

**Oracle Financial Services Revenue
Management and Billing**

OR

**Oracle Insurance Revenue
Management and Billing**

Version 8.0.0.0.0

Database Administrator's Guide

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Oracle Financial Services Revenue Management and Billing/Oracle Insurance Revenue Management and Billing Version 8.0.0.0.0 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 8.0.0.0.0 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 V8.0.0.0.0 Database	Lists the objects that are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 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 8.0.0.0.0.
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 V8.0.0.0.0 Rollup Packs	Lists the rollup packs available for Oracle Revenue Management and Billing Version 8.0.0.0.0. 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.
<i>italic</i>	Italic indicates a document or book title.
<code>monospace</code>	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
<i>Oracle Revenue Management and Billing Version 8.0.0.0.0 Release Notes</i>	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.
<i>Oracle Revenue Management and Billing Version 8.0.0.0.0 Release Overview Guide</i>	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.
<i>Oracle Revenue Management and Billing Licensing Guide</i>	<p>Lists different features which you can use when you acquire a license for the following products:</p> <ul style="list-style-type: none"> • Oracle Financial Services Revenue Management and Billing • Oracle Insurance Revenue Management and Billing <p>It also provides the licensing information about the third-party JARs and components which are included in the above-mentioned products.</p>
<i>Oracle Revenue Management and Billing Installation Guide</i>	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.

Document Name	Description
	It contains appendices which lists ORMB rollup packs and notices about third-party JAR and other components.
<i>Oracle Revenue Management and Billing Quick Installation Guide</i>	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.
<i>Oracle Revenue Management and Billing Server Administration Guide</i>	<p>Provides detailed information about the product architecture, native support, directory structures, environment variables, logs, etc. It explains various concepts related to the batch server and lists and describes the scripts required for installing and configuring ORMB. It explains how to monitor the system and configure Web browser, Web application server, business application server, inbound web services, and batch server. It explains how to provide Oracle Cloud Support and how to integrate and monitor Oracle Scheduler.</p> <p>It contains various appendices which lists and describes the parameters available in the ENVIRON.INI, Web.xml, spl.properties, hibernate.properties, submitbatch.properties, threadpoolworker, coherence-cache.config.xml, and tangosol-coherence-override.xml files.</p>
<i>Oracle Revenue Management and Billing Security Guide</i>	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.
<i>Oracle Revenue Management and Billing Direct Database Upgrade Guide</i>	Explains how to directly upgrade the ORMB database from 2.5.0.1.0 or any later version to the current release. It also highlights any known issues during direct database upgrade and how to handle these issues in the database.

Change Log

Revision	Last Update	Updated Section	Comments
28.1	09-May-2025	Appendix H.1.12: Notice Concerning Usage of JQuery (3.6.4)	Updated Information
		Appendix A: New Objects in the Oracle Revenue Management and Billing V8.0.0.0.0 Database	Updated Information
		Appendix D: New Objects in the Oracle Utilities Application Framework V25.4 Database	Updated Information
28.2	12-May-2025	Appendix D.1.4: Added Columns	Updated Information
28.3	03-June-2025	Section 2.3.1.13: Post Installation Tasks	Added Information
		Appendix F: ORMB V8.0.0.0.0 Rollup Packs	Added Information
28.4	22-July-2025	Section 1.1.1: Supported Platforms Summary Table	Added Information
		Section 2.1: Installation Overview	Added Information
		Section 2.2: Creating the Database	Added Information
		Section 2.3: Oracle Database Installation	Added Information
		Section 2.3.2: Demo Install	Added Section
		Section 5.1.5.1: Exadata and Non-Exadata	Added Section
		Section 5.2.4: Performance Tuning	Updated Information
		Section 5.2.3: Table Partitioning Strategy	Added Information

Access to Oracle Support

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Contents

1.	Database Overview	1
1.1	Supported Database Platforms	1
1.1.1	Supported Platforms Summary Table	1
1.1.2	Support for Software Patches and Upgrades	2
1.2	Database Maintenance Rules	3
1.2.1	Permitted Database Changes	3
1.2.2	Non-Permitted Database Changes	3
2.	Installing Oracle Revenue Management and Billing Version 8.0.0.0.0 Database	4
2.1	Installation Overview	4
2.2	Creating the Database	4
2.2.1	Creating Tablespace, Roles, and Users for ORMB Schema	5
2.2.2	Creating Tablespace and User for ORMB ML Schema	8
2.3	Oracle Database Installation	9
2.3.1	Initial Install or Installing Version 8.0.0.0.0 for the First Time	9
2.3.2	Demo Install	27
2.3.3	Populating Language Data	36
3.	Database Design	37
3.1	Database Object Standard	37
3.1.1	Categories of Data	37
3.1.2	Naming Standards	37
3.2	Column Data Type and Constraints	41
3.2.1	User Defined Code	41
3.2.2	System Assigned Identifier	41
3.2.3	Date/Time/Timestamp	41
3.2.4	Number	41
3.2.5	Fixed Length/Variable Length Character Columns	41
3.2.6	Null Column Support	41
3.2.7	XMLType Support	42
3.2.8	Cache and Key Validation Flags	42
3.2.9	Table Classification and Table Volume Flags	42
3.2.10	Default Value Setting	42
3.2.11	Foreign Key Constraints	43
3.3	Standard Columns	43
3.3.1	Owner Flag	43
3.3.2	Version	43
4.	Exadata Database Settings	44

5.	Database Implementation Guidelines	45
5.1	Configuration Guidelines	45
5.1.1	Index.....	45
5.1.2	Table Partitioning Recommendations	46
5.1.3	Temporary and Undo Tablespace	47
5.1.4	Transparent Data Encryption Recommendations.....	47
5.1.5	Data Compression Recommendations.....	48
5.1.6	Database Vault Recommendations.....	49
5.1.7	Information Lifecycle Management (ILM) and Data Archiving Support	49
5.1.8	Storage Recommendations.....	49
5.1.9	Database Configuration Recommendations	50
5.1.10	Database Syntax.....	50
5.1.11	Database Initialization Parameters	50
5.1.12	Shrink Tables	53
5.1.13	Listener.ora Settings	55
5.2	Implementation Guidelines	55
5.2.1	Materialized View	55
5.2.2	Increase INITRANS Values	57
5.2.3	Table Partitioning Strategy	58
5.2.4	Performance Tuning.....	67
5.2.5	Performance Monitoring	67
5.2.6	Local Undo Mode in Oracle Database.....	68
5.2.7	Memory Resource Management for PDBs in Oracle Database	68
5.2.8	Global Optimizer Statistics Settings	69
5.2.9	Optimizer Statistics Advisor	71
5.2.10	Using the Segment Advisor	74
Appendix A :	New Objects in the Oracle Revenue Management and Billing V8.0.0.0.0 Database	77
A.1	Schema Changes.....	77
A.1.1	New Tables.....	77
A.1.2	Added Columns.....	77
A.1.3	Dropped Tables.....	88
A.1.4	Dropped Columns	88
A.1.5	Added Views	88
A.1.6	Column Format Change	89
A.2	New System Data	89
A.2.1	Algorithm Types	89
A.2.2	Algorithms.....	90
A.2.3	Business Services	91
A.2.4	Portals	92

A.2.5	Batch Controls.....	93
A.2.6	Foreign Key References.....	93
A.2.7	Scripts.....	93
A.2.8	New Zones in Existing Portals	94
A.2.9	Zones.....	94
A.2.10	UI Maps.....	96
A.2.11	Lookups.....	98
A.2.12	Characteristic Types.....	100
A.2.13	Feature Configurations	100
A.2.14	Zone Types	101
A.2.15	Business Objects	101
A.2.16	Maintenance Objects.....	101
A.2.17	To Do Types.....	101
A.2.18	Application Services	101
Appendix B :	Application Services Configured for Default User Group	102
B.1	ALL_SERVICES	102
B.2	C1_BSERVICES.....	118
B.3	HCADMIN.....	132
B.4	INADMIN.....	143
Appendix C :	Changing the DB User Password	155
Appendix D :	New Objects in the Oracle Utilities Application Framework V25.4 Database.....	156
D.1	Schema Changes.....	156
D.1.1	New Tables.....	156
D.1.2	Added Views	156
D.1.3	Dropped Tables.....	157
D.1.4	Added Columns.....	157
D.1.5	Dropped Columns	157
D.1.6	Dropped Lookups.....	157
D.1.7	Column Format Change	157
D.2	New System Data	157
D.2.1	Algorithms.....	158
D.2.2	Algorithm Types.....	159
D.2.3	Zones.....	160
D.2.4	Zone Types	163
D.2.5	New Zones in Existing Portals	163
D.2.6	UI Maps.....	163
D.2.7	Maintenance Objects.....	166
D.2.8	To Do Types.....	166
D.2.9	Business Services	166

D.2.10	Portals	167
D.2.11	Business Objects	169
D.2.12	Lookups	170
D.2.13	Foreign Key References.....	171
D.2.14	Batch Controls.....	171
D.2.15	Application Services	171
D.2.16	Characteristic Types	172
D.2.17	Scripts.....	173
Appendix E :	Oracle Utilities Application Framework System Table Guide.....	177
E.1	About the Application Framework System Tables	177
E.2	System Table Standards	177
E.3	Guidelines for System Table Updates.....	178
E.3.1	Business Configuration Tables	178
E.3.2	Development and Implementation System Tables.....	180
E.4	System Table List	193
Appendix F :	ORMB V8.0.0.0.0 Rollup Packs	203
F.1	Applying a Rollup Pack.....	203
Appendix G :	Framework Table Partitioning Scripts	205
G.1	F1_MO_UPD_INT_PART	205
G.2	F1_MO_UPD_BACKLOG_INT_PART.....	206
Appendix H :	License and Copyright Notices.....	207
H.1	Third-Party Products.....	208
H.1.1	Notice Concerning Usage of ANTLR and ANTLR4	208
H.1.2	Notice Concerning Usage of Apache Software	208
H.1.3	Notice Concerning Usage of ASM	213
H.1.4	Notice Concerning Usage of Bouncy Castle Crypto	213
H.1.5	Notice Concerning Usage of CodeMirror.....	214
H.1.6	Notice Concerning Usage of DOM4J.....	214
H.1.7	Notice Concerning Usage of FullCalendar	215
H.1.8	Notice Concerning Usage of Hibernate ORM 5.6.15-FINAL.....	216
H.1.9	Notice Concerning Usage of ICU4J.....	223
H.1.10	Notice Concerning Usage of Jaxen.....	230
H.1.11	Notice Concerning Usage of JfreeChart Library	231
H.1.12	Notice Concerning Usage of JQuery (3.6.4)	239
H.1.13	Notice Concerning Usage of JQuery UI	239
H.1.14	Notice Concerning Usage of Knockout	240
H.1.15	Notice Concerning Usage of QR Code.....	240
H.1.16	Notice Concerning Usage of SLF4J	240
H.1.17	Notice Concerning Usage of Staxmate	241

H.1.18 Notice Concerning Usage of Swagger-UI	242
H.1.19 Notice Concerning Usage of XStream	242
H.1.20 Notice Concerning Usage of naturalCompare.js.....	242

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 8.0.0.0.0 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 OUA V4.4.0.0 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 8.0.0.0.0. It contains the following topics:

- [Initial Install or Installing Version 8.0.0.0.0 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 8.0.0.0.0 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 8.0.0.0.0** and **Oracle Insurance Revenue Management and Billing 8.0.0.0.0** 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 8.0.0.0.0** or **Oracle Insurance Revenue Management and Billing 8.0.0.0.0** 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 8.0.0.0.0 - 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 8.0.0.0.0 - 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-V80000-FW-PREREQ-MultiPlatform.jar` file.


2.3.1.6 Downloading the ORMB Database Package

Oracle Financial Services Revenue Management and Billing 8.0.0.0.0 and Oracle Insurance Revenue Management and Billing 8.0.0.0.0 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 8.0.0.0.0 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 8.0.0.0.0** or **Oracle Insurance Revenue Management and Billing 8.0.0.0.0** 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 8.0.0.0.0 - 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 8.0.0.0.0 - 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_pdb_output folder to store the log files using the following command:
`mkdir /scratch/mydir/utl32k_cdb_pdb_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_pdb_output' -b`
`utl32k_cdb_pdb_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 8.0.0.0.0. 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 -qtrue
```

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-V80000-FW-PREREQ-MultiPlatform.jar` file.
2. Decompress the JAR file using the following command:

```
jar -xvf ORMB-V80000-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 `TOOLSBBIN` environment variable using the following command:

Windows:

```
SET TOOLSBBIN=TEMPDIR\dbpatch_tools\bin
```

Linux:

```
export TOOLSBBIN=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 8.0.0.0.0:

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 8.0.0.0.0 - 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 8.0.0.0.0, 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	4418
PACKAGE	20
PACKAGE BODY	20
PROCEDURE	2
SEQUENCE	55
TABLE	2720
TRIGGER	1
TYPE	19
TYPE BODY	1
VIEW	195
LOB	345

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 8.0.0.0.0 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 8.0.0.0.0 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 V8.0.0.0.0 Patch Guide](#) (Document ID: 3089016.1) 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 V8.0.0.0.0 Rollup Packs](#).

Apply the ORMB Patches

Once you install Oracle Revenue Management and Billing Version 8.0.0.0.0, you need to apply all patches listed in the [ORMB V8.0.0.0.0 Patch Guide](#) (Document ID: 3089016.1). 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 `V8.0.0.0.0-<PATCH_NUMBER>_MultiPlatform` folder.
4. Change to the `V8.0.0.0.0-<PATCH_NUMBER>_MultiPlatform` folder using the following command:

Linux:

```
cd <DESTINATION_FOLDER_1>/V8.0.0.0.0-<PATCH_NUMBER>_MultiPlatform
```

Windows:

```
cd <DESTINATION_FOLDER_1>\V8.0.0.0.0-<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.V8.0.0.0.0-<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 8.0.0.0.0 (Patch Number: 38104892) |
| Health Insurance domain   | HC DEMO DATA DUMP FOR RMB FOR 8.0.0.0.0 (Patch Number: 38197933)  |

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 **GTB80000\_demodump.zip** and **README.txt** files and the health insurance specific demo dump patch contains the **HC80000\_demodump.zip** and **README.txt** files.
4. Unzip the demo dump zip file in the **TEMPDIR** directory. The contents include the **GTB80000\_demodump.dmp** or **HC80000\_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_pdb_output` folder to store the log files using the following command:

```
mkdir /scratch/mydir/utl32k_cdb_pdb_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_pdb_output' -b
utl32k_cdb_pdb_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 `GTB80000_demodump.dmp` or `HC80000_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                                                                                                                                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>-a &lt;arg&gt;</code> | Generates security for all objects in the database.                                                                                                                                           |
| <code>-d &lt;arg&gt;</code> | Enables you to connect to the database. You must specify the database connection string in the following format:<br><code>\$DB_USER, \$DB_PWD, \$DB_CONNECTION_STRING, \$TARGET_SCHEMA</code> |
| <code>-f &lt;arg&gt;</code> | Generates security for specific objects listed in the input file.                                                                                                                             |
| <code>-h</code>             | Provides information about the utility.                                                                                                                                                       |
| <code>-l &lt;arg&gt;</code> | Enables you to specify the log file name.                                                                                                                                                     |
| <code>-o &lt;arg&gt;</code> | Generates security for comma-separated list of objects.                                                                                                                                       |
| <code>-p &lt;arg&gt;</code> | Enables you to specify the password of Oracle users for which you want to create synonyms.                                                                                                    |
| <code>-q</code>             | Executes the command in the silent mode.                                                                                                                                                      |
| <code>-r &lt;arg&gt;</code> | Enables you to specify the roles for which you want to grant permissions. For example, <code>CIS_READ</code> , <code>CIS_USER</code> , and so on.                                             |
| <code>-u &lt;arg&gt;</code> | 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 V8.0.0.0.0 Patch Guide \(Document ID: 3089016.1\)](#) 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 V8.0.0.0.0 Rollup Packs](#).

**Apply the ORMB Patches**

Once you install Oracle Revenue Management and Billing Version 8.0.0.0.0, you need to apply all patches listed in the [ORMB V8.0.0.0.0 Patch Guide \(Document ID: 3089016.1\)](#). 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 `V8.0.0.0.0-<PATCH_NUMBER>_MultiPlatform` folder.
4. Change to the `V8.0.0.0.0-<PATCH_NUMBER>_MultiPlatform` folder using the following command:

**Linux:**

```
cd <DESTINATION_FOLDER_1>/V8.0.0.0.0-<PATCH_NUMBER>_MultiPlatform
```

**Windows:**

```
cd <DESTINATION_FOLDER_1>\V8.0.0.0.0-<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.V8.0.0.0.0-<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>.

