ZONE_HDL_PRM, CI_ZONE_HDL_PRM_L, CI_UI_ZONE, CI_PORTAL_OPT
Standard Data Fields	**Portal Code** (PORTAL_CD), **Zone Code** (ZONE_CD), **Zone Type Code** (ZONE_HDL_CD) **Points to Note:** A new zone can be added to the Product owned Portal Pages. The existing zones cannot be removed from the Product owned Portal Pages.
Customer Modification	**Sort Sequence** (SORT_SEQ) on Context Sensitive Zone Table (CI_UI_ZONE). **Show on Portal Preferences** (USER_CONFIG_FLG) on Portal Table (CI_PORTAL). **Override Sequence** (SORT_SEQ_OVRD) on Portal Zone Table (CI_PORTAL_ZONE). **Customer Specific Description** (DESCRLONG_OVRD) on Zone Language Table (CI_ZONE_L). **Override Parameter Value** (ZONE_HDL_PARM_OVRD) on Zone Type Parameters Table (CI_ZONE_HDL_PRM). **Override Parameter Value** (ZONE_PARM_VAL_OVRD) on Zone Parameters Table (CI_ZONE_PRM).

E.3.2.34   Process Flow Type

Properties	Description
Tables	F1_PROC_DEFN, F1_PROC_DEFN_L, F1_PROC_NEXT_PANEL, F1_PROC_PANEL
Standard Data Fields	**Process Flow Type** (PROCESS_CD)

Properties	Description
Customer Modification	None

E.3.2.35 Sequence

Properties	Description
Tables	CI_SEQ
Standard Data Fields	**Sequence Name** (SEQ_NAME)
Customer Modification	**Sequence Number** (SEQ_NBR)
	Note: This field is updated by the application process and must be set to 1 initially.

E.3.2.36 Schema

Properties	Description
Tables	F1_SCHEMA
Standard Data Fields	**Schema Name** (SCHEMA_NAME)
Customer Modification	None

E.3.2.37 Script

Properties	Description
Tables	CI_SCR, CI_SCR_L, CI_SCR_CRT, CI_SCR_CRT_GRP, CI_SCR_CRT_GRP_L, CI_SCR_DA, CI_SCR_FLD_MAP, CI_SCR_PRMPT, CI_SCR_PRMPT_L, CI_SCR_STEP, CI_SCR_STEP_L
Standard Data Fields	**Script** (SCR_CD)
Customer Modification	None

E.3.2.38 To Do Type

Properties	Description
Tables	CI_TD_TYPE, CI_TD_TYPE_L, CI_TD_SRTKEY_TY, CI_TD_DRLKEY_TY, CI_TD_SRTKEY_TY_L
Standard Data Fields	**To Do Type Code** (TD_TYPE_CD)
Customer Modification	**Creation Batch Code** (CRE_BATCH_CD), **Route Batch Code** (RTE_BATCH_CD), **Priority Flag** (TD_PRIORITY_FLG) on To Do Type Table (CI_TD_TYPE)

E.3.2.39   Unsupported Metadata

Properties	Description
Tables	F1_LGCY_OBJ
Standard Data Fields	**Object ID** (LGCY_OBJ_ID)
Customer Modification	-

E.3.2.40   Web Service Category

Properties	Description
Tables	F1_WEB_CAT, F1_WEB_CAT_L, F1_WEB_CAT_INCL_SVC
Standard Data Fields	**Web Service Category Code** (WEB_SVC_CAT_CD)
Customer Modification	None

E.3.2.41   Web Service Configuration (Additional)

Properties	Description
Tables	CI_XAI_ADAPTER, CI_XAI_ADAPTER_L, CI_XAI_CLASS, CI_XAI_CLASS_L, CI_XAI_SENDER, CI_XAI_SERNDER_L, CI_XAI_SNDR_CTX, CI_XAI_OPTION
Standard Data Fields	**Adapter ID** (XAI_ADAPTER_ID), **Class ID** (XAI_CLASS_ID), **Sender ID** (XAI_SENDER_ID)
Customer Modification	**Option Value** (OPTION_VALUE) on Message Option Table (CI_XAI_OPTION)

