

# **Oracle Public Sector Revenue Management**

Database Administrator's Guide

Release 2.4.0.2.0

**E50175-03**

August 2015

Copyright © 2007, 2015, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

---

---

# Contents

## Contents

<b>Preface .....</b>	<b>i-i</b>
Audience .....	i-i
Related Documents .....	i-i
Updates to this Documentation .....	i-ii
Conventions .....	i-ii
 <b>Chapter 1</b>	
<b>Database Overview .....</b>	<b>1-1</b>
Supported Database Platforms.....	1-1
Support for Software Patches and Upgrades.....	1-1
Database Maintenance Rules .....	1-2
Permitted Database Changes .....	1-2
Non-Permitted Database Changes.....	1-2
 <b>Chapter 2</b>	
<b>Database Installation .....</b>	<b>2-1</b>
Installation Overview .....	2-1
Installing the Oracle Database.....	2-3
Copying and Decompressing Install Media .....	2-3
Database Creation.....	2-3
Initial Install and Upgrade .....	2-5
Security Configuration.....	2-6
Populating Language Data.....	2-7
 <b>Chapter 3</b>	
<b>Database Design .....</b>	<b>3-1</b>
Database Object Standard.....	3-2
Categories of Data .....	3-2
Naming Standards.....	3-2
Column Data Type and Constraints.....	3-6
User Defined Code.....	3-6
System Assigned Identifier .....	3-6
Date/Time/Timestamp .....	3-6
Number .....	3-6
Fixed Length/Variable Length Character Columns.....	3-6
Null Column Support.....	3-6
XML Type Support .....	3-7
Cache and Key Validation Flags.....	3-7
Table Classification and Table Volume Flags.....	3-7
Default Value Setting.....	3-7
Foreign Key Constraints .....	3-7
Standard Columns .....	3-7
Owner Flag .....	3-7

Version.....	3-8
<b>Chapter 4</b>	
<b>Database Implementation Guidelines.....</b>	<b>4-1</b>
Configuration Guidelines .....	4-2
Index .....	4-2
Table Partitioning Recommendations .....	4-2
Transparent Data Encryption Recommendations.....	4-2
Storage Recommendations .....	4-3
Database Vault Recommendations .....	4-3
Oracle Fuzzy Search Support.....	4-4
Database Initialization Parameters .....	4-4
<b>Chapter 5</b>	
<b>The Oracle Conversion Tool.....</b>	<b>5-1</b>
Database Configuration.....	5-2
Script Installation.....	5-2
Preparing the Production Database.....	5-3
Preparing the Staging Database.....	5-3
<b>Appendix A</b>	
<b>Upgrades to the Oracle Public Sector Revenue Management Database.....</b>	<b>A-1</b>
Upgrading from 2.4.0.1.0 to 2.4.0.2.0.....	A-2
Schema Changes for 2.4.0.2.0 .....	A-2
New System Data for 2.4.0.2.0 .....	A-3
De-supported System Data for 2.4.0.2.0 .....	A-33
<b>Appendix B</b>	
<b>Oracle Public Sector Revenue Management System Table Guide .....</b>	<b>B-1</b>
Business Configuration Tables.....	B-2
Installation Options .....	B-2
<b>Appendix C</b>	
<b>Upgrades to the Oracle Utilities Application Framework Database for 4.2.0.3.....</b>	<b>C-1</b>
Automatic Data Upgrade .....	C-2
Long Context Value on XAI Receiver .....	C-2
Schema Change.....	C-2
New Tables .....	C-2
New Views .....	C-2
Dropped Tables.....	C-2
Unsupported Tables .....	C-2
Added Columns .....	C-2
Dropped Columns .....	C-2
Unsupported Table Columns.....	C-3
Column Format Change .....	C-3
<b>Appendix D</b>	
<b>Oracle Application Framework System Table Guide.....</b>	<b>D-1</b>
About the Application Framework System Tables .....	D-2
System Table Standards.....	D-2
Guidelines for System Table Updates .....	D-3
Business Configuration Tables.....	D-3
Development and Implementation System Tables.....	D-4
Oracle Utilities Application Framework Only Tables.....	D-17
System Table List.....	D-18
<b>Appendix E</b>	
<b>License and Copyright Notices .....</b>	<b>E-1</b>

Notice Concerning Usage of ANTLR.....	E-2
Notice Concerning Usage of Apache Software.....	E-2
Notice Concerning Usage of ASM.....	E-5
Notice Concerning Usage of Concurrent .....	E-6
Notice Concerning Usage of DOM4J .....	E-6
Notice Concerning Usage of International Components for Unicode (ICU4J) .....	E-6
Notice Concerning Usage of Jaxen .....	E-7
Notice Concerning Usage of JCIP Annotations.....	E-7
Notice Concerning Usage of SLF4J.....	E-11
Notice Concerning Usage of Staxmate.....	E-11
Notice Concerning Usage of XMLPULL.....	E-12
Notice Concerning Usage of XMLUnit .....	E-12
Notice Concerning Usage of XStream .....	E-12
Notice Concerning Usage of YUI.....	E-13



---

---

# Preface

This guide provides instructions for installing and maintaining the database for Oracle Public Sector Revenue Management .

This preface contains these topics:

- **Audience**
- **Related Documents**
- **Updates to this Documentation**
- **Conventions**

## Audience

Oracle Public Sector Revenue Management Database Administrator's Guide is intended for database administrators who will be installing and maintaining the database for Oracle Public Sector Revenue Management .