- 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)<br>OR<br>M (if you have MySQL database) |
| Enter the username that owns the schema                 | <DB_USER><br>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><br>OR<br><DB_SERVER:DB_PORT/SERVICE_NAME>    |

- Enter the required parameter value. The following message appears in the command line:  
`Ready to process patches, Do you want to continue? (Y/N)`
- 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:

- Login as `SYS` user.
- On SQL prompt, execute the following SQL:  
`@?/rdbms/admin/userlock.sql`
- 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
'+DATA1/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) CONSTRAINT <> 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<br><b>Note:</b> The value for this parameter should not be changed because it can drastically degrade the batch performance.                                                                    | Yes                                    |
| OPTIMIZER_INDEX_COST_ADJ | 100<br><b>Note:</b> 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                                    |
| STATISTICS_LEVEL         | TYPICAL or ALL<br><b>Note:</b> This parameter is mandatory when you want to use automatic memory management.                                                                                      | Yes                                    |
| TRANSACTIONS             | 3000                                                                                                                                                                                              | No                                     |
| OPEN_CURSORS             | 500                                                                                                                                                                                               | Yes                                    |

| Parameter                     | Recommended Value                                                                                                                                                                                                                                                                                                   | Modifiable in Pluggable Database (PDB) |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| STREAMS_POOL_SIZE             | 200M                                                                                                                                                                                                                                                                                                                | Yes                                    |
| OPTIMIZER_ADAPTIVE_PLANS      | TRUE<br><b>Note:</b> 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<br><b>Note:</b> 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<br><b>Note:</b> By default, the value is set to <b>Manual</b> . We recommend you use the default value. Otherwise, an error might occur while installing ORMB.                                                                                                                                               | Yes                                    |
| CURSOR_SHARING                | EXACT<br><b>Note:</b> By default, the value is set to <b>EXACT</b> . 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.<br><b>Note:</b> 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<br><br><b>Note:</b> 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<br><br><b>Note:</b> If this parameter is set to <b>TRUE</b> , 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                       | <a href="https://docs.oracle.com/en/database/oracle/oracle-database/19/dwhsg/basic-query-rewrite-materialized-views.html">https://docs.oracle.com/en/database/oracle/oracle-database/19/dwhsg/basic-query-rewrite-materialized-views.html</a>                                         |
| Troubleshooting Materialized Views                               | <a href="https://docs.oracle.com/en/database/oracle/oracle-database/19/admin/troubleshooting-problems-with-read-only-materialized-views.html">https://docs.oracle.com/en/database/oracle/oracle-database/19/admin/troubleshooting-problems-with-read-only-materialized-views.html</a> |
| Rewrite for a User other than the Owner of the Materialized View | <a href="#">Query Did Not Rewrite For A User Other Than The Owner Of the Materialized View</a> (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<br>INTERVAL) | ILM_DT        | -                 |
| Billing     | CI_BILL             |                  | RANGE (DATE<br>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<br>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_P EVT_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_P<br>ER_CHAR | REFERENCE             | MEMBERSHIP_ID | -                 |
|                       |               | CI_MEMBERSHIP_L<br>OG      | REFERENCE             | MEMBERSHIP_ID | -                 |
|                       |               | CI_MEMBERSHIP_P<br>ER      | REFERENCE             | MEMBERSHIP_ID | -                 |
|                       |               | CI_MEMBERSHIP_S<br>A       | 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             | -                 |
| Reconciliation and Discrepancy Report | C1_RECONCILIATION |                            | RANGE (DATE INTERVAL) | ILM_DT            | RECONCILIATION_ID |
|                                       |                   | C1_RECONCILIATION_CHAR     | REFERENCE             | RECONCILIATION_ID | -                 |
|                                       |                   | C1_RECONCILIATION_LOG      | REFERENCE             | RECONCILIATION_ID | -                 |
|                                       |                   | C1_RECONCILIATION_LOG_PARM | REFERENCE             | RECONCILIATION_ID | -                 |
|                                       |                   | C1_RECONCILIATION_LEFT_LN  | REFERENCE             | RECONCILIATION_ID | -                 |
|                                       |                   | C1_RECONCILIATION_RIGHT_LN | REFERENCE             | RECONCILIATION_ID | -                 |
|                                       | C1_PAY_INS        |                            | RANGE (DATE INTERVAL) | ILM_DT            | PAY_INS_ID        |
|                                       |                   | C1_PAY_INS_ADJ             | REFERENCE             | PAY_INS_ID        | -                 |
|                                       |                   | C1_PAY_INS_CHAR            | REFERENCE             | PAY_INS_ID        | -                 |
|                                       |                   | C1_PAY_INS_LOG             | REFERENCE             | PAY_INS_ID        | -                 |
|                                       |                   | C1_PAY_INS_LOG_PARM        | REFERENCE             | PAY_INS_ID        | -                 |
|                                       |                   | C1_PAY_INS_REL_OBJ         | REFERENCE             | PAY_INS_ID        | -                 |

| Module Name | Table Name         | Child Table Name              | Partition Type        | Partition Key      | Sub-Partition Key  |
|-------------|--------------------|-------------------------------|-----------------------|--------------------|--------------------|
|             | C1_DISCREPANCY_RPT |                               | RANGE (DATE INTERVAL) | ILM_DT             | DISCREPANCY_RPT_ID |
|             |                    | C1_DISCREPANCY_RPT_CHAR       | REFERENCE             | DISCREPANCY_RPT_ID | -                  |
|             |                    | C1_DISCREPANCY_RPT_LN         | REFERENCE             | DISCREPANCY_RPT_ID | -                  |
|             |                    | C1_DISCREPANCY_RPT_LN_CHAR    | REFERENCE             | DISCREPANCY_RPT_ID | -                  |
|             |                    | C1_DISCREPANCY_RPT_LN_REL_OBJ | REFERENCE             | DISCREPANCY_RPT_ID | -                  |
|             |                    | C1_DISCREPANCY_RPT_LOG        | REFERENCE             | DISCREPANCY_RPT_ID | -                  |
|             |                    | C1_DISCREPANCY_RPT_LOG_PARM   | REFERENCE             | DISCREPANCY_RPT_ID | -                  |
|             |                    | C1_DISCREPANCY_RPT_RECON_LN   | REFERENCE             | DISCREPANCY_RPT_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:
  - Export data from the tables using the Oracle Export Data Pump functionality (i.e. expdp) with the **Data Only** option.
  - Drop the tables and recreate them with partition.
  - Import the data in the tables using the Oracle Import Data Pump functionality (i.e. impdp).
  - 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 V8.0.0.0.0` patch (Patch Number: 38066821) on [My Oracle Support](#).

- `ONLINE_V80000_C1_DISCREPANCY_RPT_table_reference_part.sql`
- `ONLINE_V80000_match_evT_REPRC_REQ_table_part_EXA.sql`
- `ONLINE_V80000_AUDIT_table_reference_part.sql`
- `ONLINE_V80000_CI_ADJ and referencePartiton_tables.sql`
- `ONLINE_V80000_CI_BILL and referencePartiton_tables.sql`
- `ONLINE_V80000_CI_BILL_CHG and referencePartiton_tables.sql`
- `ONLINE_V80000_CI_BSEG and referencePartiton_tables.sql`
- `ONLINE_V80000_CI_FT_and referencePartiton_tables.sql`
- `ONLINE_V80000_CI_MEMBERSHIP_and referencePartiton_tables.sql`
- `ONLINE_V80000_CI_PAY_and referencePartiton_tables.sql`
- `ONLINE_V80000_CI_TRL_BILL_table_reference_part.sql`
- `ONLINE_V80000_CI_TRL_BSEG_table_reference_part.sql`
- `ONLINE_V80000_CI_TRL_FT_table_reference_part.sql`
- `ONLINE_V80000_INBOUND_and referencePartiton_tables.sql`
- `ONLINE_V80000_PRCE_CALC_and referencePartiton_tables.sql`
- `ONLINE_V80000_TFM_MODULE_PARTITIONED_TABLES.sql`
- `ONLINE_V80000_C1_RECONCILIATION_table_reference_part.sql`
- `ONLINE_V80000_C1_PAY_INS_table_reference_part.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 1<sup>st</sup> filter will disable the advisor for all objects; 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> filters will enable the `AvoidStaleStats`, `UseIncremental`, and `NotUseIncremental` rules for the CISADM objects; and 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> 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 V8.0.0.0.0 Database

This section lists the objects that are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 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 V8.0.0.0.0 database.

### A.1.1 New Tables

The following table is newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Table           | Description            |
|-----------------|------------------------|
| CI_BILL_CHG_RSN | Billable Charge Reason |

### A.1.2 Added Columns

The following columns are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Table                | Column                  | Column Description            | Required (Yes or No) |
|----------------------|-------------------------|-------------------------------|----------------------|
| C1_BILL_FACT_INTG    | CRE_DTTM                | Create Date/Time              | No                   |
| C1_FT_BSEG_FACT_INTG | EFFDT                   | Effective Date                | No                   |
|                      | HEADER_SEQ              | Header Sequence               | No                   |
|                      | BILLABLE_CHG_STAT       | Billable Charge Status        | No                   |
| C1_BILL_CORR_DTLS    | BILL_CORR_ENTITY_ST_FLG | Bill Correction Entity Status | Yes                  |
| C1_RECON_DATA        | EXTERNAL_REF_KEY        | External Reference Key        | No                   |
|                      | MATCH_STR               | Match String                  | No                   |
| C1_RECONCILIATION    | MATCH_STR               | Match String                  | No                   |

| Table            | Column           | Column Description            | Required (Yes or No) |
|------------------|------------------|-------------------------------|----------------------|
| C1_STM_ACCT_INTG | ACCT_ID          | Account ID                    | No                   |
|                  | APAY_END_DT      | Apay End Date                 | No                   |
|                  | APAY_START_DT    | Apay Start Date               | No                   |
|                  | BILL_MSG_CD      | Bill Message                  | No                   |
|                  | BILL_MSG_DESCR   | Bill Message Description      | No                   |
|                  | CIS_DIVISION     | Division                      | No                   |
|                  | CURRENCY_CD      | Currency Code                 | No                   |
|                  | CUST_CL_CD       | Customer Class                | No                   |
|                  | CUST_CL_CD_DESCR | Description                   | No                   |
|                  | ENCR_EXT_ACCT_ID | Encrypted External Account ID | No                   |
|                  | EXT_ACCT_ID      | Account Number                | No                   |
|                  | HOST_CURRENCY_CD | Host Currency                 | No                   |
|                  | IBAN             | IBAN                          | No                   |
|                  | SENDER_PER_ID    | Sender Per Id                 | No                   |
|                  | SERVICER_PER_ID  | Servicer Per Id               | No                   |
|                  | TAX_REGION       | Tax Region                    | No                   |
|                  | UDF1_FIELD       | User Field 1                  | No                   |
|                  | UDF10_FIELD      | User Field 10                 | No                   |
|                  | UDF11_FIELD      | User Field 11                 | No                   |
|                  | UDF12_FIELD      | User Field 12                 | No                   |
|                  | UDF13_FIELD      | User Field 13                 | No                   |
|                  | UDF14_FIELD      | User Field 14                 | No                   |
|                  | UDF15_FIELD      | User Field 15                 | No                   |
|                  | UDF16_FIELD      | User Field 16                 | No                   |
|                  | UDF17_FIELD      | User Field 17                 | No                   |
|                  | UDF18_FIELD      | User Field 18                 | No                   |
|                  | UDF19_FIELD      | User Field 19                 | No                   |
|                  | UDF2_FIELD       | User Field 2                  | No                   |
|                  | UDF20_FIELD      | User Field 20                 | No                   |
|                  | UDF21_FIELD      | User Field 21                 | No                   |

| Table           | Column           | Column Description         | Required (Yes or No) |
|-----------------|------------------|----------------------------|----------------------|
|                 | UDF22_FIELD      | User Field 22              | No                   |
|                 | UDF23_FIELD      | User Field 23              | No                   |
|                 | UDF24_FIELD      | User Field 24              | No                   |
|                 | UDF25_FIELD      | User Field 25              | No                   |
|                 | UDF3_FIELD       | User Field 3               | No                   |
|                 | UDF4_FIELD       | User Field 4               | No                   |
|                 | UDF5_FIELD       | User Field 5               | No                   |
|                 | UDF6_FIELD       | User Field 6               | No                   |
|                 | UDF7_FIELD       | User Field 7               | No                   |
|                 | UDF8_FIELD       | User Field 8               | No                   |
|                 | UDF9_FIELD       | User Field 9               | No                   |
| C1_STM_ADJ_INTG | ADJ_DESCR        | Description                | No                   |
|                 | ADJ_ID           | Adjustment ID              | No                   |
|                 | ADJ_TYPE_CD      | Adjustment Type            | No                   |
|                 | BILL_ID          | Bill ID                    | No                   |
|                 | CRE_DT           | Creation Date              | No                   |
|                 | CUR_AMT          | Current Amount             | No                   |
|                 | CURRENCY_CD      | Currency Code              | No                   |
|                 | FT_TYPE_FLG      | Financial Transaction Type | No                   |
|                 | SA_ID            | Contract ID                | No                   |
| C1_STM_PER_INTG | ACCT_NAME_PREFIX | Account Name Prefix        | No                   |
|                 | ADDRESS          | Address 2                  | No                   |
|                 | ADDRESS_2        | Address 2                  | No                   |
|                 | ADDRESS_3        | Address 3                  | No                   |
|                 | ADDRESS_4        | Address 4                  | No                   |
|                 | BICFI_NBR        | BICFI Number               | No                   |
|                 | COUNTRY          | Country                    | No                   |
|                 | EMAIL_ID         | Email ID                   | No                   |
|                 | ENTITY_NAME      | Name                       | No                   |
|                 | FAX_NUMBER       | Fax Number                 | No                   |