E.3.2.42   XAI Inbound Service

Properties	Description
Tables	CI_XAI_IN_SVC, CI_XAI_IN_SVC_L, CI_XAI_SVC_PARM
Standard Data Fields	**XAI Inbound Service ID** (XAI_IN_SVC_ID), **XAI Inbound Service Name** (XAI_IN_SVC_NAME)
Customer Modification	**XAI Version** (XAI_VERSION_ID), **Trace** (TRACE_SW), **Debug** (DEBUG_SW), **Request XSL** (INPUT_XSL), **Response XSL** (RESPONSE_XSL), **Record XSL** (RECORD_XSL and **Post Error** (POST_ERROR_SW) on XAI Inbound Service Table (CI_XAI_IN_SVC)

E.3.2.43 Product Metric Type

Properties	Description
Tables	F1_PROD_METRIC_TYPE, F1_PROD_METRIC_TYPE_L
Standard Data Fields	**Product Metric Type** (PROD_METRIC_TYPE_CD)
Customer Modification	None

E.3.2.44 CI_BATCH_CTRL_OPT

Properties	Description
Tables	CI_BATCH_CTRL_OPT
Standard Data Fields	**Batch Control** (BATCH_CD), **Batch Control Options Type** (BATCH_CTRL_OPT_FLG), **Batch Control Options Value** (BATCH_CTRL_OPT_VAL)
Customer Modification	None

E.4 System Table List

This section contains the names of system tables, upgrade actions, and a brief description of tables. The upgrade actions are explained below.

Keep (KP): The data of the table in the customer's database is kept untouched. No insert or delete is performed to this table by the upgrade process. The initial installation will add necessary data for the system.

Merge (MG): The non-base product data of the table in the database is kept untouched. If the data belongs to the base product, any changes pertaining to the new version of the software are performed.

Refresh (RF): The existing data in the table is replaced with the data from the base product table. The product does not support customer specific data in these tables.

Note: New product data is also inserted into tables marked as 'Merge'. If implementers add rows for a customer specific enhancement, it can cause duplication when the system data gets upgraded to the next version. We strongly recommend following the guidelines on how to use designated range of values or prefixes to segregate the implementation data from the base product data.

Table Name	Upgrade Action	Table Description
CI_ALG	MG	Algorithm
CI_ALG_L	MG	Algorithm Language
CI_ALG_PARM	MG	Algorithm Parameters
CI_ALG_TYPE	MG	Algorithm Type
CI_ALG_TYPE_L	MG	Algorithm Type Language

Table Name	Upgrade Action	Table Description
CI_ALG_TYPE_PRM	MG	Algorithm Type Parameter
CI_ALG_TYPE_PRM_L	MG	Algorithm Type Parameter Language
CI_ALG_VER	MG	Algorithm Version
CI_APP_SVC_ACC	MG	Application Service Access Mode
CI_BATCH_CTRL	MG	Batch Control
CI_BATCH_CTRL_ALG	MG	Batch Control Algorithm
CI_BATCH_CTRL_L	MG	Batch Control Language
CI_BATCH_CTRL_OPT	MG	Batch Control Option
CI_BATCH_CTRL_P	MG	Batch Control Parameters
CI_BATCH_CTRL_P_L	MG	Batch Control Parameters Language
CI_CHAR_ENTITY	MG	Characteristic Type Entity
CI_CHAR_TYPE	MG	Characteristic Type
CI_CHAR_TYPE_L	MG	Characteristic Type Language
CI_CHAR_VAL	MG	Characteristic Type Value
CI_CHAR_VAL_L	MG	Characteristic Type Value Language
CI_CURRENCY_CD	KP	Currency Code
CI_CURRENCY_CD_L	KP	Currency Code Language
CI_DISP_ICON	MG	Display Icon
CI_DISP_ICON_L	MG	Display Icon Language
CI_DISP_PROF	KP	Display Profile
CI_DISP_PROF_L	KP	Display Profile Language
CI_FK_REF	MG	Foreign Key Reference
CI_FK_REF_L	MG	Foreign Key Reference Language
CI_LANGUAGE	MG	Language Code
CI_LOOKUP_FIELD	MG	Lookup Field
CI_LOOKUP_VAL	MG	Lookup Field Value
CI_LOOKUP_VAL_L	MG	Lookup Field Value Language
CI_MD_AT_DTL	RF	MD Element Attribute Type Detail
CI_MD_AT_DTL_L	RF	MD Element Attribute Type Detail Language
CI_MD_ATT_TY	RF	MD Element Attribute Type
CI_MD_CONST	MG	Constraints