## Related Documents

For more information, refer to these Oracle documents:

### Installation Guides and Release Notes

- *Oracle Public Sector Revenue Management V2.4.0.2.0 Release Notes*
- *Oracle Public Sector Revenue Management V2.4.0.2.0 Quick Install Guide*
- *Oracle Public Sector Revenue Management V2.4.0.2.0 Installation Guide*
- *Oracle Public Sector Revenue Management V2.4.0.2.0 Database Administrator's Guide*
- *Oracle Public Sector Revenue Management V2.4.0.2.0 Optional Product Installation Guide*

### Administration and Business Process Guides

- *Oracle Public Sector Revenue Management V2.4.0.2.0 Administration Guide*
- *Oracle Public Sector Revenue Management V2.4.0.2.0 Business Process Guide*
- *Oracle Utilities Application Framework V4.2.0.3.0 Administration Guide*
- *Oracle Utilities Application Framework V4.2.0.3.0 Business Process Guide*

### Supplemental Documents

- *Oracle Public Sector Revenue Management V2.4.0.2.0 Batch Server Administration Guide*
- *Oracle Public Sector Revenue Management V2.4.0.2.0 Server Administration Guide*

## Updates to this Documentation

This documentation is provided with the version of the product indicated. Additional and updated information about the operations and configuration of the product is available from the Knowledge Base section of My Oracle Support (<http://support.oracle.com>). Please refer to My Oracle Support for more information.

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
<code>monospace</code>	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.



# Chapter 1

---

## Database Overview

This section provides an overview of the Oracle Public Sector Revenue Management database, including:

- **Supported Database Platforms**
- **Database Maintenance Rules**

### Supported Database Platforms

Oracle Public Sector Revenue Management is certified on the following platforms:

- Oracle Database Server 11.2.0.3 (64-bit)
- Oracle Database Server 12.1.0.1.0 (64-bit)

#### **Notes:**

Oracle Public Sector Revenue Management is tested on both Oracle Database Enterprise Edition and Standard Edition. Some features, such as Advanced Compression and Partitioning, require the Enterprise Edition.

Oracle Public Sector Revenue Management supports all Operating Systems which are certified with Oracle Database platforms mentioned above.

Refer to My Oracle Support for additional details.

### Support for Software Patches and Upgrades

Due to the ongoing nature of software improvement, vendors will periodically issue patches and service packs for the operating systems, application servers and database servers on top of specific versions that Oracle products have already been tested against.

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 production environment itself.

The exception from this rule is Hibernate software version 4.1.0. This version should not be upgraded.

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

## 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 of these components is outlined in the installation section of this document.

## 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 new items 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 (that is, 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.

## Non-Permitted Database Changes

In order 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 in anyway (altered, removed or added).
  - 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.

# Chapter 2

## Database Installation

This section provides the steps required to install the Oracle Public Sector Revenue Management database, including:

- **Installation Overview**
- **Installing the Oracle Database**

### Installation Overview

#### Notes:

- Refer to the *Oracle Public Sector Revenue Management Installation Guide* for the hardware and software versions required for the installation on Unix or Windows. This installation is for Oracle Public Sector Revenue Management v2.4.0.2.0 and the upgrade of Oracle Public Sector Revenue Management v2.4.0.1.0 to v2.4.0.2.0.
- The Java and Jar file location parameters are hard coded in the OraDBI.psq file in <installer directory>\Install-upgrade folder. Update these parameters appropriately, based on your implementation standard, before running the upgrade.
- For upgrade customers only. Execute the following SQLs in your database before starting the upgrade:

```
Update CI_INSTALL_PROD set VERSION=VERSION+1
Where Owner_Flg='C1';
Commit;
```

**Note:** Make sure you back up your database before the upgrade.

The following type of installation is available for Oracle Public Sector Revenue Management:

- **Initial Install** - a database populated with metadata.
- **Upgrade Install** - a database upgrade to a new version from a preexisting install.
- **Demo Install** - a database populated with demo data.

The database installation requires a supported version of the Java Development Kit to be installed on the Windows desktop where the install package is staged and run from. Refer to the Supported Platform section of the *Oracle Public Sector Revenue Management Installation Guide* for the required version of Java.

For an initial install 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 Public Sector Revenue Management.

The Oracle Public Sector Revenue Management installation package contains a script, CDXDBA that creates an empty database with a default tablespace (CISTS\_01) and the required users and

---

roles. After creating the database, install the product specific database objects/data from the desktop mentioned above.

Review the Storage.xml file under Install-Upgrade folders prior to an initial install. This file allocates all base tables and indexes to the default tablespace CISTS\_01. Information in this file is used by OraDBI while installing and upgrading the Oracle Public Sector Revenue Management database objects.

**Notes:**

- Even if you have created the database without using the CDXDBA script, you will still need to review the Storage.xml file, prior to an initial install, to update the default values to custom values (for e.g. TableSpace Name).
- The installation package contains two main sub directories, Oracle Utilities Application Framework and Oracle Public Sector Revenue Management.
  - <installer directory>\Install-upgrade\FW
  - <installer directory>\Install-upgrade\PSRM

Each of the above directories also contains a storage.xml file. Once the storage.xml is updated in the main directory as per your requirements, make sure to copy this file to these three subdirectories.

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 table CI\_ACCT in a tablespace MyTablespace, 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 storage.xml 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, please ensure that the Database Management System software is installed according to your site standards and the installation guide provided by the database vendor. Also please make sure that you have necessary licenses to use some of the advanced database features like Advanced Compression.