| Table | Column        | Column Description | Required (Yes or No) |
|-------|---------------|--------------------|----------------------|
|       | LEGAL_NAME    | Legal Name         | No                   |
|       | MOBILE_NUMBER | Mobile Number      | No                   |
|       | PER_ID        | Person ID          | No                   |
|       | PH_COUNTRY_CD | Phone Country Code | No                   |
|       | PHONE_NUMBER  | Phone Number       | No                   |
|       | POST_CODE     | Postal Code        | No                   |
|       | STATE         | State              | No                   |
|       | STATE_DESCR   | State Description  | No                   |
|       | UDF1_FIELD    | User Field 1       | No                   |
|       | UDF10_FIELD   | User Field 10      | No                   |
|       | UDF11_FIELD   | User Field 11      | No                   |
|       | UDF12_FIELD   | User Field 12      | No                   |
|       | UDF13_FIELD   | User Field 13      | No                   |
|       | UDF14_FIELD   | User Field 14      | No                   |
|       | UDF15_FIELD   | User Field 15      | No                   |
|       | UDF16_FIELD   | User Field 16      | No                   |
|       | UDF17_FIELD   | User Field 17      | No                   |
|       | UDF18_FIELD   | User Field 18      | No                   |
|       | UDF19_FIELD   | User Field 19      | No                   |
|       | UDF2_FIELD    | User Field 2       | No                   |
|       | UDF20_FIELD   | User Field 20      | No                   |
|       | UDF21_FIELD   | User Field 21      | No                   |
|       | UDF22_FIELD   | User Field 22      | No                   |
|       | UDF23_FIELD   | User Field 23      | No                   |
|       | UDF24_FIELD   | User Field 24      | No                   |
|       | UDF25_FIELD   | User Field 25      | No                   |
|       | UDF3_FIELD    | User Field 3       | No                   |
|       | UDF4_FIELD    | User Field 4       | No                   |
|       | UDF5_FIELD    | User Field 5       | No                   |
|       | UDF6_FIELD    | User Field 6       | No                   |

| Table               | Column                    | Column Description                | Required (Yes or No) |
|---------------------|---------------------------|-----------------------------------|----------------------|
|                     | UDF7_FIELD                | User Field 7                      | No                   |
|                     | UDF8_FIELD                | User Field 8                      | No                   |
|                     | UDF9_FIELD                | User Field 9                      | No                   |
| C1_STM_SERVICE_INTG | APAY_CRE_DT               | Auto Pay Creation Date            | No                   |
|                     | BILL_CURRENCY             | Bill Currency                     | No                   |
|                     | BILL_DT                   | Bill Date                         | No                   |
|                     | BILL_ID                   | Bill ID                           | No                   |
|                     | BILL_SQ                   | Billable Service Quantity         | No                   |
|                     | CALC_ID                   | Calc Id                           | No                   |
|                     | CHARGE_AMOUNT             | Charge Amount                     | No                   |
|                     | CHARGE_AMOUNT_IN_PCCY     | Charge Amount in Pricing Currency | No                   |
|                     | CHARGE_TYPE               | Charge Type                       | No                   |
|                     | EXCHRATE                  | Exchange Rate                     | No                   |
|                     | EXT_DST_ID                | Extract DST ID                    | No                   |
|                     | EXT_PRICEITEM_CD          | Extract Price Item                | No                   |
|                     | HEADER_SEQ                | Header Sequence                   | No                   |
|                     | LOWER_LIMIT               | Lower limit                       | No                   |
|                     | PAYMENT_METHOD            | Payment Method                    | No                   |
|                     | PRICE_CURRENCY            | Price Currency                    | No                   |
|                     | PRICE_IN_BILL_CURRENCY    | Price In Billing Currency         | No                   |
|                     | PRICE_IN_PRICING_CURRENCY | Price in Pricing Currency         | No                   |
|                     | PRICEITEM_DESCR           | Priceitem                         | No                   |
|                     | RC_TYPE_FLG               | Rate Component Type               | No                   |
|                     | SA_ID                     | Contract ID                       | No                   |
|                     | SEQNO                     | Sequence                          | No                   |
|                     | SERVICE_CD                | Product Service                   | No                   |
|                     | SETTLEMENT_ACCT_ID        | Settlement Account ID             | No                   |
|                     | SQI                       | SQI                               | No                   |
|                     | SQI_DESCRIPTION           | SQI Description                   | No                   |
|                     | TAXLINEYN                 | Tax Line Yes No                   | No                   |

| Table            | Column            | Column Description             | Required (Yes or No) |
|------------------|-------------------|--------------------------------|----------------------|
|                  | UPPER_LIMIT       | Upper Limit                    | No                   |
|                  | USAGE_ACCOUNT     | Usage Account                  | No                   |
|                  | VAL_SRC_FLG       | Value Source                   | No                   |
|                  | VAL_TYPE_FLG      | Value Type                     | No                   |
| C1_TXN_DTLS_INTG | ACCT_ID           | Account ID                     | No                   |
|                  | ACCT_NBR          | Account Identifier             | No                   |
|                  | ACCT_NBR_TYPE_CD  | Account Identifier Type        | No                   |
|                  | ACCUM_AFTER_DT    | Accumulate After Date          | No                   |
|                  | ACCUM_GRP_ID      | Accumulation Group ID          | No                   |
|                  | ACCUMULATION_SW   | Accumulation Switch            | No                   |
|                  | ADHOC_CHAR_VAL_1  | Adhoc Characteristic Value_1   | No                   |
|                  | ADHOC_CHAR_VAL_10 | Adhoc Characteristic Value 10  | No                   |
|                  | ADHOC_CHAR_VAL_2  | Adhoc Characteristic Value2    | No                   |
|                  | ADHOC_CHAR_VAL_3  | Adhoc Characteristic Value3    | No                   |
|                  | ADHOC_CHAR_VAL_4  | Adhoc Characteristic Value 7   | No                   |
|                  | ADHOC_CHAR_VAL_5  | Adhoc Characteristic Value 5   | No                   |
|                  | ADHOC_CHAR_VAL_6  | Adhoc Characteristic Value 6   | No                   |
|                  | ADHOC_CHAR_VAL_7  | Adhoc Characteristic Value 7   | No                   |
|                  | ADHOC_CHAR_VAL_8  | Adhoc Characteristic Value 8   | No                   |
|                  | ADHOC_CHAR_VAL_9  | Adhoc Characteristic Value 9   | No                   |
|                  | AGG_PARM_GRP_ID   | Aggregation Parameter Group ID | No                   |
|                  | BASE_AMT          | Base Amount                    | No                   |
|                  | BILL_LVL_ID       | Bill Level ID                  | No                   |



| Table | Column          | Column Description            | Required (Yes or No) |
|-------|-----------------|-------------------------------|----------------------|
|       | BILL_SQ         | Billable Service Quantity     | No                   |
|       | BILLABLE_CHG_ID | Billable Charge ID            | No                   |
|       | CALC_AMT        | Calculated Amount             | No                   |
|       | CALC_ONLY_SW    | For Calculation Purposes Only | No                   |
|       | 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                   |
|       | 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                   |
|       | CIS_DIVISION    | Division                      | No                   |
|       | CURRENCY_CD     | Currency Code                 | No                   |
|       | DATA_LOAD_DTTM  | Data Load Date/Time           | No                   |
|       | DER_DIVISION    | Derived Division              | No                   |
|       | DESCR_ON_BILL   | Description on Bill           | No                   |
|       | DST_ID          | Distribution Code             | No                   |

| Table | Column                | Column Description         | Required (Yes or No) |
|-------|-----------------------|----------------------------|----------------------|
|       | EFFDT                 | Effective Date             | No                   |
|       | END_DT                | End Date                   | No                   |
|       | EXCHRATE              | Exchange Rate              | No                   |
|       | EXCHRATE_ID           | Exchange Rate ID           | No                   |
|       | EXEMPT_AMT            | Exempt Amount              | No                   |
|       | HEADER_SEQ            | Header Sequence            | No                   |
|       | INITIAL_PRICE_ITEM_CD | Initial Price Item Code    | No                   |
|       | MEMBER_SUBSCRIBER_ID  | Member/Subscriber ID       | No                   |
|       | MSR_PEAK_QTY_SW       | Measures Peak Qty          | No                   |
|       | ORG_TXN_DATE          | Original Transaction Date  | No                   |
|       | PRECS_CALC_AMT        | Precise Calculated Amount  | No                   |
|       | PRIC_AMT              | Pricing Amount             | No                   |
|       | PRIC_CCY_CD           | Pricing Currency Code      | No                   |
|       | PRICE_ASGN_ID         | Price Assignment ID        | No                   |
|       | PRICECOMP_ID          | Price Component ID         | No                   |
|       | PRICEITEM_PARM_GRP_ID | Price Item Parameters      | No                   |
|       | PRICING_RULE_ID       | Pricing Rule ID            | No                   |
|       | RC_SEQ                | Sequence                   | No                   |
|       | RS_CD                 | Rate Schedule              | No                   |
|       | SEQ_NO                | Display Sequence           | No                   |
|       | SQI_CD                | SQI                        | No                   |
|       | START_DT              | Start Date                 | No                   |
|       | SUMMARY_ID            | Summary ID                 | No                   |
|       | SVC_QTY               | Daily Service Quantity     | No                   |
|       | TOT_AGG_SQ            | Aggregated SQ              | No                   |
|       | TXN_AMT               | Transaction Amount         | No                   |
|       | TXN_CALC_ID           | Transaction Calculation ID | No                   |
|       | TXN_DETAIL_ID         | Transaction ID             | No                   |
|       | TXN_DTTM              | Transaction Date           | No                   |
|       | TXN_HEADER_ID         | Transaction Header ID      | No                   |

| Table | Column              | Column Description          | Required (Yes or No) |
|-------|---------------------|-----------------------------|----------------------|
|       | TXN_RATING_CRITERIA | Transaction Rating Criteria | No                   |
|       | TXN_REC_TYPE_CD     | Transaction Record Type     | No                   |
|       | TXN_SOURCE_CD       | Transaction Source          | No                   |
|       | TXN_VOL             | Transaction Volume          | No                   |
|       | UDF_AMT_1           | Additional Amount 1         | No                   |
|       | UDF_AMT_10          | Additional Amount 10        | No                   |
|       | UDF_AMT_2           | Additional Amount 2         | No                   |
|       | UDF_AMT_3           | Additional Amount 3         | No                   |
|       | UDF_AMT_4           | Additional Amount 4         | No                   |
|       | UDF_AMT_5           | Additional Amount 5         | No                   |
|       | UDF_AMT_6           | Additional Amount 6         | No                   |
|       | UDF_AMT_7           | Additional Amount 7         | No                   |
|       | UDF_AMT_8           | Additional Amount 8         | No                   |
|       | UDF_AMT_9           | Additional Amount 9         | No                   |
|       | UDF_CHAR_1          | Additional Data 1           | No                   |
|       | UDF_CHAR_10         | Additional Data 10          | No                   |
|       | UDF_CHAR_11         | Additional Data 11          | No                   |
|       | UDF_CHAR_12         | Additional Data 12          | No                   |
|       | UDF_CHAR_13         | Additional Data 13          | No                   |
|       | UDF_CHAR_14         | Additional Data 14          | No                   |
|       | UDF_CHAR_15         | Additional Data 15          | No                   |
|       | UDF_CHAR_16         | Additional Data 16          | No                   |
|       | UDF_CHAR_17         | Additional Data 17          | No                   |
|       | UDF_CHAR_18         | Additional Data 18          | No                   |
|       | UDF_CHAR_19         | Additional Data 19          | No                   |
|       | UDF_CHAR_2          | Additional Data 2           | No                   |
|       | UDF_CHAR_20         | Additional Data 20          | No                   |
|       | UDF_CHAR_21         | Additional Data 21          | No                   |
|       | UDF_CHAR_22         | Additional Data 22          | No                   |
|       | UDF_CHAR_23         | Additional Data 23          | No                   |

| Table | Column      | Column Description | Required (Yes or No) |
|-------|-------------|--------------------|----------------------|
|       | UDF_CHAR_24 | Additional Data 24 | No                   |
|       | UDF_CHAR_25 | Additional Data 25 | No                   |
|       | UDF_CHAR_26 | Additional Data 26 | No                   |
|       | UDF_CHAR_27 | Additional Data 27 | No                   |
|       | UDF_CHAR_28 | Additional Data 28 | No                   |
|       | UDF_CHAR_29 | Additional Data 29 | No                   |
|       | UDF_CHAR_3  | Additional Data 3  | No                   |
|       | UDF_CHAR_30 | Additional Data 30 | No                   |
|       | UDF_CHAR_31 | Additional Data 31 | No                   |
|       | UDF_CHAR_32 | Additional Data 32 | No                   |
|       | UDF_CHAR_33 | Additional Data 33 | No                   |
|       | UDF_CHAR_34 | Additional Data 34 | No                   |
|       | UDF_CHAR_35 | Additional Data 35 | No                   |
|       | UDF_CHAR_36 | Additional Data 36 | No                   |
|       | UDF_CHAR_37 | Additional Data 37 | No                   |
|       | UDF_CHAR_38 | Additional Data 38 | No                   |
|       | UDF_CHAR_39 | Additional Data 39 | No                   |
|       | UDF_CHAR_4  | Additional Data 4  | No                   |
|       | UDF_CHAR_40 | Additional Data 40 | No                   |
|       | UDF_CHAR_41 | Additional Data 41 | No                   |
|       | UDF_CHAR_42 | Additional Data 42 | No                   |
|       | UDF_CHAR_43 | Additional Data 43 | No                   |
|       | UDF_CHAR_44 | Additional Data 44 | No                   |
|       | UDF_CHAR_45 | Additional Data 45 | No                   |
|       | UDF_CHAR_46 | Additional Data 46 | No                   |
|       | UDF_CHAR_47 | Additional Data 47 | No                   |
|       | UDF_CHAR_48 | Additional Data 48 | No                   |
|       | UDF_CHAR_49 | Additional Data 49 | No                   |
|       | UDF_CHAR_5  | Additional Data 5  | No                   |
|       | UDF_CHAR_50 | Additional Data 50 | No                   |

| Table | Column             | Column Description         | Required (Yes or No) |
|-------|--------------------|----------------------------|----------------------|
|       | UDF_CHAR_6         | Additional Data 6          | No                   |
|       | UDF_CHAR_7         | Additional Data 7          | No                   |
|       | UDF_CHAR_8         | Additional Data 8          | No                   |
|       | UDF_CHAR_9         | Additional Data 9          | No                   |
|       | UDF_CURRENCY_CD_1  | Amount 1 Currency Code     | No                   |
|       | UDF_CURRENCY_CD_10 | Amount 10 Currency Code    | No                   |
|       | UDF_CURRENCY_CD_2  | Amount 2 Currency Code     | No                   |
|       | UDF_CURRENCY_CD_3  | Amount 3 Currency Code     | No                   |
|       | UDF_CURRENCY_CD_4  | Amount 4 Currency Code     | No                   |
|       | UDF_CURRENCY_CD_5  | Amount 5 Currency Code     | No                   |
|       | UDF_CURRENCY_CD_6  | Amount 6 Currency Code     | No                   |
|       | UDF_CURRENCY_CD_7  | Amount 7 Currency Code     | No                   |
|       | UDF_CURRENCY_CD_8  | Amount 8 Currency Code     | No                   |
|       | UDF_CURRENCY_CD_9  | Amount 9 Currency Code     | No                   |
|       | UDF_DTTM_1         | Additional Date 1          | No                   |
|       | UDF_DTTM_2         | Additional Date 2          | No                   |
|       | UDF_DTTM_3         | Additional Date 3          | No                   |
|       | UDF_DTTM_4         | Additional Date 4          | No                   |
|       | UDF_DTTM_5         | Additional Date 5          | No                   |
|       | UDF_NBR_1          | Additional Numeric Data 1  | No                   |
|       | UDF_NBR_10         | Additional Numeric Data 10 | No                   |
|       | UDF_NBR_11         | Additional Numeric Data 11 | No                   |
|       | UDF_NBR_12         | Additional Numeric Data 12 | No                   |
|       | UDF_NBR_13         | Additional Numeric Data 13 | No                   |
|       | UDF_NBR_14         | Additional Numeric Data 14 | No                   |
|       | UDF_NBR_15         | Additional Numeric Data 15 | No                   |

| Table | Column     | Column Description         | Required (Yes or No) |
|-------|------------|----------------------------|----------------------|
|       | UDF_NBR_16 | Additional Numeric Data 16 | No                   |
|       | UDF_NBR_17 | Additional Numeric Data 17 | No                   |
|       | UDF_NBR_18 | Additional Numeric Data 18 | No                   |
|       | UDF_NBR_19 | Additional Numeric Data 19 | No                   |
|       | UDF_NBR_2  | Additional Numeric Data 2  | No                   |
|       | UDF_NBR_20 | Additional Numeric Data 20 | No                   |
|       | UDF_NBR_3  | Additional Numeric Data 3  | No                   |
|       | UDF_NBR_4  | Additional Numeric Data 4  | No                   |
|       | UDF_NBR_5  | Additional Numeric Data 5  | No                   |
|       | UDF_NBR_6  | Additional Numeric Data 6  | No                   |
|       | UDF_NBR_7  | Additional Numeric Data 7  | No                   |
|       | UDF_NBR_8  | Additional Numeric Data 8  | No                   |
|       | UDF_NBR_9  | Additional Numeric Data 9  | No                   |
|       | VALUE_AMT  | Rate                       | No                   |