Table Name	Upgrade Action	Table Description
CI_MD_CONST_FLD	MG	Constraint Fields
CI_MD_CTL	RF	Generator Control
CI_MD_CTL_L	RF	Generator Control Language
CI_MD_CTL_TMPL	RF	Generator Control Template
CI_MD_ELTY	RF	MD Element Type
CI_MD_ELTY_AT	RF	Element Type Attributes
CI_MD_ELTY_L	RF	Element Type Language
CI_MD_FLD	MG	Field
CI_MD_FLD_ADDTL	MG	Field Additional Attributes
CI_MD_FLD_L	MG	Field Language
CI_MD_IDX	MG	Indexes
CI_MD_IDX_FLD	MG	Index Fields
CI_MD_LOOKUP_F	RF	MD Lookup Field
CI_MD_MENU	MG	Menu Information
CI_MD_MENU_IMOD	MG	Menu Item Module
CI_MD_MENU_ITEM	MG	Menu Item
CI_MD_MENU_ITEM_L	MG	Menu Item Language
CI_MD_MENU_L	MG	Menu Language
CI_MD_MENU_LINE	MG	Menu Line
CI_MD_MENU_LINE_L	MG	Menu Line Language
CI_MD_MENU_MOD	MG	Menu Product Components
CI_MD_MO	MG	Maintenance Object
CI_MD_MO_ALG	MG	Maintenance Object Algorithm
CI_MD_MO_L	MG	Maintenance Object Language
CI_MD_MO_OPT	MG	Maintenance Object Option
CI_MD_MO_TBL	MG	Maintenance Object Table
CI_MD_MO_WRK	MG	Maintenance Object Work Tables
CI_MD_MSG	RF	MD Message
CI_MD_MSG_L	RF	MD Message Language
CI_MD_NAV	MG	Navigation Key
CI_MD_PDF	RF	Predefined Fields

Table Name	Upgrade Action	Table Description
CI_MD_PDF_VAL	RF	Predefined Values
CI_MD_PRG_COM	MG	Program Components
CI_MD_PRG_EL_AT	MG	UI Page Element Attributes
CI_MD_PRG_ELEM	MG	UI Page Elements
CI_MD_PRG_LOC	MG	Program Location
CI_MD_PRG_MOD	MG	Program Module
CI_MD_PRG_SEC	MG	UI Page Sections
CI_MD_PRG_SQL	MG	MD SQL Metadata
CI_MD_PRG_TAB	MG	UI Tab Metadata
CI_MD_PRG_VAR	MG	Program Variable
CI_MD_SO	MG	Search Object
CI_MD_SO_L	MG	Search Object Language
CI_MD_SO_RSFLD	MG	Search Object Result Field
CI_MD_SO_RSFLDAT	MG	Search Object Result Field Attribute
CI_MD_SOCG	MG	Search Object Criteria Group
CI_MD_SOCG_FLD	MG	Search Object Criteria Group Field
CI_MD_SOCG_FLDAT	MG	Search Criteria Group Field Attribute
CI_MD_SOCG_L	MG	Search Object Criteria Group Language
CI_MD_SOCG_SORT	MG	Search Criteria Group Result Sort Order
CI_MD_SRC_TYPE	RF	Source Type
CI_MD_SRC_TYPE_L	RF	Source Type Language
CI_MD_SVC	MG	MD Service
CI_MD_SVC_L	MG	MD Service Language
CI_MD_SVC_PRG	MG	MD Service Program
CI_MD_TAB_MOD	MG	UI Tab Module
CI_MD_TBL	MG	Table
CI_MD_TBL_ADDTL	MG	Table Additional Attributes
CI_MD_TBL_FLD	MG	Table Field
CI_MD_TBL_FLD_L	MG	Table Field Language
CI_MD_TBL_L	MG	Table Language
CI_MD_TMPL	RF	Template