# Installing the Oracle Database

This section outlines the process for installing the Oracle Database for Oracle Public Sector Revenue Management. It contains the following topics:

- **Copying and Decompressing Install Media**
- **Database Creation**
- **Initial Install and Upgrade**
- **Populating Language Data**

## Copying and Decompressing Install Media

Follow these steps before you begin installing the database:

1. Download the Oracle Public Sector Revenue Management install from Oracle Software Delivery Cloud.
2. Unzip the Oracle Public Sector Revenue Management file to a temporary folder. This file contains “Database.zip” that contains FW4.2.0.3.0 and PSRM 2.4.0.2.0 files with all the database components required to install the Oracle Public Sector Revenue Management database.

## Database Creation

**Note:** You must have Oracle Database Server 11.2.0.3 installed on your machine in order to create the database. This step is not required if you are performing a database upgrade from a previous version of the application.

You can create a database using the database creation tool (cdxdba.plx for UNIX or CDXDBA.exe for Windows) that is packaged with product. You can create the database using DBCA as well, in which case you do not need to run the database creation scripts provided by the application.

The UNIX 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**
- **Creating the Database on Windows**

### Creating the Database on Unix

The files for creating the database are located in the DatabaseCreation/Unix directory in the media pack.

Follow these steps to create a database:

1. FTP the contents of the DatabaseCreation folder to a temporary directory on the UNIX server.
2. Set the ORACLE\_HOME and ORACLE\_BASE variables.
3. Run the utility cdxdba.plx by executing the following command:  

```
perl cdxdba.plx
```
4. Provide the following parameter values when prompted:
  - Instance name (DEMO):
  - ORACLE\_BASE: the directory where the setup files for the database will be created (/ orasw/app/oracle):

- ORACLE\_HOME: the folder where the current version of Oracle software is installed (/orasw/app/oracle/product/):
- ORACLE\_DATA: the directory where the data files for the database will be created (/db05/oradata):
- Character set for the database (AL32UTF8):

Enter the parameter values based on the settings of your database server. You can also accept the default values displayed if they match your database server settings. You will be prompted to confirm the settings and then to select Y or N to create the database.

```
ORACLE_SID: DEMO
ORACLE_HOME: /orasw/app/oracle/product/
ORACLE_BASE: /orasw/app/oracle
ORACLE_DATA: /db05/oradata
Character Set: AL32UTF8
Do you want to continue (Y/N)?
```

5. When the database has been created, you will be prompted with the following question:

```
Do you want to import a demo database dump into this database (Y/N)?
```

Select N to exit the database utility.

## Creating the Database on Windows

The files for creating the database are located in the DatabaseCreation/Windows directory in directory.

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.

Follow these steps to create the database:

1. From a command prompt, run the utility CDXDBA.exe, located in the Windows folder.

The utility displays the following options:

```
E - Export a schema from the database
R - Refresh a schema with a database dump
C - Create/Recreate a local database
H - See help for the command line options
Q - Quit
```

2. Select option C to create an empty database on your machine.

Provide the following values.

- Provide the instance name (DEMO): <DB Name> For example, ODM\_DB
- Enter the character set of the database (AL32UTF8): AL32UTF8
- Enter ORACLE\_BASE: the directory where the setup files for the database will be created (c:\oracle): <Oracle\_Base> For example, c:\app\oracle
- Enter ORACLE\_HOME: the folder where the current version of Oracle software is installed (c:\oracle\product\11.1.0.6\Db\_1):< Oracle\_Home> For example, c:\app\oracle\db\_home
- Enter ORACLE\_DATA: the directory where the data files for the database will be created (c:\app\oracle\oradata): <Directory where data files will be created>

3. Select option Q to exit the utility after the database is created.

## Initial Install and Upgrade

**Note:** For upgrade, make sure you have a valid database backup before starting the upgrade. The upgrade installer will allow you to address most issues and continue with the upgrade without having to exit out of the installer and potentially risk a restore.

Please note that before this step the database creation should have been completed. Also the storage.xml file should have been reviewed and edited as per requirements. The installer will first install or upgrade Oracle Utilities Application Framework 4.2.0.3.0 with 4.2.0.3.0 single fixes, followed by Oracle Public Sector Revenue Management 2.4.0.2.0. The oraDBI.exe script executed from the main install-upgrade folder, will navigate to FW and PSRM subdirectories and run both FW and PSRM install / upgrades back to back. The OraDBI.exe will prompt for password four times, one for each install or upgrade.

### Installing Oracle Public Sector Revenue Management Database Component

Follow the procedure described below to install the database component of Oracle Public Sector Revenue Management.

1. Run OraDBI.exe from the Install-Upgrade folder found in the root directory where the database package is unzipped. The utility prompts you to enter values for the following parameters:
  - Name of the target database:<DB NAME>
  - Name of the of the Database user
  - Password for the user
  - Location of Java Home: <..\jdk1.6.0\_20>
  - Location of TUGBU Jar files: <..\jarfiles>
  - Oracle user with read-write privileges to the Database Schema:<CISUSER>
  - Oracle user with read-only privileges to the Database Schema:<CISREAD>
  - Oracle database role with read-write privileges to the Database Schema:<CIS\_USER>
  - Oracle database role with read-only privileges to the Database Schema:<CIS\_READ>
  - Target schema name for the install or upgrade

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.

**Note:** Both the Oracle Utilities Application Framework and Oracle Public Sector Revenue Management install/upgrades are executed one after the other by OraDBI, You will be prompted to enter password four times one for each install/upgrade.