### A.1.3 Dropped Tables

None

### A.1.4 Dropped Columns

The following columns are removed from the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Table                       | Column      | Column Description   |
|-----------------------------|-------------|----------------------|
| C1_DISCREPANCY_RPT_RECON_LN | DSC_AMT     | Discrepancy Amount   |
|                             | DSC_CAT_FLG | Discrepancy Category |

### A.1.5 Added Views

None

## A.1.6 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 V8.0.0.0.0 database.

### A.2.1 Algorithm Types

The following algorithm types are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Algorithm Type | Description                                                       |
|----------------|-------------------------------------------------------------------|
| C1_ACTPSPROC   | Account Post Processing Algorithm.                                |
| C1_PERINFO     | Person Information with Rebate Profile Status .                   |
| C1_RBPBLEL     | Rebate Period - Bill Eligibility                                  |
| C1_RBPRSTBLE   | Rebate Profile Status - Bill Eligibility                          |
| C1_RLCRTMNI    | Rule Criteria Algorithm for MNI Derivation                        |
| C1_TFMBCDTUP   | Rebate Period - TFM Billable Charge Date Update                   |
| C1-BCUPLSACR   | Billable Charge Upload - Contract Creation                        |
| C1-BLCORAGGU   | Bill Correction - Update TFM entity status                        |
| C1-BLCORBCHG   | Bill Correction Billable Charge Summary Information               |
| C1-BLCORDSGU   | Bill Correction - Update Disaggregation entity status             |
| C1-BLCORPRAS   | Bill Correction Price Assignment Summary Information              |
| C1CREOVBIL     | Overdue Process Creation                                          |
| C1-DFT-EXS     | Payment Request - Excess tender amount payment creation algorithm |
| C1-DRILMELIG   | ILM Eligibility Algorithm Type for Discrepancy Report             |
| C1-DSRPRE      | Discrepancy Report - Pre Processing                               |
| C1-EGLFCTEX    | Enhanced GL Data Extract for Financial Cloud                      |
| C1-FOPPRICE    | FOP Pricing Detail Report Algorithm Type                          |
| C1-FRPREBCUP   | File Request Pre-processing algorithm type Billable Charge Upload |
| C1-FRRC        | File Request Record Cleaner Algorithm Type                        |
| C1-GLBUILD     | GL String Construction Based on Chart of Accounts                 |

| Algorithm Type | Description                                                                            |
|----------------|----------------------------------------------------------------------------------------|
| C1-HCINBHOLD   | This algorithm places the account on hold in case of an error during inbound execution |
| C1-HDRVA       | File Request Header footer Validation Algorithm Type                                   |
| C1-HRFRT       | This algorithm will hold accounts for all Billable Charge creation errors via FRT.     |
| C1-INVDPBPM    | Invoice Request Deferred Process Batch status monitor                                  |
| C1-INVRQPRCS   | Invoice request - Enter status algorithm for Processed                                 |
| C1-MD-PER      | Manual Distribution of open bills under person hierarchy                               |
| C1-MINRGT      | Minimum Rate Guarantee Derivation for Individual Membership                            |
| C1-MO-REGCHN   | Capture Change for Ongoing Export                                                      |
| C1-NXBLDTCAL   | Rebate Period - Next Billing Date Calculation Algorithm Type                           |
| C1-PYBLSUSP    | Apply payment to invoice or suspense                                                   |
| C1-REILMELIG   | ILM Eligibility Algorithm for Reconciliation and Pay Instructions                      |
| C1-REOPDELIN   | Reinstate delinquency process when offset request unapplied                            |
| C1-RETERTRPS   | Retention Enrollment Tier Based - Pricing Information Creation                         |
| C1-RLCRTFLD    | Rule Criteria Field Algorithm to identify IBIP products                                |
| C1-RSTCHKLST   | Resets the Pre-Billing Checklist                                                       |
| C1-STBSSN      | Stamp Billing Statement Series Number                                                  |
| C1-STMPADFTX   | Stamp Adjustment FT Extension and GL Split                                             |
| C1-STMPNXTDT   | Stamp Next Billing Date on Bill Completion                                             |
| C1-STPRNB      | Stamp Payment Reference Number                                                         |
| C1-VLDCHKLST   | Validate Pre-Billing CheckList.                                                        |
| RA             | Rebate Aggerate Spend Amount Exclusion SQ Rule.                                        |

## A.2.2 Algorithms

The following algorithms are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Algorithm    | Description                                                       |
|--------------|-------------------------------------------------------------------|
| C1-BLCORBCHG | Bill Correction Billable Charge Summary Information               |
| C1-BLCORPRAS | Bill Correction Type - Price Assignment Summary                   |
| C1-DFT-EXS   | Payment Request - Excess tender amount payment creation algorithm |
| C1-DRILMELIG | ILM Eligibility Algorithm Type for Discrepancy Report             |



| Algorithm    | Description                                                                            |
|--------------|----------------------------------------------------------------------------------------|
| C1-DSRPRE    | Discrepancy Report - Pre Processing                                                    |
| C1-FOPPRICE  | FOP Pricing Details Report Algorithm                                                   |
| C1-FRPREBCUP | File Request Pre-processing algorithm Billable Charge Upload                           |
| C1-FRRC      | File Request Record Cleaner                                                            |
| C1-HCINBHOLD | This algorithm places the account on hold in case of an error during inbound execution |
| C1-HDRVA     | Header Validation                                                                      |
| C1-HRFRT     | This algorithm will hold accounts for all Billable Charge creation errors via FRT.     |
| C1-INVDPBM   | Invoice Request Deferred Process Batch status monitor                                  |
| C1-INVRQPRCS | Invoice request - Enter status algorithm for Processed                                 |
| C1-MINRGT    | Minimum Rate Guarantee Derivation for Individual Membership                            |
| C1-MO-REGCHN | Capture Change for Ongoing Export                                                      |
| C1-REILMELIG | ILM Eligibility Algorithm for Reconciliation and Pay Instructions                      |
| C1-REOPDELIN | Reinstate delinquency process when offset request unapplied                            |
| C1-RETERTRPS | Retention Enrollment Tier Based - Pricing Information Creation                         |
| C1-STMPADFTX | Stamp Adjustment FT Extension                                                          |

### A.2.3 Business Services

The following business services are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Business Service               | Description                                 |
|--------------------------------|---------------------------------------------|
| C1_PREPRICASGNW                | Default Values in Price Item Pricing Screen |
| C1-AttachmentDetails           | Billing Attachment Details                  |
| C1-BillAccSumry                | Billing Accuracy Summary                    |
| C1-BillCorrInitDisagg          | Bill Correction - Initiate Disaggregation   |
| C1-BillCorrRegenActions        | Bill Correction Regeneration Actions        |
| C1-BillngSmry                  | Billing Summary                             |
| C1-ComputationSummary          | Billing Statement Computation Summary       |
| C1-DraftBillComputationSummary | Draft Billing Statement Computation Summary |
| C1-DraftBillingAttachmentDtls  | Draft Billing Attachment Details            |
| C1-GENSEQNO                    | Series Number Generation Business Service   |

| Business Service               | Description                                                |
|--------------------------------|------------------------------------------------------------|
| C1-GETELGACC                   | Get Eligible Accounts for Invoicing                        |
| C1-GETELGDTINVC                | Get Eligible Data for Invoicing                            |
| C1-GETITMLST                   | Get Item List Details of the Account                       |
| C1-GETPARM                     | Get LHS PARM                                               |
| C1-GETPCIDS                    | Get Price Assignment Price Component IDs                   |
| C1-GetPrcItemPrmValue          | Price Item Parameter values                                |
| C1-GETPREPARM                  | Get Price Parm Pre Defined Val                             |
| C1-GETPRPRMS                   | Get Price Parameters Info String                           |
| C1-GETREFPARM                  | Get Price Parm Ref Val                                     |
| C1-OBRExtract                  | OBR Extract Business Service                               |
| C1-PrcParmSearch               | Price Item Parameter Search                                |
| C1-PRICECOMTREE                | Price Assignment Component Tree                            |
| C1-RetrieveBillCorImpBcSummary | Retrieve Bill Correction Impacted Billable Charge Summary  |
| C1-RetrieveBillCorImpPASummary | Retrieve Bill Correction Impacted Price Assignment Summary |
| C1-RetrieveFcInstallationOpt   | Bill Correction - F/C Installation Option                  |
| C1-RevenueSumry                | Revenue Summary                                            |
| C1-SELECTSERVICE               | Select AI Service                                          |

## A.2.4 Portals

The following portals are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Portal     | Description                  |
|------------|------------------------------|
| C1_BLASMRY | Billing Accuracy Summary     |
| C1_BLST    | Billing Statistics Dashboard |
| C1_REVSMRY | Revenue Summary              |
| C1HCHLCK   | Health Check                 |

## A.2.5 Batch Controls

The following batch controls are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Batch Control | Description                                       |
|---------------|---------------------------------------------------|
| C1-ACKRP      | Acknowledgement Receipt Extract                   |
| C1BLSTEX      | Billing Statement Extract                         |
| C1DRBLEX      | Draft Billing Extract                             |
| C1-DRCRL      | ILM Crawler - Discrepancy Report                  |
| C1-EGLER      | Enhanced GL Extract ERP Financial Cloud           |
| C1-EVGST      | Evergreen Status Update Batch                     |
| C1-GNISN      | Generate Invoice Series Number for Accounts       |
| C1-INVEX      | Generate Invoice XML Extract                      |
| C1-INVME      | Stamp Extracted Invoice with Extract Batch Number |
| C1-INVSN      | Stamp Invoice Series Number for Earned FTs        |
| C1-OBREX      | Generate Outstanding Balance Report Extract       |
| C1-RECRL      | ILM Crawler - Reconciliation and Pay Instruction  |
| C1-SARSN      | Stamp AR Series Number                            |

## A.2.6 Foreign Key References

The following foreign key reference is newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Foreign Key Reference | Description     |
|-----------------------|-----------------|
| C1-BLCHG              | Billable Charge |

## A.2.7 Scripts

The following scripts are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Script       | Description                                        |
|--------------|----------------------------------------------------|
| C1_DEL_ACCPR | Edit Product Pricing                               |
| C1_VAL_CONST | BDD Construct zone Search Filter Validation script |
| C1-ApTrPrCpy | Pricing Rule - maintenance                         |

| Script       | Description                                             |
|--------------|---------------------------------------------------------|
| C1-BCIMPBCHG | Bill Correction - Impacted Bills Zone Condition         |
| C1-BCIMPCOND | Bill Correction - Impacted Bills Zone Condition         |
| C1-BCINIDISA | Bill Correction - Initiate Disaggregation               |
| C1-BCREGEN   | Bill Correction - Regenerate Bills Action               |
| C1-BillLvI2  | Validate Tiles                                          |
| C1-DpEntySrc | Duplicate Entity Zone - Check SQL Condition             |
| C1-HcDupSrFl | Zone User Filters - Validation                          |
| C1-HcMemNtBl | Zone User Filters - Validation                          |
| C1-InbSrVal  | Zone User Filters - Validation                          |
| C1-InbStatZn | Error Message Inbound Zone - Check SQL Condition        |
| C1-MemNtBlSc | Membership No Billed Zone - Check SQL Condition         |
| C1-PrcCpyVis | Pricing Rule copy button visibility                     |
| C1-PrcRleCpy | Pricing Rule - maintenance                              |
| C1-PRICASGNW | Price Assignment New Script                             |
| C1-PRICINGVW | View Price Item Pricing                                 |
| C1-RetEnPrTr | Pricing Rule Retention Enrollment Tier - Pre-processing |
| C1-ShwErrInb | Zone Visibility - Display Zone in Portal                |
| C1-ValidTile | Billing Statistics Dashboard - Tiles                    |

## A.2.8 New Zones in Existing Portals

The following zones are added to the existing portals in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Portal   | Zone         | Zone Description    |
|----------|--------------|---------------------|
| C1BILCOR | C1-BLCORENT3 | Correction Entities |
|          | C1-BLCORENT4 | Correction Entities |

## A.2.9 Zones

The following zones are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Zone      | Description      |
|-----------|------------------|
| C1_BLCORT | Correction Bills |

| Zone         | Description                                        |
|--------------|----------------------------------------------------|
| C1_BLRNIN    | Bill Run Insights                                  |
| C1_CONST_SRH | Construct Search                                   |
| C1_DISREQ    | Dispute Request Bills                              |
| C1_REVSUM    | Revenue Summary                                    |
| C1_RFDBLL    | Refund Bills                                       |
| C1_WOBILL    | Write-Off Bills                                    |
| C1-ANBLDTLTS | Anomaly Bill Details                               |
| C1-ANOMALYBL | Anomaly Bills                                      |
| C1-ATCHDTLS  | Billing Attachment Details                         |
| C1-BDDINVCON | Invoice Construct Details                          |
| C1-BILCORCHR | Bill Correction Chars Value Array List             |
| C1-BLACRSMRY | Billing Accuracy Summary                           |
| C1-BLCORENT3 | Correction Entities                                |
| C1-BLCORENT4 | Correction Entities                                |
| C1-BLDTLS    | Error Bill Details                                 |
| C1-BLRSIN    | Revenue Summary Insights                           |
| C1-BSBYNDBC  | Bill segments beyond billable charge end date      |
| C1-BSEGERR   | Bills Segment Error                                |
| C1-CMPBLTILE | Completed Bills                                    |
| C1-CNCLMEMB  | Cancelled Memberships with one day Billable Charge |
| C1-COMPSUMM  | Billing Statement Computation Summary              |
| C1-DBCOMPSUM | Draft Billing Statement Computation Summary        |
| C1-DRBLATDTL | Draft Billing Attachment Details                   |
| C1-ERRBLTL   | Error Bills                                        |
| C1-ERRDTLS   | Inbound Message List                               |
| C1-GETELGACC | Get Eligible Accounts for Invoicing                |
| C1-GETELGDTI | Get Eligible Data for Invoicing                    |
| C1-GETITMLST | Get Item List Details of the Account               |
| C1-GETPCIDS  | Get Price Component ID details                     |
| C1-GETPREVAL | Get Price Param Per Defined Value                  |

| Zone         | Description                                                  |
|--------------|--------------------------------------------------------------|
| C1-GETPRMVAL | Get LHS Parameters                                           |
| C1-GETPRPRMS | Get Price Parameters Info String                             |
| C1-GETREFVAL | Get Price Param Ref Value                                    |
| C1-HCDUPENTY | Duplicate Entity                                             |
| C1-HCMBAPTWB | Membership without Sponsor Billable Charge                   |
| C1-INBERRCNT | Error Messages Count in Inbound Message                      |
| C1-INBMSG    | Error Messages in Inbound Message                            |
| C1-MEMNTBILL | Membership not billed                                        |
| C1-OBREXT    | Retrieves the Outstanding Balance information of an account. |
| C1-PAYPERSRC | Person Search                                                |
| C1-PNDBLTL   | Pending Bills                                                |
| C1-PPRMSRNM  | Price Item Non Mandatory Parameter Search                    |
| C1-PRICASRC1 | Price Item Details                                           |
| C1-PRICASRCH | Price Item Search                                            |
| C1-PRICINGZN | Price Item Pricing                                           |
| C1-PYPERSRC1 | Person Name                                                  |
| C1-REVBTL    | Review Bills                                                 |