Table Name	Upgrade Action	Table Description
CI_MD_TMPL_ELTY	RF	Template Element Types
CI_MD_TMPL_L	RF	Template Language
CI_MD_TMPL_VAR	RF	Template Variable
CI_MD_TMPL_VAR_L	RF	Template Variable Language
CI_MD_VAR	RF	Variable
CI_MD_VAR_DTL	RF	Variable Detail
CI_MD_VAR_DTL_L	RF	Variable Detail Language
CI_MD_WRK_TBL	MG	Work Table
CI_MD_WRK_TBL_L	MG	Work Table Language
CI_MD_WRK_TBLFLD	MG	Work Table Field
CI_MSG	MG	Message
CI_MSG_CATEGORY	MG	Message Category
CI_MSG_CATEGORY_L	MG	Message Category Language
CI_MSG_L	MG	Message Language
CI_NAV_OPT	MG	Navigation Option
CI_NAV_OPT_CTXT	MG	Navigation Option Context
CI_NAV_OPT_L	MG	Navigation Option Language
CI_NAV_OPT_USG	MG	Navigation Option Usage
CI_NT_XID	MG	External System
CI_NT_XID_L	MG	External System Language
CI_PORTAL	MG	Portal
CI_PORTAL_L	MG	Portal Language
CI_PORTAL_OPT	MG	Portal Option
CI_PORTAL_ZONE	MG	Portal Zone
CI_SCR	MG	Script
CI_SCR_CRT	MG	Script Criteria
CI_SCR_CRT_GRP	MG	Script Criteria Group
CI_SCR_CRT_GRP_L	MG	Script Criteria Group Language
CI_SCR_DA	MG	Script Data Area
CI_SCR_FLD_MAP	MG	Script Field Mapping
CI_SCR_L	MG	Script Language

Table Name	Upgrade Action	Table Description
CI_SCR_PRMPT	MG	Script Prompt
CI_SCR_PRMPT_L	MG	Script Prompt Language
CI_SCR_STEP	MG	Script Step
CI_SCR_STEP_L	MG	Script Step Language
CI_SEQ	MG	Sequence
CI_TD_DRLKEY_TY	MG	To Do Type Drill Key
CI_TD_SRTKEY_TY	MG	To Do Type Sort Key
CI_TD_SRTKEY_TY_L	MG	To Do Type Sort Key Language
CI_TD_TYPE	MG	To Do Type
CI_TD_TYPE_L	MG	To Do Type Language
CI_TIME_ZONE	KP	Time Zone
CI_TIME_ZONE_L	KP	Time Zone Language
CI_UI_ZONE	MG	Context Sensitive Zone
CI_USR_NAV_LINK	MG	User Favorite Links
CI_USR_PORTAL	KP	User Portal
CI_XAI_ADAPTER	MG	XAI Adapter
CI_XAI_ADAPTER_L	MG	XAI Adapter Lang
CI_XAI_CLASS	MG	Message Class
CI_XAI_CLASS_L	MG	Message Class Language
CI_XAI_FORMAT	RF	XAI Format
CI_XAI_FORMAT_L	RF	XAI Format Language
CI_XAI_IN_SVC	MG	XAI Inbound Service
CI_XAI_IN_SVC_L	MG	XAI Inbound Service Language
CI_XAI_JNDI_SVR	KP	JNDI Server
CI_XAI_JNDI_SVR_L	KP	JNDI Server Language
CI_XAI_OPTION	KP	Message Option
CI_XAI_SENDER	MG	Message Sender
CI_XAI_SENDER_L	MG	Message Sender Language
CI_XAI_SNDR_CTX	MG	Message Sender Context
CI_XAI_SVC_PARM	MG	XAI Inbound Service Parameters
CI_ZONE	MG	Zone

Table Name	Upgrade Action	Table Description
CI_ZONE_HDL	MG	Zone Type
CI_ZONE_HDL_L	MG	Zone Type Language
CI_ZONE_HDL_PRM	MG	Zone Type Parameters
CI_ZONE_HDL_PRM_L	MG	Zone Type Parameters Language
CI_ZONE_L	MG	Zone Language
CI_ZONE_PRM	MG	Zone Parameters
F1_BUS_OBJ	MG	Business Object
F1_BUS_OBJ_ALG	MG	Business Object Algorithm
F1_BUS_OBJ_L	MG	Business Object Language
F1_BUS_OBJ_OPT	MG	Business Object Option
F1_BUS_OBJ_STATUS	MG	Business Object Status
F1_BUS_OBJ_STATUS_ALG	MG	Business Object Status Algorithm
F1_BUS_OBJ_STATUS_L	MG	Business Object Status Language
F1_BUS_OBJ_STATUS_OPT	MG	Business Object Status Option
F1_BUS_OBJ_STATUS_RSN	MG	Status Reason
F1_BUS_OBJ_STATUS_RSN_CHAR	MG	Status Reason Characteristic
F1_BUS_OBJ_STATUS_RSN_L	MG	Status Reason Language
F1_BUS_OBJ_TR_RULE	MG	Business Object Transition Rule
F1_BUS_OBJ_TR_RULE_L	MG	Business Object Transition Rule Language
F1_BUS_SVC	MG	Business Service
F1_BUS_SVC_L	MG	Business Service Language
F1_COLOR_OPT	MG	Color Option
F1_COLOR_OPT_ITEM	MG	Color Option Item
F1_COLOR_OPT_L	MG	Color Option Language
F1_CRYPTO_KEY_RING	MG	Key Ring
F1_CRYPTO_KEY_RING_L	MG	Key Ring Language
F1_DATA_AREA	MG	Data Area
F1_DATA_AREA_L	MG	Data Area Language
F1_DB_OBJECTS_REPO	MG	Database Objects Repository
F1_EXT_LOOKUP_VAL	MG	Extendable Lookup
F1_EXT_LOOKUP_VAL_CHAR	MG	Extendable Lookup Characteristics