#### OraDBI performs the following tasks:

- Interacts with the user to collect information about the name of Oracle account to install or upgrade, password of this account, the name of oracle account that will own the application schema (for example, CISADM), 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 Storage.xml file (if not, the process will abort).
- Installs the schema, installs the system data, and configures security.
- Maintains install log tables in the database.

- Updates release ID when the install 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 CDXDBI###.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, CDXDBI 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 necessary mean a problem exists.
- Stores the schema owner and password in the feature configuration table. The password is stored in encrypted format.

### Post-Install Tasks

Refer to **Populating Language Data** on page 2-7 if the application is to run in a language other than English.

### Database Statistics Generation

Before starting to use the database, generate the complete statistics for these new objects using the DBMS\_STATS package.

### Environment Registration

**Note:** If the target database is registered as a configuration laboratory or archiving database in another database, or another database has been registered as a configuration laboratory or archiving database in this database, it is required that you upgrade the registration at this stage.

The detailed instructions for environment registration can be found in the Oracle Public Sector Revenue Management user documentation. Please refer to this documentation before executing the environment registration utility EnvSetup.exe included in the post-install folder.

## Security Configuration

The configuration utility and scripts are located in the Security folder.

Execute the OraGenSec.exe utility.

The script will prompt you for parameter values:

```
Enter the application read-only user or Schema Owner in the
database (e.g CISADM or CISREAD): CISADM
```

```
Enter the password for the user: CISADM
```

```
Enter the name of the Oracle Database: database name
```

```
Enter a comma-separated list of Oracle users in which synonyms need
to be created (e.g. cisuser,cisread): cisuser,cisread
```

```
Select the following options: A
(A/a): Generate security for All objects in the Database (e.g. A or
a for all objects)
(O/o): Generate security for specific Objects inputted in this
terminal (e.g. CI_ACCT,CI_ACCT_K)
Generate security for specific objects generated from an input File
(e.g. Security_Objects.txt)
```

The utility configures security for the application owner schema objects.



**Note:** If you run Oragensec in Interactive Mode (without using the command line options), it will by default grant permissions to CIS\_USER and CIS\_READ Role. If you prefer to use site-specific roles then execute Oragensec after providing command line options.

For example:

```
(Oragensec.exe -d [Schema Owner],[Schema Owner's  
Password],[Database Name] -u [Read/Write User],[Read Only User] -r  
[Read Only Role],[Read Write Role] -a A -l [Logfile Name])
```

**Note:** Database vault must be disabled before running

## Post-Install

Configure the security for the database. Refer to **Security Configuration** on page 2-6.

Refer to the **Populating Language Data** on page 2-7 if the application is to be run in a language other than English.

## Populating Language Data

At this point, the Oracle Public Sector Revenue Management database is ready for use. 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, refer to the user documentation section “Defining Background Processes.”

You can also install the language specific data packages (if available) into the database. Please contact your Oracle representative to receive information on these packages



# Chapter 3

---

## Database Design

This section provides a standard for database objects such as tables, columns, and indexes, for products using the Oracle Utilities Application Framework. This standard helps 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 includes:

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

# Database Object Standard

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

## 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 **Indexes** on page 3-3 for more information.

## 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 prefix 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. 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\_FLD) 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. Prior to Version 4.1.0 of the framework the leading character of the base Owner Flag was used. From 4.1.0 on the first two characters of product's owner flag value should be used. For client specific implementation of index, use CM for Owner Flag.
- 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 has to 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.

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 has to be adjusted 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 initial installs, information for each object should be reviewed by a DBA. For upgrades, 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

The base sequence name must be prefixed with the owner flag value of the product. For customer modification **CM** must prefix 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, Framework its F1. Other examples are W1, W2 M1D1,D2, etc.
- 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, the framework is F1. Other examples are W1, W2 M1D1,D2, etc.

- 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, the framework is F1. Other examples are W1, W2 M1D1,D2, etc.

For Example: F1FKVALID\_SEQ

- For a customer modification, CM must prefix the sequence name.

## 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.

## 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.

### 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.

### 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.

### Date/Time/Timestamp

Date, Time and Timestamp columns are defined physically as DATE in Oracle. Non-null constraints are implemented only for the required columns.

### 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.

### 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.

### Null Column Support

Oracle Utilities Application Framework 4.1.0 Group Fix 2 and later versions support 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 added to FW410 Group Fix 2 fixes the metadata to make sure that the existing tables will not be affected.

This new feature only supports tables maintained by Java. Thus, enhancing any existing tables to use null columns must be done only after making sure that the tables are maintained by Java, and not COBOL.



## XML Type Support

Oracle Utilities Application Framework v4.2.0.0 onwards supports XML Type. XML Type 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.

## 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.

## 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.

## 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.

## Foreign Key Constraints

Referential integrity is enforced by the application. In the database do not define FK constraints. Indexes are created on most of Foreign Key columns to increase performance.

## Standard Columns

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

## 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.

## 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 irrespective of the language used (COBOL or JAVA).

# Chapter 4

---

## Database Implementation Guidelines

The following section outlines the general implementation guidelines for the database components, including:

- **Configuration Guidelines**

**Note:** Refer to My Oracle Support for more information.

## Configuration Guidelines

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

- **Index**
- **Table Partitioning Recommendations**
- **Transparent Data Encryption Recommendations**
- **Storage Recommendations**
- **Database Vault Recommendations**
- **Oracle Fuzzy Search Support**
- **Database Initialization Parameters**

### 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 in order to perform SQL tuning.
2. The foreign keys on a table should be indexes.