## A.2.10 UI Maps

The following UI maps are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| UI Map                         | Description                                                  |
|--------------------------------|--------------------------------------------------------------|
| C1_CONSTRUCT_SRCH              | Search Construct                                             |
| C1_REFTILE                     | Billing Accuracy Summary Filters                             |
| C1-ANMLYTILE                   | Billing statistics - Anomaly Bills filters                   |
| C1-AppTxnPricRuleRetEnTierDisp | Approval Transaction- Pricing Rule Retention Enrollment Tier |
| C1-BDDInvoiceDisplayFit        | Bill Drill Down Details - Search By Invoice Construct        |
| C1-BillCorCharTypeInfo         | Bill Correction Characteristic Type Information              |
| C1-BillCorrCharsDispFrag       | Bill Correction Characteristics - Display UI                 |
| C1-BillCorrEntitiesFil         | Bill Correction View -Entities Filter                        |

| UI Map                         | Description                                               |
|--------------------------------|-----------------------------------------------------------|
| C1-BillDetails                 | Bill Drill Down Details- Filter Bill                      |
| C1-BLACSUMRY                   | Billing Accuracy Summary                                  |
| C1-BSIN                        | Bill Run Insights                                         |
| C1-CharValueMaintBillCorr      | Characteristic Value Maintenance                          |
| C1-COMPBITL                    | Billing statistics Filters                                |
| C1-ERRBLFILTERS                | Billing statistics - Error Bills filters                  |
| C1-HcSrChByPrcItem             | Billable Charges - Search By Price Item and Start Date    |
| C1-HcSrChDupBillChrg           | Duplicate Entity-Search By Entity Flag                    |
| C1-HcSrChMembAptcBc            | Membership-Search by Price Item                           |
| C1-HcSrChMemNotBilled          | Membership not billed                                     |
| C1-InboundMsgTypeHCDispFrag    | Inbound Message Type - Display UI                         |
| C1-InboundMsgTypeHCMaintFrag   | Inbound Message Type - Input UI                           |
| C1-PayReqAmtResetConfirmation  | Payment Amount Reset Confirmation                         |
| C1-PNDBLFILTERS                | Billing statistics - Pending Bills filters                |
| C1-PrcngRulePriceltmPrmFrgTier | Pricing Rule - Price Item Parameter for Tier              |
| C1-PriceAssignMAINView         | Price Assignment Main Section View                        |
| C1-PricingRuleRetEnrDispTier   | Display UI Map for Retention Enrollment Tier Based        |
| C1-PricingRuleRetEnrIBasdTier  | Retention Type Enrollment Based Pricing Rule for Tier     |
| C1-PricingScreenAdd            | Pricing Screen                                            |
| C1-PRICINGVIEW                 | View Pricing Information                                  |
| C1-REVIEWBLFIL                 | Billing statistics - Review Bills filters                 |
| C1-RSIN                        | Revenue Summary                                           |
| C1-SrchCnclMemb                | Cancelled Memberships - Search By Start Date and End Date |
| C1-SrchCntErrIn                | Inbound Message Error Count - Search By Dates             |
| C1-SrchErrInbMsg               | Inbound Message Error - Search By Start Date and End Date |

## A.2.11 Lookups

The following lookups are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Field                   | Field Value | Description                                        |
|-------------------------|-------------|----------------------------------------------------|
| BILL_CORR_ENTITY_ST_FLG | AGCM        | Aggregation completed                              |
|                         | BLER        | Errors in bill regeneration                        |
|                         | BLFR        | Bills regenerated with freezable bill segments     |
|                         | BLFZ        | Bills regenerated with frozen segments             |
|                         | BLTD        | Bills Generated with freezable segments and To Dos |
|                         | BLTO        | Bills regenerated with to dos                      |
|                         | CMER        | Errors in bill completion                          |
|                         | CNER        | Errors in bill cancellation                        |
|                         | CNLD        | Bill segments cancelled                            |
|                         | CONC        | Configuration corrected                            |
|                         | DLER        | Errors in regenerated bill deletion                |
|                         | DRCM        | Transaction disaggregation completed               |
|                         | DRCR        | Transaction disaggregation request created         |
|                         | DRER        | Errors in disaggregation request creation          |
|                         | DRFT        | Bill correction in draft                           |
|                         | ENDR        | Draft price assignment changes made                |
|                         | ENPA        | Price Assignment in pending approval               |
|                         | FZER        | Errors in bill segment freezing                    |
|                         | IMPV        | Impact of correction entities verified             |
|                         | INPR        | Bills regeneration in progress                     |
|                         | PBGN        | Pending bill generated                             |
|                         | PRCD        | Bills regeneration completed                       |
| BLCR_OPT_TYP_FLG        | CNRN        | Cancel Reason                                      |
|                         | DFDV        | Default Division                                   |
| C1_CHART_OF_ACCOUNT     | BUDG        | Budget                                             |



| Field               | Field Value | Description                                           |
|---------------------|-------------|-------------------------------------------------------|
|                     | COMP        | Company Code                                          |
|                     | FUND        | Funding Arrangement                                   |
|                     | GLST        | GL String                                             |
|                     | INTC        | InterCo                                               |
|                     | NACC        | Natural Account                                       |
|                     | PCCT        | Profit/Cost Center                                    |
|                     | PLAC        | TBD                                                   |
|                     | PROD        | Product                                               |
| C1_GL_SOURCE        | BCCH        | Billable Charge Characteristic                        |
|                     | CONS        | Constant                                              |
|                     | DFLT        | Default                                               |
|                     | DSCD        | Distribution Code                                     |
|                     | GLST        | GL String                                             |
|                     | SECH        | Sibling Entity Characteristic                         |
| C1_REBATE_PROF_STAT | ACTV        | Active                                                |
|                     | DRFT        | Draft                                                 |
|                     | INAP        | Queued For Approval                                   |
| DUPL_ENT_FLG        | BLCH        | Billable Charges                                      |
|                     | BLSG        | Bill Segment                                          |
|                     | MBPR        | Membership Person                                     |
|                     | MEMB        | Membership                                            |
|                     | PLCY        | Policy                                                |
|                     | PLPN        | Policy Plan                                           |
| INBOUND_STATUS      | PEND        | Pending                                               |
|                     | RJCT        | Rejected                                              |
| RBTS_OPT_TYP_FLG    | APAC        | Approval Group For Account                            |
|                     | APPA        | Approval Group For Price Assignment                   |
|                     | CEXD        | Current Contract Expiry Date Characteristic Type Code |
|                     | CXDF        | Current Contract Expiry Date Format                   |
|                     | EVGC        | Evergreen Status Characteristic Type Code             |

| Field        | Field Value | Description                                  |
|--------------|-------------|----------------------------------------------|
|              | PIPA        | Priceitem Eligible For Rebate Profile Status |
| REASON_FLG   | MBTR        | Membership person Termination                |
|              | RTCH        | Rate Change                                  |
| SPONSOR_ACCT | FALS        | No                                           |
|              | TRUE        | Yes                                          |

## A.2.12 Characteristic Types

The following characteristic types are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Characteristic Type | Description                                               |
|---------------------|-----------------------------------------------------------|
| C1AAPCC             | Length of additional annual periods for current contract. |
| C1BLDT              | Next Bill Date                                            |
| C1BLHSTR            | Billing History Exists                                    |
| C1CNEXDT            | Current Contract Expiry Date Characteristic Type          |
| C1CTRLDT            | Membership Person Control Date                            |
| C1EVGSTS            | Evergreen Status Characteristic Type                      |
| C1EXSA              | Exclude Price Items                                       |
| C1-HLDRE            | Hold Request                                              |
| C1IAPCC             | Length of initial annual period for current contract.     |
| C1MGBLDT            | Migrated Last Bill Date Characteristic                    |
| C1-PRPAY            | Payment received on PersonID                              |
| C1RBEFDT            | Rebate Effective Date Char Type Code                      |
| C1REVIND            | Reversal Indicator                                        |
| C1RPSTS             | Rebate Profile Status                                     |

## A.2.13 Feature Configurations

The following feature configurations are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Feature Configuration | Description         |
|-----------------------|---------------------|
| C1_REBATES            | Rebate Calculations |
| C1-BILLCORR           | Bill Correction     |

| Feature Configuration | Description                                    |
|-----------------------|------------------------------------------------|
| C1-BILLDASH           | Configuration for Billing Statistics Dashboard |

## 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 V8.0.0.0.0 database:

| Business Object                | Description                                       |
|--------------------------------|---------------------------------------------------|
| C1-ExtractMapping              | Extract Mapping                                   |
| C1-GLCOABO                     | GL String Construction                            |
| C1-GLExtractAdditionalFields   | GL Extract Additional Fields                      |
| C1-PricingRuleRetTypeEnrolTier | Retention Type Enrollment Tier Based Pricing Rule |

## A.2.16 Maintenance Objects

None

## A.2.17 To Do Types

The following To Do types are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| To Do Type | Description                    |
|------------|--------------------------------|
| C1-RFRQC   | Refund Request Cancellation    |
| C1-WORQC   | Write Off Request Cancellation |

## A.2.18 Application Services

The following application services are newly added in the Oracle Revenue Management and Billing V8.0.0.0.0 database:

| Application Service | Description                  |
|---------------------|------------------------------|
| C1_BLST             | Billing Statistics Dashboard |
| C1-DISBLEXAI        | Disable XAI                  |
| C1HCHLCK            | Health Check                 |

## 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 8.0.0.0.0.

### 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-CHGTYPASA         | 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-EXTSTMTRSZ        |
| C1-ACCDetailZ       | C1-DFLTPTPTMP        | 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-INSDETBK          |

| 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_ACCNBALG         |
| 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_ADDBNDDT       |
| 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_DISPBOUND        | 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_APVDTVLT       |
| 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_CPYBN DL       | C1_F_PLED T         | 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_EDTBN DT       | 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_CSTD TL    | 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        | CIACNB TY           |

| 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           | CILBLLP             |
| C1_PRDPERREL        | C1_SRCHPLVAL        | CILBMCRP            |
| C1_PRDREL           | C1_SRCHPPL          | CILBSBHP            |
| C1CUSTPO            | C1_SRCHPRD          | CILBSCCP            |
| C1DAPROF            | C1_SRCH_PROF        | CILBSEGP            |
| C1_PRIARMREFENT     | 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            |
| CILOAFTP            | CILQCASP            | CILTASGP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| CILODFAP            | CILQTDGP            | CILTATCP            |
| CILOFACP            | CILQTDGP            | CILTATPP            |
| CILOFAZP            | CILQTDLP            | CILTATYP            |
| CILOFORP            | CILQTDQP            | CILTBCRP            |
| CILOFOSP            | CILQTDSP            | CILTBCTP            |
| CILOFSUP            | CILQTDTP            | CILTBFFP            |
| CILOOTGP            | CILQTDZP            | CILTBFPV            |
| CILOSFAP            | CILQTSSP            | CILTBIMP            |
| CILPAPHP            | CILQTSUP            | CILTBLCB            |
| CILPAPSP            | CILRCMAP            | CILTBLLP            |
| CILPARTY            | CILRENGP            | CILTBKNP            |
| CILPDCNP            | CILRRSMP            | CILTBRTB            |
| CILPDCSP            | CILRRTCP            | CILTBSTP            |
| CILPEPLP            | CILRRTSP            | CILBTCTP            |
| CILPEQAP            | CILRRTPV            | CILBTBTP            |
| 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            | CILTMMP             | CILTSCYP            |
| CILTCRUP            | CILTMMSGP           | CILTSEVP            |
| CILTCURP            | CILTNRBP            | CILTSICP            |
| CILTCUSP            | CILTNCDP            | CILTSMIP            |
| CILTDARP            | CILTNUXP            | CILTSMTTP           |
| CILTDASP            | CILTOCRP            | CILTSOMP            |
| CILTDCAP            | CILTOETP            | CILTSOPP            |
| CILTDCLP            | CILTOPTP            | CILTSRP             |
| CILDIRP             | CILTORAP            | CILTSPTP            |
| CILDPRP             | CILTPCRP            | CILTSQIP            |
| CILDRTTP            | CILTPCTP            | CILTSQRP            |
| CILDSTP             | CILTPDRP            | CILTSTMP            |
| CILDWPP             | CILTPHTP            | CILTSTSP            |
| CILDWTP             | CILTPIFP            | CILTSVTP            |
| CILTEBRP            | CILTPKGP            | CILTSWLP            |
| CILTECRP            | CILTPPTP            | CILTTACP            |
| CILTETTP            | CILTPROP            | CILTTAXP            |
| CILTFNDP            | CILTPRTP            | CILTTGRP            |
| CILTFREP            | CILTPSDP            | CILTTMRP            |
| CILFRQP             | CILTPSTP            | CILTTMTP            |
| CILGLDP             | CILTPTRP            | CILTTNSP            |
| CILGOTP             | CILTPYTP            | CILTTNTP            |
| CILTIDTP            | CILTQRTTP           | CILTToup            |
| CILTINCP            | CILTREGP            | CILTTSCP            |
| CILTINSP            | CILTREPP            | CILTTTMP            |
| CILTITSP            | CILTRGLP            | CILTTZNP            |
| CILTDIP             | 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              |
| CILTWFPF            | 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            | F1REVVHST           | FWLZDEXP            |
| F1IWSSVC            | F1STRDIS            | FWLZWZLP            |
| 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            | C1STMEXCP_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_ACVVW            | 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_DR RTP           | 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            |
| C1CTR GHC           | C1FILEMS             | C1MASPRI            |
| C1MPRIRQ            | C1MPRISR             | C1RETMPL            |
| C1DLAPDB            | CIDATAEXSER          | DTEX_TYP            |
| PRICECOMPSEQ        | C1CUREG              | C1CURETY            |
| C1CUSTREG           | C1CUSTRG             | C1DTEXFL            |
| AUDITEVENT          | C1-AUDEVTTYPE        | C1-BANKING          |
| C1-HEALTHCARE       | C1-PRICETREE         | C1-STATE            |
| C1ADEVSR            | C1AUDEVT             | C1AUDTY             |
| C1OFFADJ            | C1RETMPLBK           | C1RETMPLHC          |
| C1STATE             | C1VIPRIN             | C1_BILL             |
| C1LCSSEP            | C1DELTY              | 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       | CMPTERTASE          |
| C1STHRY360          | CUSPRCDT            | DBMSSCHD            |
| DWNLFIL             | 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            |
| C1CONDDL            | 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             | C1DLNEVNT           | C1DLNPRC            |
| C1DPSRCH            | C1EXTTDS            | C1LDLCLP            |
| C1_DIV_GRP_SVC      | C1DLMSPI            | C1_BLPTC            |
| C1_BLST             | C1BILCOR            | C1BILLCORRTYPE      |
| C1BLCRSR            | C1BLCRTY            | C1HCHLCK            |