Table Name	Upgrade Action	Table Description
F1_EXT_LOOKUP_VAL_L	MG	Extendable Lookup Language
F1_EXTSYS_OUTMSG_PROF	MG	External System Outbound Message Type
F1_FILE_INT_REC	MG	File Integration Record
F1_FILE_INT_REC_ALG	MG	File Integration Record Algorithm
F1_FILE_INT_REC_L	MG	File Integration Record Language
F1_FILE_INT_TYPE	MG	File Integration Type
F1_FILE_INT_TYPE_L	MG	File Integration Type Language
F1_INSIGHT_TYPE	MG	Insight Type
F1_INSIGHT_TYPE_ALG	MG	Insight Type Algorithm
F1_INSIGHT_TYPE_CHAR	MG	Insight Type Characteristic
F1_INSIGHT_TYPE_L	MG	Insight Type Language
F1_INSIGHT_TYPE_USER_ACT	MG	Insight Type User Action
F1_INSIGHT_TYPE_USER_ACT_ALG	MG	Insight Type User Action Algorithm
F1_INSIGHT_TYPE_VISUAL_SETTING	MG	Insight Type Visual Setting
F1_INSTALLATION	KP	Installation Option - Framework
F1_IWS_ANN	MG	Web Service Annotation
F1_IWS_ANN_L	MG	Web Service Annotation Language
F1_IWS_ANN_PARM	MG	Web Service Annotation Parameter
F1_IWS_ANN_TYPE	MG	Web Service Annotation Type
F1_IWS_ANN_TYPE_L	MG	Web Service Annotation Type Language
F1_IWS_ANN_TYPE_PARM	MG	Web Service Annotation Type Parameter
F1_IWS_ANN_TYPE_PARM_L	MG	Web Service Annotation Type Parameter Language
F1_IWS_SVC	MG	Inbound Web Service
F1_IWS_SVC_FLDTEXT	MG	Inbound Web Service Help Text Field
F1_IWS_SVC_L	MG	Inbound Web Service Language
F1_IWS_SVC_OPER	MG	Inbound Web Service Operations
F1_IWS_SVC_OPER_L	MG	Inbound Web Service Operation Language
F1_IWS_SVC_OPER_OPT	MG	Inbound Web Service Operation Option
F1_IWS_SVC_OPER_PARM	MG	Inbound Web Service Operations Parameter

Table Name	Upgrade Action	Table Description
F1_IWS_SVC_SCHEMA	MG	Inbound Web Service Data Area
F1_LGCY_OBJ	RF	Unsupported Metadata
F1_MANAG_CONTENT	MG	Managed Content
F1_MANAG_CONTENT_L	MG	Managed Content Language
F1_MAP	MG	UI Map
F1_MAP_L	MG	UI Map Language
F1_MD_BI_TBL	MG	Analytics Table
F1_MD_BI_TBL_FLD	MG	Analytics Table / Field
F1_MD_BI_TBL_L	MG	Analytics Table Language
F1_MIGR_PLAN	MG	Migration Plan
F1_MIGR_PLAN_INSTR	MG	Migration Plan Instruction
F1_MIGR_PLAN_INSTR_ALG	MG	Migration Plan Instruction Algorithm
F1_MIGR_PLAN_INSTR_L	MG	Migration Plan Instruction Language
F1_MIGR_PLAN_L	MG	Migration Plan Language
F1_MIGR_REQ	MG	Migration Request
F1_MIGR_REQ_INCL_REQ	MG	Migration Request Grouping
F1_MIGR_REQ_INSTR	MG	Migration Request Instruction
F1_MIGR_REQ_INSTR_ENTITY	MG	Migration Request Instruction Entity
F1_MIGR_REQ_INSTR_L	MG	Migration Request Instruction Language
F1_MIGR_REQ_L	MG	Migration Request Language
F1_OUTMSG_TYPE	MG	Outbound Message Type
F1_OUTMSG_TYPE_L	MG	Outbound Message Type Language
F1_PATCH_DETAILS	KP	Patch Details
F1_PROC_DEFN	MG	Process Flow Type
F1_PROC_DEFN_L	MG	Process Flow Type Language
F1_PROC_NEXT_PANEL	MG	Next Panel
F1_PROC_PANEL	MG	Process Panel
F1_PROD_METRIC_TYPE	MG	Product Metric Type
F1_PROD_METRIC_TYPE_L	MG	Product Metric Type Language
F1_REQ_TYPE	MG	Request Type
F1_REQ_TYPE_L	MG	Request Type Language