### Table Partitioning Recommendations

Please refer to the following blog post for recommended partitioning strategy for Oracle Public Sector Revenue Management.

[https://blogs.oracle.com/tax/entry/oracle\\_etpm\\_partitioning\\_recommendation](https://blogs.oracle.com/tax/entry/oracle_etpm_partitioning_recommendation)

### Transparent Data Encryption Recommendations

Oracle Public Sector Revenue Management supports Oracle Transparent Data Encryption (TDE). Oracle 11gR1 supports tablespace level encryption. 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.

## Storage Recommendations

### Compression

Oracle Public Sector Revenue Management supports Advanced Data Compression, available with Oracle 11gR1 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. For CLOB fields medium compression may be used.

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.

**Note:** To enable compression on SecureFiles, you must have an Oracle Advanced Compression license in addition to Oracle Database Enterprise Edition. This feature is not available for the standard edition of the Oracle database.

### SecureFiles

All CLOB fields should be stored as SecureFiles.

## Database Vault Recommendations

We support Database Vault from the Oracle Utilities Application Framework 4.1.0. 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. Configuration is also supported beginning with the Oracle Utilities Application Framework 4.1.0 patch application with Database Vault.

## Oracle Fuzzy Search Support

Oracle Public Sector Revenue Management supports Oracle Fuzzy searches. To use this feature, Oracle Text must be installed. After Oracle Text is installed, an index must be created on the table where the fuzzy search needs to be performed from the application. This is only an Oracle database option and is not supported by other databases. Additionally, not all languages are supported. Refer to the Oracle database documentation for more information about fuzzy searching.

A typical syntax for implementation of fuzzy searching is as below. For the most updated syntax please refer to Oracle Fuzzy documentation.

```
GRANT CTXAPP TO <Application schema owner e.g CISADM>;
GRANT EXECUTE ON CTX_DDL TO <Application schema owner e.g CISADM>;
CREATE INDEX <Application schema owner e.g CISADM>.<Index_Name> ON
Application schema owner e.g CISADM>.<Table_Name>
(
    <column_name>
)
indextype IS ctxsys.context parameters ('sync (on commit)');

BEGIN
    ctx_ddl.sync_index('Application schema owner e.g
CISADM>.<Index_Name>');
END;
```

## Database Initialization Parameters

The recommended Initialization Parameters are given below. Please refer to Oracle Public Sector Revenue Management benchmark reports for additional tuning parameters.

**Open\_cursors:** This parameter value should be minimum 3000.

**Optimizer\_Index\_Cost\_Adj and Optimizer\_Index\_Caching:** In an Oracle Public Sector Revenue Management environment, always make sure that these optimization parameters are set as follows:

```
optimizer_index_cost_adj=1
optimizer_index_caching=100
```

This will make sure that the optimizer gives a higher priority to index scans.

# Chapter 5

---

## The Oracle Conversion Tool

This section explains how to set up the application database configuration in Oracle to run the Conversion Tool Kit, including:

- **Database Configuration**
- **Script Installation**
- **Preparing the Production Database**
- **Preparing the Staging Database**

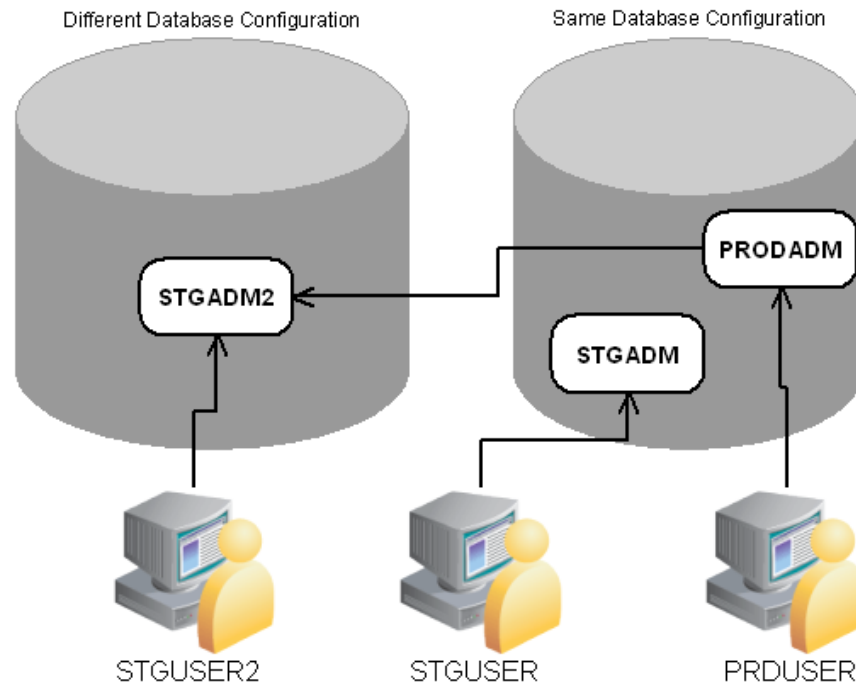
Refer to the section "The Conversion Process" in the Oracle Public Sector Revenue Management *Administration Guide* and the online help for further information.

**Note:** All database related single fixes and service packs need to be applied against the production schema. Staging schema should not be updated with database single fixes or service packs. Staging schema need to be rebuilt for any fixes that contain DDL to create new database objects in production schema.