## 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            |
| C1-ASAPU             | C1-REQUEST-TYPE      | C1BOCHN             |

| Application Service  | Application Service | Application Service |
|----------------------|---------------------|---------------------|
| C1-ASGNPL            | C1-RULEBOAS         | C1CASEG             |
| C1-BRD               | C1-SRCHSCPT         | C1CASEYPEMP         |
| C1-CASEASGNSRV       | C1-TXNAGG           | C1CHECKFT           |
| C1-CASEGRPSRV        | C1-TXNDTL           | C1COLDTL            |
| C1-CONSVPROGBOAS     | F1CRNCY             | C1COLLTYP           |
| C1-CONTRACTYPECHARS  | 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             | C1SACCOLLECT        | 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            |
| C1POINFR             | USGMIS              | C1_BCCSH            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| C1PPCARS            | C1UNAPPR            | C1_BCONT            |
| C1PRESTGDTLS        | C1VAR               | C1_BCON_INFO        |
| C1PRISIM            | C1VIEWRL            | C1_BCON_SRH         |
| C1PRODUCT           | C1WODET             | C1_BCUSACCDT        |
| C1PROFILESRVC       | C1_ACCNBALG         | C1_BCUSACCSR        |
| C1PSNAPP            | C1_ACCNBRTYP        | C1_BCUSGRVAL        |
| C1PSNMOD            | C1_ACCTCHAR         | C1_BCUSSRCHM        |
| C1PSNRES            | C1_ACDTLRCH         | 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_ASNCUS         |
| 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_CHKBI_L_PA       | C1_EXHRT            | C1_F_CPYBNDL        |
| C1_CHKTRDFLG        | C1_EXPPITM          | C1_F_CPYPL          |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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          |
| C1_F_PLCRT          | C1_MNGRT            | C1_PL_PI            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            |
| C1_PRZ_TR           | CIAPAYSTGUPL        | CILCCCIP            |



| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            | CILCERP             |
| 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            |
| CILENAVP            | CILPEVTP            | CILRRTVP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            | CILTNGP             |
| CILTAROP            | CILTCPRP            | CILTMCRP            |
| CILTARTP            | CILTCQTP            | CILTMHTP            |
| CILTASGP            | CILTCRUP            | CILTMMSGP           |
| CILTATCP            | CILTCURP            | CILTNRBP            |
| CILTATPP            | CILTCUSP            | CILTNCDP            |
| CILTATYP            | CILTCVTP            | CILTNUXP            |
| CILTBCRP            | CILTDARP            | CILTOCRP            |
| CILTBCTP            | CILTDASP            | CILTOETP            |
| CILTBFFP            | CILTDCAP            | CILTOPTP            |
| CILTBFPV            | CILTDCLP            | CILTORAP            |
| CILTBIMP            | CILTDIRP            | CILTPCRP            |
| CILTBLC             | CILTDLOP            | CILTPCTP            |
| CILTBIPP            | CILTDPRP            | CILTPDRP            |
| CILTBKNP            | CILTDSTP            | CILTPHTP            |
| CILTBRT             | CILTDWPP            | CILTPKGP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| CILTBSTP            | CILTDWTP            | CILTPMDP            |
| CILBTCP             | CILTEBRP            | CILTPPTP            |
| CILBTTRP            | CILTECRP            | CILTPROP            |
| CILTBUDP            | CILTETTP            | CILTPRTP            |
| CILTBXTP            | CILTFAAP            | CILTPSDP            |
| CILTCAMP            | CILTFNDP            | CILTPSTP            |
| CILTCATP            | CILTFRQP            | CILTPTRP            |
| CILTCCCP            | CILTFWLP            | CILTPYTP            |
| CILTCCTP            | CILTGLDP            | CILTQ RTP           |
| 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     | CILXRCPV            |
| CILTSOPP            | CILTXNDISAGGREQ     | CILXRTPP            |
| CILTSQIP            | CILTXNHEADER        | CILXSENP            |
| CILTSQRP            | CILTXNRECTYPE       | F1LANG              |
| CILTSVTP            | CILTXNSOURCE        | CILXTPCP            |
| CILT SWLP           | CILTXNSRC           | CILXXSCP            |
| CILTTACP            | CILTXNSRCD          | CILXXUPP            |
| CILTTAXP            | CILTXNSRCL          | CILYASTP            |
| CILTTGRP            | CILUPFTS            | CILYDBPP            |
| CILTTMRP            | CILVFVDP            | CILYDFQP            |
| CILTTMTP            | CILVFVSP            | CILYDPIP            |
| CILTTNSP            | CILVVLEP            | F1-MASTERCONFIG     |
| CILTTNTP            | CILVVLSP            | CILYROBP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| CILTOUP             | CILWDWNP            | CILZAFQP            |
| CILTTRAP            | CILWJSDP            | CILZAUQP            |
| CILTTRCP            | CILWJSSP            | CILZFNCP            |
| CILTTTMP            | CILWNUPP            | CILZPGRP            |
| CILTTZNP            | CILWNUSP            | CILZRBPP            |
| CILTUOMP            | CILWPROP            | CILZRPHP            |
| CILTURPP            | CILXADPP            | CILZRPOP            |
| F1LKUP              | CILXAIEP            | CILZSCMP            |
| CILTUSEP            | CILXAIEP            | CILZSCRCP           |
| CILTUSGP            | CILXCLSP            | CILZSCZP            |
| CILTWCTP            | CILXCONP            | CILZTLZP            |
| CILTWDCP            | CILXENHP            | CILZZOHP            |
| CILTWETP            | CILXFRMP            | CILZZONP            |
| CILTWFPF            | 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           |
| CIS_DIV_TXN_SRCS    | F1LTAMTP            | F1USRCHKOUT         |

| Application Service  | Application Service | Application Service |
|----------------------|---------------------|---------------------|
| 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-DFLT              | 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           | C1WOUPPLREQ         |
| C1DCDTLC             | C1GLATRQ            | C1_STRTE            |
| C1DELCTL             | C1HOLDUPLREQ        | CILCPASP            |
| ACRLSRCH             | C1ADDRESS           | C1DSPT              |
| C1-ACCTECR           | C1ADDRS             | C1DSPTRQ            |
| C1-FTDIST            | C1ADDRSBO           | C1DSPTRT            |
| C1-FTDISTRULE        | C1ADDRSDP           | C1DSPTTY            |
| C1-FTDISTTY          | C1ADDRSRC           | C1FTDIST            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| C1TNCSRH            | C1BK360             | C1FTDSRL            |
| C1ACCECR            | C1BKAPPSE           | C1FTDSTT            |
| C1ACRLCL            | C1BKBLDT            | C1FTDSTY            |
| C1ACRLTP            | C1TRLFT             | C1HCSINF            |
| C1ACRMVW            | C1PL                | C1_ACTVW            |
| C1ADDRDP            | C1SAPPTM            | C1_ACTYP            |
| C1ADDRDTL           | C1_ACCRUAL_SERV     | C1_TRLIN            |
| C1_ACVW             | 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            |
| C1PARAM             | C1PDSRCH            | C1PERS              |

| Application Service  | Application Service | Application Service |
|----------------------|---------------------|---------------------|
| 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_DR RTP           | 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            |
| C1MPRIHQ             | C1MPRISR            | C1RETMPL            |
| F1MSTCFG             | F1OUMSTQ            | F1OUMSTY            |
| PRICECOMPSEQ         | C1CREGSR            | C1CTRGBK            |
| C1CUREG              | C1CURETY            | C1CUSTREG           |
| AUDITEVENT           | C1-AUDEVTTYPE       | C1-BANKING          |
| C1-PRICETREE         | C1ADEVSR            | C1AUDEVT            |
| C1AUDTY              | C1RETMPLBK          | C1VIPRIN            |
| C1_BILL              | USRACCS             | WEIGHTAV            |
| C1-HRCHYENTITY       | C1ADDPPO            | C1CUSTPO            |
| C1DAPROF             | C1DEALDB            | C1DEALPASGN         |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            | INVLDCK             | INVOICSE            |
| INVSTLAC            | MGCEXP              | MISSETCO            |
| MULCSKY             | NOBILLCH            | NOCISKEY            |
| NOCUSTYP            | NOSTDPRC            | NUSG                |
| OVRDPRIC            | OVRRDPRC            | C1-DLTODOLST        |
| PNDPYMNT            | C1TRLBILL           | PORTT               |
| PRDPROF             | PRODSTAT            | PROITMPR            |
| PROSADD             | C1TRLBLSEG          | C1DLAPDB            |
| SETACOMP            | STDPLREV            | STNPRLST            |
| TBDONIN             | TBDINQAC            | TRADING             |



| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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                |
| F1MSTQRY            | F1SCRIPT            | F1UIMAP             |

## 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-INSDETBK          | 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-DFLTPTPTMP        | C1-QUICKPAGINATION   | C1INSPAY            |
| C1-DRRDTL SZ         | C1-REFWOREQ          | C1MANAPP            |
| C1-DUPBTN            | C1-REQUEST-TYPE      | C1MANLOG            |

| Application Service  | Application Service | Application Service |
|----------------------|---------------------|---------------------|
| 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            |
| C1PPDUP              | C1_BACCGRVAL        | C1_EXPPITM          |
| C1PRISIM             | C1_BAFHZ            | C1_FTRS             |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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_CPYBNL         | C1_F_PRDL           | C1_PLASSIGNE        |
| C1_F_CPYPL          | C1_F_PRODVAL        | C1_PLCASSIGN        |
| C1_F_CPYPLVL        | C1_F_PRODVL1        | C1_PLEDIT           |
| C1_F_CUSTRCH        | C1_F_RSCDVAL        | C1_PLISTRCH         |
| 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          |
| C1_F_EXCDVAL        | C1_INVC             | C1_PL_PI            |
| C1_F_EXCHVAL        | C1_LIST_TIER        | C1_PMPRC            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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        | CILCAHP             |
| 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        | CIAPPCHLGBL         | CILCCSCP            |
| C1_PROVR_EDT        | CIAPPCRT            | 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            |
| C1_RSN              | CILAADUP            | CILCSSEP            |
| C1_RTCOM_ADD        | CILAASCP            | CILCSVAP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            | CILTBFPV            |
| CILITPDP            | CILQTDSP            | CILTBIMP            |
| CILLODPP            | CILQTDTP            | CILTBLCB            |
| CILPAPHP            | CILQTDZP            | CILTBIPP            |
| CILPAPSP            | CILQTSSP            | CILTBKNP            |
| CILPDCNP            | CILQTSUP            | CILTBRTTP           |
| CILPDCSP            | CILRCMAP            | CILTBSTP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| CILPEPLP            | CILRENGP            | CILBTCP             |
| CILPEQAP            | CILRRSMP            | CILBTRP             |
| CILPEVTP            | CILRRTCP            | CILBXTTP            |
| CILPICHAR           | CILRRTSP            | CILTCAMP            |
| CILPIDIV            | CILRRTVP            | CILTCATP            |
| CILTCCCP            | CILTITTP            | CILTSARP            |
| CILTCCTP            | F1IWSOPR            | CILTSATP            |
| CILTCHTP            | CILTLETP            | CILTSCLP            |
| CILTCIDP            | CILTLKFP            | CILTSCYP            |
| CILTCCLGP           | CILTCLNGP           | CILTSICP            |
| CILTCLRP            | CILTMCRP            | CILTSOMP            |
| CILTCLWP            | CILTMHTP            | CILTSOPP            |
| CILTCNTP            | CILTMMSGP           | CILTSQIP            |
| CILTCOCP            | CILTNUXP            | CILTSQRP            |
| CILTCQTP            | CILTOCRP            | CILTSTMP            |
| CILTCURP            | CILTOETP            | CILTSVTP            |
| CILTCUSP            | CILTOPTP            | CILTSLWP            |
| CILTDARP            | CILTORAP            | CILTTACP            |
| CILTDASP            | CILTPCRP            | CILTTAXP            |
| CILTDCAP            | CILTPCTP            | CILTTGRP            |
| CILTDCLP            | CILTPDRP            | CILTTMRP            |
| CILTDIRP            | CILTPHTP            | CILTTMTP            |
| CILTDPRP            | CILTPIFP            | CILTTNSP            |
| CILTDSTP            | CILTPKGP            | CILTTNTP            |
| CILTDWPP            | CILTPMDP            | CILTOUP             |
| CILTDWTP            | CILTPPTP            | CILTTTRAP           |
| CILTEBRP            | CILTPRTP            | CILTTTMP            |
| CILTECRP            | CILTPSDP            | CILTTZNP            |
| CILTETTP            | CILTPSTP            | CILTUOMP            |
| CILTFNDP            | CILTPTRP            | CILTURPP            |
| CILTFRQP            | CILTPYTP            | F1CRNCY             |

| Application Service | Application Service | Application Service  |
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| CILTFWLP            | CILTQ RTP           | CILTUSEP             |
| CILTGLDP            | CILTRGLP            | CILTUSGP             |
| CILTIDTP            | CILTRLEP            | CILTWCTP             |
| CILTINCP            | CILTRSCP            | CILTWDCP             |
| CILTINSP            | CILTRTYP            | CILTWETP             |
| CILTWFPF            | CILXOPTP            | CISATYCHG            |
| CILTWPTP            | CILXRCVP            | CTXTZONE             |
| CILTWSCP            | CILXRTP             | DIVS                 |
| CILTWSDP            | CILXSENP            | DIV_PRICEITEMS       |
| CILTXNDETAIL        | C1TRLFT             | DIV_PRICELISTS       |
| CILTXNSRC           | CILXTPCP            | F1-APAYEXPCRTYPEBOAS |
| CILTXNSRCD          | CILXXSCP            | F1-ATTACHMENTBOAS    |
| CILTXNSRCL          | CILXXUPP            | F1-DECRPTBOAS        |
| CILUPFIS            | CILYASTP            | F1ICON               |
| CILVFVDP            | CILYDBPP            | F1-DFLT              |
| 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             |
| CILXAIEP            | CILZRPTP            | F1ATTACHMENT         |
| CILXCLSP            | CILZSCR             | F1CATTCH             |
| CILXCONP            | CILZSCZP            | F1CONFIGLOG          |
| CILXENHP            | CILZTLZP            | F1DEBUG              |
| CILXFRMP            | CILZZOHP            | F1EXLKP              |



| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            | FWLZWLP             | C1LASGN             |
| F1REQ               | GOTOREC             | C1PIASGN            |
| C1BCHGUPLREQ        | C1DELCTL            | C1PLASGNM           |
| C1BILLCYCLEUPDTUPL  | C1ELGPA             | C1REFUPLREQ         |
| C1CONTRIDERUPDTUPL  | C1GETELIGPT         | C1UPLDRQ            |
| C1DCDTLC            | C1HOLDUPLREQ        | C1UPLREQ            |
| C1WOUPPLREQ         | CILCPASP            | C1HCSINF            |
| C1-ACCNBRTYPAS      | C1ADDRESS           | C1INMSGP            |
| C1-CUSTINMSG        | C1ADDRS             | C1INMSRH            |
| C1-GENRQ            | C1ADDRSBO           | C1INMSTY            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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-OUCL             | F1-SYNIL            |
| F1-FKVB             | 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            |
| C1OFPRP             | C1MBRRCN            | C1PARAM             |
| C1PERS              | C1PERSDP            | C1PERSON            |

| Application Service  | Application Service | Application Service |
|----------------------|---------------------|---------------------|
| C1RCONTY             | C1RECOLN            | C1RECONCIL          |
| C1RECONTYP           | C1SRCAPP            | C1VIEWURL           |
| C1_BPYHS             | C1_DRRSP            | C1_DRRTM            |
| C1_DR RTP            | C1_INV CN           | C1_PAYIN            |
| C1_PRODUCT           | C1_RLTPM            | C1_RLTVW            |
| C1LRULTP             | CONRULE             | PRICECOMPPRE        |
| GETDEALTYPE          | C1-PRRLTYP          | C1-RULEBOAS         |
| C1-TXNAGG            | C1-TXNDTL           | C1-TXNREC           |
| C1_TRLBL             | C1BILLVL            | C1BILLSORT          |
| C1_TRLIN             | C1BLLVLUPLREQ       | C1BLLSRTUPLREQ      |
| C1DISAGR             | C1ENTITYREPORT      | C1PRICINGGROUP      |
| C1PROAPP             | C1PRTYP             | C1SRCHRL            |
| C1TXNAGG             | TRIALBL             | F1TODOMG            |
| C1TXNFD              | C1OFPRED            | C1GETELIGPLPRO      |
| C1_BUNDVAL           | C1_COPYBND          | C1_CPYBD            |
| C1OFPREQ             | C1_PRICE            | C1_TXNAR            |
| C1LTXNSOURCE         | C1PRICEPARM         | 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-AUDEVTTYPE        | C1-HEALTHCARE       | C1ADEVSR            |
| C1AUDEV T            | C1AUDTY             | C1RETMPLHC          |
| C1STATE              | C1_BILL             | C1INREQ             |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            | C1HHPH              | C1PLAN              |
| C1_STRTE            | C1ADDRSDP           | C1GLAT              |
| C1GLATEMP           | C1GLATRQ            | C1REFWOI            |
| C1TRLBILL           | C1TRLBLSEG          | C1-DELIN-PRC-TYP    |
| C1-DELIN-PROC       | C1-DELIN-PROC-EVT   | C1DELPT             |
| C1DLCLD             | C1DLEVT             | C1DLINEVNT          |
| C1DLNPRC            | C1DPSRCH            | C1LDLCLP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| C1_BLPTC            | F1BCHJOB            | F1BJSRCH            |
| F1BUSOBJ            | C1_DIV_GRP_SVC      | C1DIVGRP            |
| C1HCHLCK            | F1ALGENQ            | F1ALGENT            |
| F1BTCHTH            | F1BTCTRL            | F1BTRQ              |
| F1BUSSVC            | F1DTAR              | F1FCFG              |
| F1MO                | F1SCRIPT            | F1UIMAP             |