Table Name	Upgrade Action	Table Description
F1_SCHEMA	MG	Schema
F1_TAG	MG	Entity Tag
F1_TAG_CHAR	MG	Entity Tag Characteristics
F1_TAG_L	MG	Entity Tag Language
F1_TAGGED_ENTITY	MG	Tagged Entity
F1_TREE	MG	Tree
F1_TREE_L	MG	Tree Language
F1_TREE_NODE	MG	Tree Node
F1_TREE_NODE_ALG	MG	Tree Node Algorithms
F1_TREE_NODE_L	MG	Tree Node Language
F1_WEB_CAT	MG	Web Service Category
F1_WEB_CAT_INCL_SVC	MG	Web Service Category - Included Services
F1_WEB_CAT_L	MG	Web Service Category Language
SC_ACCESS_CNTL	MG	User Group Access Control
SC_APP_SERVICE	MG	Application Service
SC_APP_SERVICE_L	MG	Application Service Language
SC_USER	KP	User
SC_USER_GROUP	MG	User Group
SC_USER_GROUP_L	MG	User Group Language
SC_USR_GRP_PROF	MG	User Group Profile
SC_USR_GRP_USR	MG	User Group User

Appendix F : ORMB V8.1.0.0.0 Rollup Packs

Instead of individually applying the patches, you can download and apply the release-specific rollup packs. To view the list of rollup packs that you need to apply on the database, see *ORMB V8.1.0.0.0 Patch Guide (Document ID: 3110234.1)* on My Oracle Support.

F.1   Applying a Rollup Pack

Once you install Oracle Revenue Management and Billing Version 8.1.0.0.0, you need to apply the rollup packs listed in the *ORMB V8.1.0.0.0 Patch Guide (Document ID: 3110234.1)*. You can apply a rollup pack from a Windows machine and UNIX Standalone server. To apply a rollup pack:

1. Download the rollup pack from My Oracle Support. A zip file is downloaded.
2. Unzip the downloaded file in your local folder. The contents include the `README.txt` file and three folders named `RMB_V8.1.0.0.0_App_Rollup`, `RMB_V8.1.0.0.0_DB_Rollup`, and `RMB_V8.1.0.0.0_PFDs`.
3. Change to the `RMB_V8.1.0.0.0_DB_Rollup` folder using the following command:

   Linux:

   `cd <DESTINATION_FOLDER_1>/RMB_V8.1.0.0.0_DB_Rollup`

   Windows:

   `cd <DESTINATION_FOLDER_1>\RMB_V8.1.0.0.0_DB_Rollup`

Note: The `<DESTINATION_FOLDER_1>` folder is the location where you have extracted the contents of the rollup pack.

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

   Linux:

   `ouafDatabasePatch.sh`

   Windows:

   `ouafDatabasePatch.cmd`

Note: On the Linux platform, ensure that you grant the execute permission for the `ouafDatabasePatch.sh` utility using the following command:

`chmod 755 ouafDatabasePatch.sh`

   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)`

Parameter	Value
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:DB_PORT:DB_SID>`
	OR
	`<DB_SERVER:DB_PORT/SERVICE_NAME>`

5. Enter the required parameter value. The following message appears in the command line:

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

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

Appendix G : Framework Table Partitioning Scripts

To partition the **F1_MO_UPD** and **F1_MO_UPD_BACKLOG** tables, you need to create the **F1_MO_UPD_INT_PART** and **F1_MO_UPD_BACKLOG _INT_PART** scripts as mentioned in this section.