## Database Configuration

The Conversion Tool Kit requires at least two sets of schema. One is to hold the staging data that the conversion tool gets the data from and performs validations. We call this schema the staging database. The target schema, which is referred to as the production database, is where the conversion tool inserts the validated data. Both the production database and the staging databases can reside in a single Oracle database or in different databases that are connected via a database link. Only the single database configuration is supported.

The following schematic diagram shows a sample configuration of both the production and staging environments in which the Conversion Tool Kit operates. The production and staging databases must be the same release level.



All the tables and views for the application are defined in the production database. The staging database has the same set of tables and views as the production database, except the tables that are grouped as part of the business configuration (control tables). Details on the differences of the tables of the two databases and of the conversion tool functionality are found in the Conversion Tool document.

## Script Installation

With Oracle Public Sector Revenue Management v2.3.1 onwards, a new Conversion Setup Utility, ConvSetup.exe, is provided to set up conversion schemas.

1. Install the Oracle client V11g or later on Windows desktop and configure SQLNet to connect to the target database.

The Conversion folder contains the conversion setup utility: ConvSetup.exe and Conversion.bat.

This section of this document describes how to create the databases for the conversion tool kit.



## Preparing the Production Database

If the production database does not exist create the database under the production schema owner (CISADM).

If the production database is upgraded from the previous version of the application make sure all public synonyms that are created on the application tables are deleted. Instead, each application user should have private synonyms created on the application tables in order for the conversion tool configuration to work.

## Preparing the Staging Database

Once you have created a staging owner (STGADM), application user (STGUSER) and read access user (STGREAD), install the initial database option in the staging schema. The rest of the steps are listed below.

Run ConvSetup.exe from under the Conversion folder. The script prompts you for the following values:

- Database Platform: Oracle (O)
- Database connection info
- Database Name
- System Password
- Production Schema Name
- Staging Schema Name
- Read-Write user for Staging Schema.

ConvSetup.exe performs following tasks:

- Creates cx\* views on the master/transaction tables in the production database.
- Grants the privileges on the master/transaction tables in the production database to the staging owner.
- Drops control tables and creates views on production control tables in the staging database.
- Grants privileges on the control tables to the staging owner.
- Grants privileges on the cx\* views to the staging application user.
- Creates generated key tables.
- Creates generated table primary key and secondary indexes.

In addition to above tasks ConvSetup.exe also generates the following SQL scripts:

- create\_cxviews.sql
- create\_ctlviews.sql
- createck\_tbls.sql
- create\_grants.sql
- createck\_pkix.sql
- createck\_secix.sql

By default the conversion.bat updates all changes to the staging schema. If you want to generate only the above sql scripts and not apply changes to staging schema then update conversion.bat by removing “-u”. The sql scripts can be applied to the staging schema later. The sqls scripts need to be executed in the same order as described above using SQL\*PLus.

Once the staging schema has been set up, generate the security for the staging user using:

```
oragensec -d stgadm,schemapassword,database_name -r  
stg_read,stg_user -u stguser
```

# Appendix A

---

## Upgrades to the Oracle Public Sector Revenue Management Database

This section describes the database upgrade process for the Oracle Public Sector Revenue Management database from v2.4.0.1.0 to v2.4.0.2.0. It highlights changes made to the administrative tables and how those changes should be applied to the data in order for a previous database to work with the v2.4.0.2.0 application, and to preserve the business logic implemented in the previous version of the application. The changes that do not require data upgrade are not described in this document. The tasks that need to be performed after running the upgrade scripts are included.

The added functionality of v2.4.0.2.0 is not the scope of this documentation. The upgrade scripts do not turn on the newly added functionality by default. For new functionality, refer to the v2.4.0.2.0 Release Notes.

This section includes:

- **Upgrading from 2.4.0.1.0 to 2.4.0.2.0**
  - **Schema Changes for 2.4.0.2.0**
  - **New System Data for 2.4.0.2.0**
  - **De-supported System Data for 2.4.0.2.0**

## Upgrading from 2.4.0.1.0 to 2.4.0.2.0

This section includes:

- **Schema Changes for 2.4.0.2.0**
- **New System Data for 2.4.0.2.0**
- **De-supported System Data for 2.4.0.2.0**

### Schema Changes for 2.4.0.2.0

#### New Tables

None.

#### Dropped Tables

None.

#### Added Columns

Table	Column	Required
CI_FORM_LINE	GROUP_LINE_OCCURREN CE_FLG	N
CI_FORM_LINE	MAX_OCCURRENCES	N
F1_MIGR_DATA_ST	BO_DATA_AREA	N
F1_MIGR_DATA_ST	OBJ_RETRY_NBR	N
F1_MIGR_DATA_ST	TRANS_RETRY_NBR	Y
F1_MIGR_OBJ	OP_PROC_TYPE_USG_FLG	N
F1_MIGR_OBJ	RETRY_ITERATION_NBR	N
F1_MIGR_TRANS	RETRY_ITERATION_NBR	N
F1_MIGR_TRANS	TRANS_RETRY_NBR	N

#### Column Format Change

Table	Column	From	To
CI_BATCH_CTRL	EMAILID	VARCHAR2 70	VARCHAR2 254
CI_BATCH_JOB	EMAILID	VARCHAR2 70	VARCHAR2 254
CI_ENRL	EMAILID	VARCHAR2 70	VARCHAR2 254
CI_PER	EMAILID	VARCHAR2 70	VARCHAR2 254
CI_QUOTE_RTG	EMAILID	VARCHAR2 70	VARCHAR2 254
CI_SS_ADDR_OVRD	EMAILID	VARCHAR2 70	VARCHAR2 254
SC_USER	EMAILID	VARCHAR2 70	VARCHAR2 254