## 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-ACCDDETAILZ      | 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-INSDETBK          |
| C1-ACCURERR         | C1-EXTACQRYZ         | C1-ISSUEDATEPOLICYCH |
| C1-ACCURTEXT        | C1-EXTAUTREC         | C1-LINKPPTMP         |
| C1-ACNPOLSUMZ       | C1-EXTERNALSTATEMENT | C1-LINKPPTMP2        |
| C1-ACPOLSUMMZ       | C1-EXTITEMAD         | C1-MAINPINFR         |
| C1-ACTPPTMPL        | C1-EXTPENDG          | C1-MAINPPLAN         |
| C1-ACURITEMD        | C1-EXTREOPN          | C1-MAINPPTMP         |

| Application Service  | Application Service | Application Service |
|----------------------|---------------------|---------------------|
| 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            |
| C1-POLINVFREZ        | C1-QUICKPAGINATION  | C1CNTCR             |
| C1-POLINVFRQ         | C1-RECVAL           | C1CTRLC             |
| C1-POLI_FHZ          | C1-REFWOREQ         | C1FLRQTY            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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         |
| C1PPDUP             | C1_ADDPL            | C1_DEL_PRD          |
| C1PPLAN             | C1_ADDPROD          | C1_DEL_PROD         |
| C1PPSRH             | C1_ADD_RTCMP        | C1_DISPBOUND        |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| C1PPSRS             | C1_ADD_TIER         | PRICECOMPPRE        |
| C1PPTMPL            | C1_ADMPI            | C1_DSPY_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         |
| C1_F_APVNFLT        | C1_F_PLEDT          | C1_PLADPR           |
| C1_F_ASGNCUS        | C1_F_PLVAL          | C1_PLAE             |
| C1_F_ASGNPTP        | C1_F_POLSRCH        | C1_PLASNADD         |



| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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         | CILACCDL            |
| C1_PP_PLVAL         | C1_SRCH             | CILACLCP            |
| C1_PRCAD            | C1_SRCHPL           | CILBBICP            |
| C1_PRCE_VALD        | C1_SRCHPLVAL        | CILBLLP             |
| C1_PRCPM            | C1_SRCHPPL          | CILBMCRP            |
| C1_PRC_EDIT         | C1_SRCHPRD          | CILBSBHP            |
| C1_PRC_OVRD         | C1_SRCH_PROF        | CILBSCCP            |
| C1_PRC_TR           | C1_SRPROD           | CILBSEGP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            |
| CILECBLP            | CILPICHAR           | CILRRTSP            |
| CILEFKRP            | CILPIDIV            | CILRRTVP            |
| CILEFLDP            | CILPILANG           | CILRRVMP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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            |
| CILTBFPV            | CILTDWPP            | CILTPRTP            |
| CILTBIMP            | CILTDWTP            | CILTPSDP            |
| CILTBLC             | CILTEBRP            | CILTPSTP            |
| CILTBIPP            | CILTECRP            | CILTPTRP            |
| CILTBKNP            | CILTFNDP            | CILTPYTP            |
| CILTBRT             | CILTFRQP            | CILTQRT             |
| CILTBSTP            | CILTFWLP            | CILTRGLP            |
| CILBTCP             | CILTGLDP            | CILTRLEP            |
| CILBTTRP            | CILTIDTP            | CILTRSCP            |
| CILTBXTP            | CILTINCP            | CILTRTYP            |
| CILTCAMP            | CILTINSP            | CILTSATP            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| CILTCATP            | CILTITTP            | CILTSCLP            |
| CILTCCCP            | F1MENU              | CILTSCYP            |
| CILTCCTP            | CILTLETP            | CILTSICP            |
| CILTCHTP            | CILTLKFP            | CILTSOMP            |
| CILTCIDP            | CILTNGP             | CILTSOPP            |
| CILTCLGP            | CILTMCRP            | CILTSQIP            |
| CILTCLRP            | CILTMHTP            | CILTSQRP            |
| CILTCLWP            | CILTMSGP            | CILTSTMP            |
| CILCNTP             | 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            |
| CILTOUP             | CILXAIEP            | CILZRPOP            |
| CILTTRAP            | CILXAIP             | 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        |
| CILTWETP            | CILXOPTP            | CIPOLREINSTRSN      |
| CILTWPTP            | CILXRCVP            | CIPRICEACCOUNT      |
| CILTWSCP            | CILXRTPP            | CIREC               |

| Application Service  | Application Service | Application Service |
|----------------------|---------------------|---------------------|
| 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-DFLT              | 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        |
| F1ADMIN              | F1STRDIS            | PERTREE             |
| F1ATTACH             | F1STREAS            | POLICYCANRSN        |
| F1ATTACHMENT         | F1SUBRQQ            | RECDTSTA            |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| F1CATTCH            | F1SYNCRM            | RECON               |
| F1CONFIGLOG         | F1SYNCRQ            | RECONDTL            |
| F1DEBUG             | F1TBLEXC            | RSTRSN              |
| F1EXLKP             | F1UIZONE            | SACHGLNK            |
| F1EXLKPS            | F1USERLOG           | SATYPCHG            |
| F1LCAMRP            | F1WBSVCM            | SATYPES             |
| F1EXTLKUP           | F1WBSVCS            | F1_BTST             |
| F1LTAMTP            | F1WEBSVC            | F1_USRFAVSCH        |
| F1MGDEXP            | F1MGDEXS            | C1LASGN             |
| C1BCHGUPLREQ        | C1DELCTL            | C1PIASGN            |
| C1BILLCYCLEUPDTUPL  | C1ELGPA             | C1PLASGNM           |
| C1CONTRIDERUPDTUPL  | C1GETELIGPT         | C1REFUPLREQ         |
| C1DCDTLC            | C1HOLDUPLREQ        | C1UPLDRQ            |
| C1UPLREQ            | C1WOUPPLREQ         | 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            |
| F1-BUNPR            | F1-NDPUR            | F1-SUBRQ            |
| C1TRLBLSEG          | F1-ORCRL            | F1-SYNEF            |
| F1-FCTRN            | F1-OUCL             | F1-SYNIL            |

| Application Service | Application Service  | Application Service |
|---------------------|----------------------|---------------------|
| 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            |
| C1LRULTP            | C1-PRRLTYP           | C1ENTITYREPORT      |
| C1PROAPP            | C1PRTYP              | C1_PRICE            |
| C1PRICEPARM         | C1-CUSTREGTEMPL_SERV | C1-CUSTREGTYPE      |
| C1-GETPRICINGENTITY | C1MASPRI             | C1MPRISR            |
| C1RETMPL            | F1OUMSTQ             | F1OUMSTY            |
| PRICECOMPSEQ        | C1CREGSR             | C1CTRGHC            |
| C1CUREG             | C1CURETY             | C1CUSTREG           |
| C1CUSTRG            | AUDITEVENT           | C1-AUDEVTTYPE       |
| 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            |
| F1BOQ               | F1BSVQ               | F1BTCHQ             |
| F1CHRTYP            | F1CHRTYQ             | F1DTARQ             |
| F1FCFGQ             | F1FIELD              | F1FKRFQ             |

| Application Service | Application Service | Application Service |
|---------------------|---------------------|---------------------|
| 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             | -                   | -                   |



## Appendix C : Changing the DB User Password

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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                               |
| 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                      |
| 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                |

| Algorithm   | Description                     |
|-------------|---------------------------------|
| F1REQTODO   | Create Request Monitoring To Do |
| F1RQTBLINF  | Orphan Data Cleanup Information |
| F1-SCRBO    | Determine Script BO             |
| 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                                        |
|----------------|----------------------------------------------------|
| F1ADDDWARNTR   | 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                               |
| 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                   |
| 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                              |

| Algorithm Type | Description                         |
|----------------|-------------------------------------|
| 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                            |
| 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     |

| Zone        | Description                           |
|-------------|---------------------------------------|
| 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                  |
| F1BTRTHDSUM | Batch Run Threads Summary             |
| F1BTRTHMSG  | Batch Instance Messages               |
| F1BTRTHSUM  | Threads Analysis                      |
| F1CFGDELMO  | Entities to Delete                    |
| F1CFGDELSUM | Configuration Summary                 |
| F1DAREF     | Data Area References                  |
| F1DASE      | Schema Editor                         |
| F1DASETXT   | Schema Editor                         |
| F1DTARM     | Data Area                             |

| Zone        | Description                          |
|-------------|--------------------------------------|
| 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           |
| 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                         |



| Zone         | Description                   |
|--------------|-------------------------------|
| F1SCRSTEPS   | Steps                         |
| F1SDBCFCG    | 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                              |
| F1MSTCFG | F1-MSTCFGRC | Related Configurations                 |
| F1PRTL   | F1PRTLPTS   | 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 |

| UI Map                         | Description                               |
|--------------------------------|-------------------------------------------|
| 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-ConfigurationDeleteFilter   | Configuration Delete Filters              |
| F1-ConfirmDownload             | Attachment Download Confirmation Popup    |
| F1CurToDo                      | Current To Do Zone                        |
| F1-DataCorrectionReqActions    | Data Correction Request Actions           |
| F1-DetailedDescriptionDispExp  | Detailed Description in Expanded Section  |
| F1-ExternalMetricNameDisplay   | Display External Metric Name              |
| F1cfgTypeDisp                  | Feature Type Configuration Display        |
| F1cfgTypeInp                   | 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       |

| UI Map                         | Description                                   |
|--------------------------------|-----------------------------------------------|
| 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                 |
| 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     |

| Business Service            | Description                          |
|-----------------------------|--------------------------------------|
| 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        |
| F1SDBCFCG                   | 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                   |

| Portal    | Description                         |
|-----------|-------------------------------------|
| 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     |
| 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                      |
| F1-BusinessService             | Business Service                    |
| F1-DataArea                    | Data Area                           |
| F1-DataCorrectionRoot          | Data Correction Request Root        |
| 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       |
|                      | 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                       |
| F1-ILMCR      | ILM Crawler Template                      |
| F1-PMTRC      | Product Metric Type Monitor               |

## D.2.15 Application Services

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

| Application Service  | Description                   |
|----------------------|-------------------------------|
| 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 |
| F1-DATACORRECTIONRBO | Data Correction Request BO    |
| F1DTAR               | Data Area Portal              |

| Application Service | Description                               |
|---------------------|-------------------------------------------|
| 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                    |
| 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                            |
|--------------|----------------------------------------|
| F1ADDWARNT   | 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       |
| F1btcDispDet | Batch Control Template Display Details |
| F1BtchLOS    | Batch Level of Service                 |
| F1BtchPrg    | Batch Program Search                   |
| F1BtcOpt     | Batch Control Options Maintenance      |
| F1BtcTplID   | Batch Template - Display               |
| F1btctrlID   | Batch Control - Display                |
| F1BtctrlIM   | Batch Control Maintenance              |
| F1btctrlP    | Batch Control - UI Pre-processing      |
| F1btctrlIT   | 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         |

| Script       | Description                                              |
|--------------|----------------------------------------------------------|
| 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                                  |
| 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        |

| Script       | Description                                        |
|--------------|----------------------------------------------------|
| 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            |
| F1MoTblTree  | Maintenance Object Table Tree                      |
| F1ORDREQDISP | Orphan Record Deletion - Display                   |
| F1ORDREQPOST | Orphan Record Deletion - Post-Processing           |
| F1PMSSDisp   | Product Metric Snapshot Display                    |
| F1PMTDisp    | Product Metric Type Display                        |
| F1PrdMtrTypM | Product Metric Type - Maintain                     |
| F1ProcFIM    | Process Flow Actions                               |
| F1ProcFISS   | 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                    |

| Script       | Description                            |
|--------------|----------------------------------------|
| 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                         |
| F1ScrStepUI  | Script Step Maintenance UI Information |
| F1ScrStepVW  | Script Step Display                    |
| F1SDBCFCG    | 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 <a href="#">ALL_SERVICES</a> and default system user <a href="#">SYSUSER</a> . Upon installation the system default User Group <a href="#">ALL_SERVICES</a> 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 | <b>United States Dollar (USD).</b> |

#### 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 | <b>North America (NORTHAM), HIJRI Format (HIJRI) and Europe (EURO).</b> |



**Note:** To use HJRI 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 | <b>English</b> (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 | <b>UTC</b>                   |

### 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 | <b>F1_DFLT</b>             |

## 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  | <b>Algorithm Type</b> (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  | <b>Algorithm</b> (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  | <b>Application Service ID</b> (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  | <b>Batch Process</b> (BATCH_CD), <b>Program Name</b> (PROGRAM_NAME)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Customer Modification | <ul style="list-style-type: none"> <li>• <b>Next Batch Number</b> (NEXT_BATCH_NBR), <b>Last Update Instance</b> (LAST_UPDATE_INST), <b>Last Update Date time</b> (LAST_UPDATE_DTTM) and the batch process update these columns.</li> <li>• <b>Time Interval</b> (TIMER_INTERVAL), <b>Thread Count</b> (BATCH_THREAD_CNT), <b>Maximum Commit Records</b> (MAX_COMMIT_RECS), <b>User</b> (USER_ID), <b>Language</b> (LANGUAGE_CD), <b>Email Address</b> (EMAILID), <b>Start Program Debug Tracing</b> (TRC_PGM_STRT_SW), <b>End Program Debug Trace</b> (TRC_PGM_END_SW), <b>SQL Debug Tracing</b> (TRC_SQL_SW) and <b>Standard Debug Tracing</b> (TRC_STD_SW) on CI_BATCH_CTRL Table.</li> <li>• <b>Batch Parameter Value</b> (BATCH_PARM_VAL) and <b>Security flag</b> (TEXT_SECURITY_FLG) on Batch Control Parameters Table (CI_BATCH_CTRL_P)</li> </ul> |