G.1   F1_MO_UPD_INT_PART

You need to add the following code snippet while creating the **F1_MO_UPD_INT_PART** SQL script for partitioning the **F1_MO_UPD** table:

```
DECLARE

F1_TBL_NAME VARCHAR2(30) :='F1_MO_UPD';

F1_TBL_NAME_OLD VARCHAR2(30) :='F1_MO_UPD_OLD';

F1_TBL_NAME_NEW VARCHAR2(30) :='F1_MO_UPD_NEW';

TBL_OWNER VARCHAR2(20) :='CISADM';

V_COUNT NUMBER;

BEGIN

SELECT  COUNT(1)  INTO  V_COUNT   FROM  DBA_TABLES  WHERE  TABLE_NAME  =
'F1_MO_UPD_NEW' AND OWNER='CISADM';

IF V_COUNT = 0 THEN

EXECUTE  IMMEDIATE  'CREATE  TABLE  '  ||  TBL_OWNER||'.'||  F1_TBL_NAME_NEW
||  '( MAINT_OBJ_CD CHAR(12 BYTE) NOT NULL ENABLE, PK_VALUE1 VARCHAR2(254
BYTE)  NOT  NULL  ENABLE,  PK_VALUE2  VARCHAR2(254  BYTE),  PK_VALUE3
VARCHAR2(254 BYTE), PK_VALUE4 VARCHAR2(254 BYTE), PK_VALUE5 VARCHAR2(254
BYTE), "ENT_KEY_HASH" NUMBER(5,0) NOT NULL ENABLE   )'|| ' PARTITION BY
RANGE (ENT_KEY_HASH) INTERVAL(1) (PARTITION VALUES LESS THAN (2))';

END IF;

EXECUTE IMMEDIATE 'INSERT INTO ' ||TBL_OWNER||'.'|| F1_TBL_NAME_NEW ||'
SELECT * FROM ' ||TBL_OWNER||'.'|| F1_TBL_NAME;

EXECUTE  IMMEDIATE  'ALTER  TABLE  '  ||TBL_OWNER||'.'||  F1_TBL_NAME  ||  '
RENAME TO ' || F1_TBL_NAME_OLD;

EXECUTE  IMMEDIATE  'ALTER  TABLE  '  ||TBL_OWNER||'.'||  F1_TBL_NAME_NEW  ||
' RENAME TO ' || F1_TBL_NAME;

END;
```

G.2   F1_MO_UPD_BACKLOG _INT_PART

You need to add the following code snippet while creating the **F1_MO_UPD_BACKLOG _INT_PART** SQL script for partitioning the **F1_MO_UPD_BACKLOG** table:

```
DECLARE

F1_TBL_NAME VARCHAR2(30) :='F1_MO_UPD_BACKLOG';

F1_TBL_NAME_OLD VARCHAR2(30) :='F1_MO_UPD_BACKLOG_OLD';

F1_TBL_NAME_NEW VARCHAR2(30) :='F1_MO_UPD_BACKLOG_NEW';

TBL_OWNER VARCHAR2(20) :='CISADM';

V_COUNT NUMBER;

BEGIN

SELECT COUNT(1) INTO V_COUNT  FROM DBA_TABLES WHERE TABLE_NAME =
'F1_MO_UPD_BACKLOG_NEW' AND OWNER='CISADM';

IF V_COUNT = 0 THEN

EXECUTE IMMEDIATE 'CREATE TABLE ' || TBL_OWNER||'.'|| F1_TBL_NAME_NEW
|| '( MAINT_OBJ_CD CHAR(12 BYTE) NOT NULL ENABLE, PK_VALUE1 VARCHAR2(254
BYTE) NOT NULL ENABLE, PK_VALUE2 VARCHAR2(254 BYTE), PK_VALUE3
VARCHAR2(254 BYTE), PK_VALUE4 VARCHAR2(254 BYTE), PK_VALUE5 VARCHAR2(254
BYTE), "ENT_KEY_HASH" NUMBER(5,0) NOT NULL ENABLE,REC_ROW_ID
VARCHAR2(100 BYTE))'|| ' PARTITION BY RANGE (ENT_KEY_HASH) INTERVAL(1)
(PARTITION VALUES LESS THAN (2))';

END IF;

EXECUTE IMMEDIATE 'INSERT INTO ' ||TBL_OWNER||'.'|| F1_TBL_NAME_NEW ||'
SELECT * FROM ' ||TBL_OWNER||'.'|| F1_TBL_NAME;

EXECUTE IMMEDIATE 'ALTER TABLE ' ||TBL_OWNER||'.'|| F1_TBL_NAME || '
RENAME TO ' || F1_TBL_NAME_OLD;

EXECUTE IMMEDIATE 'ALTER TABLE ' ||TBL_OWNER||'.'|| F1_TBL_NAME_NEW ||
' RENAME TO ' || F1_TBL_NAME;

END;
```