## New System Data for 2.4.0.2.0

### Algorithm Type

Algorithm Type	Description
C1-BE-CAN-AD	Bank Event - Cancel Adjustment
C1-BE-CRE-AD	Bank Event - Create Adjustment
C1-BE-REP-OP	Bank Event - Reprocess Overpayment
C1-BE-RES-TD	Bank Event - Reset Bank in Taxpayer Details
C1-BE-SBI	Bank Event - Stamp Batch Information
C1-BE-SMD	Bank Event - Set Monitor Date
C1-BEVT-VAL	Bank Event - Validation
C1-BKEVTINFO	Bank Event Information
C1-CCC-APRL	Create Customer Contact
C1-CCC-VDEF	Create Customer Contact - Validation
C1-CHKACHAGR	One-Time Payment - Check ACH Payment Agreement
C1-CHKEXTPYT	One-Time Payment - Check External Payment
C1-CNOP-APRL	Cancel Overpayment
C1-COVP-APRL	Create Overpayment
C1-COVP-VDEF	Create Overpayment - Validation
C1-CRETODOSR	Create To Do for Service Request
C1-DETAPYSRC	One-Time Payment - Determine Auto Pay Source
C1-DETRFSTAT	Refund Status Inquiry Service Task - Determine Refund Status
C1-DETTNDCTL	One-Time Payment - Determine Tender Control for External Payments
C1-DR-PAYCC	Pay a Collection Notice
C1-DR-PAYTXR	Pay a Tax Role
C1-ECC-MRVAL	Mass Suppression Release - Validate
C1-ECC-MSVAL	Mass Suppression for Taxpayers - Validate
C1-ECT-MSREL	Mass Suppression Release
C1-ECT-VMSR	Validate Mass Suppression Release
C1-EMREIVAL	Scheduled Email Reminder Validation
C1-EMTXCL	Email Tax Clearance Certificate
C1-ENR-INIT	Self Service - Account Owner - Initial Enrollment

Algorithm Type	Description
C1-ENR-VAL	Self Service - Account Owner - Validation
C1-ENRRELVAL	User Enrollment Task Type - Person Relationship Validation
C1-EVALDEBT	Evaluate Taxpayer's Outstanding Debt
C1-EVALGAP	Evaluate Taxpayer's Gap in Filing
C1-EXTPYTRCN	One-Time Payment - External Payment Reconciliation
C1-FR-VCNTY	Form Rule - Validate Customer Contact Type
C1-FR-VOBTY	Form Rule - Validate Obligation Type
C1-GETBNKDET	Process Bank Details From Account Auto Pay
C1-IDENTTAXP	Identify Taxpayers by Name, ID Type/Value
C1-IDTXFORMF	Identify Taxpayer by Name, ID Type/Value for Form Filing
C1-IDTXPSR	Identify Taxpayer by Name, ID Type / Value, Birth Date
C1-IN-DD-ABD	Determine Account from Bank Details
C1-IN-DD-CS	Determine Distribution Rule for Payments in Suspense
C1-IN-DD-DLN	Determine Distribution Rule from DLN
C1-IN-DD-EXC	Determine Distribution Rule for Excess Credit
C1-IN-DD-PER	Determine Distribution Rule from Payment External Reference
C1-LNKSVCCTSK	Self Service - Link Service Task
C1-LTR-TCSDC	Sample Tax Clearance Certificate Letter Extract
C1-MNTTXPADR	Taxpayer Address Maintenance
C1-MONFRMSUB	Monitor Form Submission
C1-OP-CANADJ	Overpayment Process - Cancel Adjustments
C1-OP-CANBEV	Overpayment Process - Cancel Bank Events
C1-OP-CANROP	Overpayment Process - Cancel Related Overpayments
C1-OP-CHBADE	Check Bank Details
C1-OTP-CTODO	Complete One-Time Payment To Dos
C1-OTPCASVAL	One-Time Payment Task Type - Validation
C1-OTPCSTYPR	One-Time Payment Task Type - Initialize Data
C1-PAYCASUSR	One-Time Payment - Create Payment

Algorithm Type	Description
C1-POPTSKCHR	Populate Service Task Characteristics
C1-PYBUPYDES	One-Time Payment - Build Distribution Details
C1-PYVAPYDET	One-Time Payment - Validate Payment Details
C1-SCHREMCHK	Check if Scheduled Reminder is Due
C1-SEPA-FCT	Format SEPA Credit Transfer Record
C1-SNDEMLREM	Send the Email Reminder
C1-SR-VALRU	Status Reason - Only One Reason for Usage Value
C1-SSCONFDET	Populate Confirmation Header Details
C1-SSCONFREM	Email Self Service Confirmation To User
C1-SSCRETODD	Create To Do Entry for Service Task
C1-SSMCFGVAL	Self Service Master Configuration - Validation
C1-SSMSCNFPR	Self Service Master Configuration - Reset Processing Control
C1-SSTK-INFO	Self Service Task Information
C1-SSTKTYVAL	Self Service Task Type - Validation
C1-SVRQTYVAL	Taxpayer Service Request Task Type - Validation
C1-TD-CRE-WT	To Do Creation for Wait Timeout
C1-TL-AJ-EVT	Build A/P Adjustment Events
C1-TL-BE-EVT	Build Bank Event Events
C1-TL-OP-EVT	Build Overpayments Events
C1-TPFR-APRL	Transfer Payments Using Form References
C1-TPFR-VDEF	Transfer Payments Using Form References - Validation
C1-TS-RTDID	Tender Source - Reset Obligation ID
C1-TXCLVAL	Tax Clearance Certificate Request - Validation
C1-UEXPYTODO	Unrecognized External Payment - Create To Do Entry
C1-UPDTXPINF	Update Taxpayer Contact Info
C1-WSSEP-TME	Self Service External Payment Report Timeout