### E.3.2.6 Business Object

| Properties            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tables                | F1_BUS_OBJ, F1_BUS_OBJ_L, F1_BUS_OBJ_ALG, F1_BUS_OBJ_OPT,<br>F1_BUS_OBJ_STATUS, F1_BUS_OBJ_STATUS_L,<br>F1_BUS_OBJ_STATUS_ALG, F1_BUS_OBJ_STATUS_OPT,<br>F1_BUS_OBJ_STATUS_RSN, F1_BUS_OBJ_STATUS_RSN_L,<br>F1_BUS_OBJ_STATUS_RSN_CHAR, F1_BUS_OBJ_TR_RULE,<br>F1_BUS_OBJ_TR_RULE_L                                                                                                                                                                                                                             |
| Standard Data Fields  | <b>Business Object</b> (BUS_OBJ_CD), <b>Status Reason</b><br>(BO_STATUS_REASON_CD)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Customer Modification | <ul style="list-style-type: none"> <li>• <b>Batch Control</b> (BATCH_CD), <b>Alert</b> (BO_ALERT_FLG), <b>Sequence</b> (SORT_SEQ5), <b>Status Reason</b> (STATUS_REASON_FLG) fields on Business Object Status Table (F1_BUS_OBJ_STATUS).</li> <li>• <b>Instance Control</b> (INSTANCE_CTRL_FLG), <b>Application Service</b> (APP_SVC_ID) on Business Object Table (F1_BUS_OBJ).</li> <li>• <b>Status Reason Selection</b> (STATUS_REASON_SELECT_FLG) on Status Reason Table (F1_BUS_OBJ_STATUS_RSN).</li> </ul> |

### E.3.2.7 Business Service

| Properties            | Description                             |
|-----------------------|-----------------------------------------|
| Tables                | F1_BUS_SVC, F1_BUS_SVC_L                |
| Standard Data Fields  | <b>Business Service</b> (BUS_SVC_CD)    |
| Customer Modification | <b>Application Service</b> (APP_SVC_ID) |

### E.3.2.8 Characteristics

| Properties            | Description                                                                                                                                                                                                                                                                                                              |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tables                | CI_CHAR_TYPE, CI_CHAR_TYPE_L, CI_CHAR_ENTITY, CI_CHAR_VAL,<br>CI_CHAR_VAL_L                                                                                                                                                                                                                                              |
| Standard Data Fields  | <b>Characteristic Type</b> (CHAR_TYPE_CD), <b>Characteristic Value</b> (CHAR_VAL)<br>on CI_CHAR_VAL<br><div> <b>Note:</b> 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. </div> |
| Customer Modification | <b>Adhoc Characteristic Value Validation Rule</b> (ADHOC_VAL_ALG_CD),<br><b>Allow Search by Characteristic Value</b> (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  | <b>Migration Plan Code</b> (MIGR_PLAN_CD), <b>Migration Request Code</b> (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  | <b>Data Area Code</b> (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  | <b>F1_DATA_EXPORT_CTRL</b> (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  | <b>Display Icon Code</b> (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  | <b>Business Object</b> (BUS_OBJ_CD), <b>Extendable Lookup Value</b> (F1_EXT_LOOKUP_VALUE)                                                                                                                                     |
| Customer Modification | <ul style="list-style-type: none"> <li>• <b>Business Object Data Area</b> (BO_DATA_AREA)</li> <li>• <b>Override Description</b> (DESCR_OVRD) on Extendable Lookup Field Value Language Table (F1_EXT_LOOKUP_VAL_L)</li> </ul> |

### 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  | <b>File Integration Record</b> (FILE_INT_REC_CD), <b>File Integration Type</b> (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  | <b>FK Reference Code</b> (FK_REF_CD)                       |
| Customer Modification | <b>Info Program Name</b> (INFO_PRG), <b>Zone</b> (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  | <b>Webservice Name</b> (IN_SVC_NAME), <b>Annotation</b> (ANN_CD), <b>Annotation Type</b> (ANN_TYPE_CD)                                                                                                          |
| Customer Modification | <b>Debug</b> (DEBUG_SW), <b>Active</b> (ACTIVE_SW), <b>Trace</b> (TRACE_SW), <b>Request XSL</b> (REQUEST_XSL), <b>Response XSL</b> (RESPONSE_XSL)                                                               |

### E.3.2.17 Key Ring

| Properties           | Description                              |
|----------------------|------------------------------------------|
| Tables               | F1_CRYPTO_KEY_RING, F1_CRYPTO_KEY_RING_L |
| Standard Data Fields | <b>Key Ring</b> (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  | <p><b>Field Name</b> (FIELD_NAME)</p> <ul style="list-style-type: none"> <li>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.</li> </ul> <p><b>Field Value</b> (FIELD_VALUE)</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul> |
| Customer Modification | <b>Override Description</b> (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  | <b>UI Map</b> (MAP_CD) |
| Customer Modification | None                   |

### E.3.2.20 Managed Content

| Properties            | Description                               |
|-----------------------|-------------------------------------------|
| Tables                | F1_MANAG_CONTENT, F1_MANAG_CONTENT_L      |
| Standard Data Fields  | <b>Managed Content</b> (MANAG_CONTENT_CD) |
| Customer Modification | None                                      |

### E.3.2.21 Market Configuration

| Properties            | Description                                  |
|-----------------------|----------------------------------------------|
| Tables                | F1_MKTCFG                                    |
| Standard Data Fields  | <b>Market Configuration Code</b> (MKTCFG_CD) |
| Customer Modification | None                                         |

### E.3.2.22 Messages

| Properties           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tables               | CI_MSG_CATEGORY, CI_MSG_CATEGORY_L,<br>CI_MSG, CI_MSG_L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Standard Data Fields | <p><b>Message Category</b> (MESSAGE_CAT_NBR)</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Implementer Message Categories are 80000 and 90000</li> <li>• Reserved for Tests – 99999</li> </ul> <p><b>Message Number</b> (MESSAGE_NBR) for message categories</p> <ul style="list-style-type: none"> <li>• Message numbers below 1000 are reserved for common messages. Implementers must not use message numbers below 1000.</li> </ul> <p><b>Message Number</b> (MESSAGE_NBR) for Java message categories</p> <ul style="list-style-type: none"> <li>• Subsystem Standard Messages - 00001 thru 02000</li> <li>• Reserved - 02001 thru 09999</li> <li>• Published Messages - 10001 thru 11000</li> <li>• Package Messages - 10001 thru 90000</li> <li>• Reserved - 90001 thru 99999</li> <li>• Each package is allocated 100 message numbers, each starting from 101.</li> <li>• 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.</li> <li>• Reserved message number ranges are for future use and therefore must not be used by all products.</li> </ul> |



| Properties            | Description                                                                                    |
|-----------------------|------------------------------------------------------------------------------------------------|
| Customer Modification | <b>Override Description</b> (DESCRLONG_OVRD), <b>Message Text Override</b> (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  | <b>Table Name</b> (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  | <p><b>Table Name (TBL_NAME)</b></p> <ul style="list-style-type: none"> <li>Table names must match with the physical table name or view name in the database.</li> </ul> <p><b>Field Name (FLD_NAME)</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul> <p><b>Index Code (IDX_CD)</b></p> <ul style="list-style-type: none"> <li>Index name must match the physical index name in the database.</li> </ul> <p><b>Note:</b> 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).</p> |
| Customer Modification | <ul style="list-style-type: none"> <li><b>Audit Switches</b> (AUDIT_INSERT_SW, AUDIT_UPDATE_SW, AUDIT_DELETE_SW), <b>Override label</b> (OVRD_LABEL) on MD Table Field Table (CI_MD_TBL_FLD).</li> <li><b>Audit Program Name</b> (AUDIT_PGM_NAME), <b>Audit Table Name</b> (AUDIT_TBL_NAME), <b>Audit Program Type</b> (AUDIT_PGM_TYPE_FLG), <b>Key Validation</b> (KEY_VALIDATION_FLG) and <b>Caching Strategy</b> (CACHE_FLG) on MD Table (CI_MD_TBL).</li> <li><b>Override Label</b> (OVRD_LABEL) and <b>Customer Specific Description</b> (DESCRLONG_OVRD) on Field Table.</li> </ul>                                                                                                                                                                                                                                                                                         |

### E.3.2.25 Metadata – Constraints

| Properties            | Description                                                                                                                                                                                                                                                                          |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tables                | CI_MD_CONST, CI_MD_CONST_FLD                                                                                                                                                                                                                                                         |
| Standard Data Fields  | <b>Constraint ID (CONST_ID)</b> <ul style="list-style-type: none"> <li>• Index Name for Primary Constraints</li> <li>• &lt;Index Name&gt;Rnn for Foreign Key Constraints Where, <ul style="list-style-type: none"> <li>○ nn: integer</li> <li>○ 01 through 99</li> </ul> </li> </ul> |
| 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  | <b>Menu Name (MENU_NAME), Menu Item ID (MENU_ITEM_ID), Menu Line ID (MENU_LINE_ID)</b>           |
| Customer Modification | <b>Override Label (OVRD_LABEL)</b> 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  | <b>Program Component ID (PROG_COM_ID), Location ID (LOC_ID), Program Component Name (PROG_COM_NAME), Service Name (SVC_NAME), Navigation Key (NAVIGATION_KEY)</b>               |
| Customer Modification | <b>User Exit Program Name (USER_EXIT_PGM_NAME)</b> 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  | <b>Maintenance Object</b> (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  | <b>Work Table Name</b> (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  | <b>Search Object</b> (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  | <b>Navigation Option Code</b> (NAV_OPT_CD), <b>Navigation Key</b> (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  | <b>Outbound Message Type Code</b> (OUTMSG_TYPE_CD) |
| Customer Modification | <b>Priority</b> (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  | <b>Portal Code</b> (PORTAL_CD), <b>Zone Code</b> (ZONE_CD), <b>Zone Type Code</b> (ZONE_HDL_CD) <div> <b>Points to Note:</b><br/> A new zone can be added to the Product owned Portal Pages.<br/> The existing zones cannot be removed from the Product owned Portal Pages. </div>                                                                                                                                                                                                                                                                                                                                                                     |
| Customer Modification | <ul style="list-style-type: none"> <li>• <b>Sort Sequence</b> (SORT_SEQ) on Context Sensitive Zone Table (CI_UI_ZONE).</li> <li>• <b>Show on Portal Preferences</b> (USER_CONFIG_FLG) on Portal Table (CI_PORTAL).</li> <li>• <b>Override Sequence</b> (SORT_SEQ_OVRD) on Portal Zone Table (CI_PORTAL_ZONE).</li> <li>• <b>Customer Specific Description</b> (DESCRLONG_OVRD) on Zone Language Table (CI_ZONE_L).</li> <li>• <b>Override Parameter Value</b> (ZONE_HDL_PARM_OVRD) on Zone Type Parameters Table (CI_ZONE_HDL_PRM).</li> <li>• <b>Override Parameter Value</b> (ZONE_PARM_VAL_OVRD) on Zone Parameters Table (CI_ZONE_PRM).</li> </ul> |

### 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 | <b>Process Flow Type</b> (PROCESS_CD)                           |

| Properties            | Description |
|-----------------------|-------------|
| Customer Modification | None        |

### E.3.2.35 Sequence

| Properties            | Description                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Tables                | CI_SEQ                                                                                                                            |
| Standard Data Fields  | <b>Sequence Name</b> (SEQ_NAME)                                                                                                   |
| Customer Modification | <b>Sequence Number</b> (SEQ_NBR)<br><b>Note:</b> 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  | <b>Schema Name</b> (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_PRMPPT, CI_SCR_PRMPPT_L, CI_SCR_STEP, CI_SCR_STEP_L |
| Standard Data Fields  | <b>Script</b> (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  | <b>To Do Type Code</b> (TD_TYPE_CD)                                                                                                                        |
| Customer Modification | <b>Creation Batch Code</b> (CRE_BATCH_CD), <b>Route Batch Code</b> (RTE_BATCH_CD), <b>Priority Flag</b> (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  | <b>Object ID</b> (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  | <b>Web Service Category Code</b> (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  | <b>Adapter ID</b> (XAI_ADAPTER_ID), <b>Class ID</b> (XAI_CLASS_ID), <b>Sender ID</b> (XAI_SENDER_ID)                            |
| Customer Modification | <b>Option Value</b> (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  | <b>XAI Inbound Service ID</b> (XAI_IN_SVC_ID), <b>XAI Inbound Service Name</b> (XAI_IN_SVC_NAME)                                                                                                                                                                            |
| Customer Modification | <b>XAI Version</b> (XAI_VERSION_ID), <b>Trace</b> (TRACE_SW), <b>Debug</b> (DEBUG_SW), <b>Request XSL</b> (INPUT_XSL), <b>Response XSL</b> (RESPONSE_XSL), <b>Record XSL</b> (RECORD_XSL and <b>Post Error</b> (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  | <b>Product Metric Type</b> (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  | <b>Batch Control</b> (BATCH_CD), <b>Batch Control Options</b> (BATCH_CTRL_OPT_FLG), <b>Batch Control Options</b> (BATCH_CTRL_OPT_VAL) <b>Type Value</b> |
| 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_PRMPPT     | MG             | Script Prompt                  |
| CI_SCR_PRMPPT_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_CRYPT_KEY_RING          | MG             | Key Ring                                 |
| F1_CRYPT_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 V8.0.0.0.0 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 V8.0.0.0.0 Patch Guide](#) (Document ID: 3089016.1) on [My Oracle Support](#).

### F.1 Applying a Rollup Pack

Once you install Oracle Revenue Management and Billing Version 8.0.0.0.0, you need to apply the rollup packs listed in the [ORMB V8.0.0.0.0 Patch Guide](#) (Document ID: 3089016.1). 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_V8.0.0.0.0_App_Rollup`, `RMB_V8.0.0.0.0_DB_Rollup`, and `RMB_V8.0.0.0.0_PFDs`.
3. Change to the `RMB_V8.0.0.0.0_DB_Rollup` folder using the following command:

**Linux:**

```
cd <DESTINATION_FOLDER_1>/RMB_V8.0.0.0.0_DB_Rollup
```

**Windows:**

```
cd <DESTINATION_FOLDER_1>\RMB_V8.0.0.0.0_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)<br>OR<br>M (if you have MySQL database) |

| Parameter                                               | Value                                                                |
|---------------------------------------------------------|----------------------------------------------------------------------|
| Enter the username that owns the schema                 | <DB_USER><br>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><br>OR<br><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

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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 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

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- apache-xmlbeans-4.0.0.jar
- batik-all-1.18.jar
- byte-buddy-1.12.18.jar
- cglib-3.3.0-975e481.jar
- classmate-1.5.1.jar

- commons-beanutils2-2.0.0-e79af27.jar
- commons-cli-1.9.0.jar
- commons-codec-1.17.1.jar
- commons-collections4-4.5.0-M2.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-2.0.27.jar
- fop-core-2.10.jar
- fop-events-2.10.jar
- fop-util-2.10.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-2.4.11.jar
- log4j-api-2.21.0.jar
- log4j-core-2.21.0.jar
- nimbus-jose-jwt-9.39.jar
- velocity-engine-core-2.3.jar
- xml-apis-1.4.01.jar
- xml-apis-ext-1.3.04.jar
- xmlgraphics-commons-2.10.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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Written by Kristof Coomans

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