Appendix H : License and Copyright Notices

This section provides license and copyright information for the associated third-party products and components. It includes the following notices:

- [Notice Concerning Usage of ANTLR and ANTLR4](#)
- [Notice Concerning Usage of Apache Software](#)
- [Notice Concerning Usage of ASM](#)
- [Notice Concerning Usage of Bouncy Castle Crypto](#)
- [Notice Concerning Usage of CodeMirror](#)
- [Notice Concerning Usage of DOM4J](#)
- [Notice Concerning Usage of FullCalendar](#)
- [Notice Concerning Usage of Hibernate ORM 5.6.15-FINAL](#)
- [Notice Concerning Usage of ICU4J](#)
- [Notice Concerning Usage of Jaxen](#)
- [Notice Concerning Usage of JfreeChart Library](#)
- [Notice Concerning Usage of JQuery (3.6.4)](#)
- [Notice Concerning Usage of JQuery UI](#)
- [Notice Concerning Usage of Knockout](#)
- [Notice Concerning Usage of QR Code](#)
- [Notice Concerning Usage of Saxon-HE](#)
- [Notice Concerning Usage of SLF4J](#)
- [Notice Concerning Usage of Staxmate](#)
- [Notice Concerning Usage of Swagger-UI](#)
- [Notice Concerning Usage of XStream](#)
- [Notice Concerning Usage of naturalCompare.js](#)

H.1   Third-Party Products

The following sections provide notices and information about the third-party products indicated.

H.1.1   Notice Concerning Usage of ANTLR and ANTLR4

The following files are covered under this license:

- antlr-2.7.7.jar
- antlr4-runtime-4.9.2.jar

[The BSD License]

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H.1.2   Notice Concerning Usage of Apache Software

The following files are covered under the Apache 2.0 license:

- accessors-smart-2.4.11.jar
- ant-1.10.14.jar
- apache-xmlbeans-4.0.0.jar
- batik-all-1.19.jar
- byte-buddy-1.12.18.jar
- cglib-3.3.0-975e481.jar
- classmate-1.5.1.jar

- commons-beanutils2-2.0.0-M2.jar
- commons-cli-1.9.0.jar
- commons-codec-1.17.1.jar
- commons-collections4-4.5.0.jar
- commons-fileupload-1.5.jar
- commons-io-2.15.1.jar
- commons-lang3-3.15.0.jar
- commons-logging-1.3.2.jar
- commons-text-1.12.0.jar
- ehcache-core-2.5.2.jar
- fontbox-3.0.3.jar
- fop-core-2.11.jar
- fop-events-2.11.jar
- fop-util-2.11.jar
- groovy-3.0.17.jar
- groovy-xml-3.0.17.jar
- httpclient5-5.2.3.jar
- httpcore5-5.2.4.jar
- httpcore5-h2-5.2.4.jar
- jackson-annotations-2.17.0.jar
- jackson-core-2.17.0.jar
- jackson-databind-2.17.0.jar
- jboss-logging-3.4.3.Final.jar
- jcl-over-slf4j-2.0.9.jar
- jettison-1.5.4.jar
- json-smart-2.5.2.jar
- log4j-api-2.21.0.jar
- log4j-core-2.21.0.jar
- nimbus-jose-jwt-9.39.jar
- pdfbox-io-3.0.3.jar
- velocity-engine-core-2.3.jar
- xmlgraphics-commons-2.11.jar
- xmlresolver-6.0.19.jar
- xmlschema-core-2.3.1.jar
- xpp3-1.1.4c.jar

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Version 2.0, January 2004

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H.1.21 Notice Concerning Usage of naturalCompare.js

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Written by Kristof Coomans

Based on the Java version by Pierre-Luc Paour, of which this is more or less a straight conversion.

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The Java version was based on the C version by Martin Pool.

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