## Algorithm

Algorithm Type	Description
C1-ADHREQ	Validates that a value has been entered
C1-BE-CAN-AD	Bank Event - Cancel Adjustment
C1-BE-CRE-AD	Bank Event - Create Adjustment
C1-BE-CRE-TD	Bank Event - Create To Do for Wait Timeout
C1-BE-REP-OP	Bank Event - Reprocess Overpayment
C1-BE-RES-TD	Bank Event - Reset Bank in Taxpayer Details
C1-BE-SBI	Bank Event - Stamp Batch Information
C1-BEVT-VAL	Bank Event - Validate
C1-BKEVTINFO	Bank Event Information
C1-CCC-APRL	Create Customer Contact
C1-CCC-VDEF	Create Customer Contact - Validation
C1-CHKACHAGR	One-Time Payment - Check ACH Payment Agreement
C1-CHKEXTPYT	One-Time Payment - Check External Payment
C1-CNOP-APRL	Cancel Overpayment
C1-COVP-APRL	Create Overpayment
C1-COVP-VDEF	Create Overpayment - Validation
C1-CRETODOSR	Create To Do for Service Request
C1-DETAPYSRC	One-Time Payment - Determine Auto Pay Source
C1-DETRFSTAT	Refund Status Inquiry Service Task - Determine Refund Status
C1-DETTNDCTL	One-Time Payment - Determine Tender Control for External Payments
C1-ECC-MRVAL	Mass Suppression Release - Validate
C1-ECC-MSVAL	Mass Suppression for Tax Payers - Validate
C1-ECT-MSREL	Mass Suppression Release
C1-ECT-VMSR	Validate Mass Suppression Release
C1-EMREMLVAL	Scheduled Email Reminder Validation
C1-ENR-INIT	Self Service - Account Owner - Initial Enrollment
C1-ENR-VAL	Self Service - Account Owner - Validation
C1-ENRRELVAL	User Enrollment Task Type - Person Relationship Validation
C1-EXTPYTRCN	One-Time Payment - External Payment Reconciliation
C1-FR-VCNTY	Form Rule - Validate Customer Contact Type
C1-FR-VOBTY	Form Rule - Validate Obligation Type



Algorithm Type	Description
C1-GETBNKDET	Process Bank Details From Account Auto Pay
C1-IDENTTAXP	Identify Taxpayers by Name, ID Type/Value
C1-IDTXFORMF	Identify a Taxpayer for Form Filing
C1-IN-DD-ABD	Determine Account from Bank Details
C1-LNKSVCCTSK	Self Service - Link Service Task
C1-LTR-TCSDC	Tax Clearance Certificate Sample Letter Extract
C1-MNTTXPADR	Taxpayer Address Maintenance
C1-MONFRMSUB	Monitor Form Submission
C1-OP-CANADJ	Overpayment Process - Cancel Adjustments
C1-OP-CANBEV	Overpayment Process - Cancel Bank Events
C1-OP-CANROP	Overpayment Process - Cancel Related Overpayments
C1-OP-CHASHR	Overpayment Process - Check For Active Suppression, Hold with Reason
C1-OP-RUNRFV	Overpayment Process - Refund Validation
C1-OP-SUPMNR	Overpayment Process Suppression Monitor with Reason
C1-OTP-CTODO	Complete One-Time Payment To Dos
C1-OTPCASVAL	One-Time Payment Task Type - Validation
C1-OTPCSTYPR	One-Time Payment Task Type - Initialize Data
C1-PAYCASUSR	One-Time Payment - Create Payment
C1-POPTSKCHR	Populate Service Task Characteristics
C1-POSINT	Number Greater than 0
C1-PYBUPYDES	One-Time Payment - Build Distribution Details
C1-PYVAPYDET	One-Time Payment - Validate Payment Details
C1-SCHREMCHK	Check if Scheduled Reminder is Due
C1-SEPA-FCT	Format SEPA Credit Transfer Record
C1-SNDEMLREM	Send the Email Reminder
C1-SR-VALRU	Status Reason - Only One Reason for Usage Value
C1-SSCONFDET	Populate Confirmation Header Details
C1-SSCRETODO	Self Service - Create To Do entries
C1-SSMCFGVAL	Self Service Master Configuration - Validation
C1-SSMSCNFPR	Self Service Master Configuration - Reset Processing Control
C1-SSTK-INFO	Self Service Task Information
C1-SSTKTYVAL	Self Service Task Type - Validation

Algorithm Type	Description
C1-SVRQTYVAL	Taxpayer Service Request Task Type - Validation
C1-TL-AJE-AC	Build A/P Adjustment Events for Account
C1-TL-AJE-TR	Build A/P Adjustment Events for Tax Role
C1-TL-BEVTAC	Build Bank Event Events for Account
C1-TL-BEVTTR	Build Bank Event Events for Tax Role
C1-TL-OPE-AC	Build Overpayment Events for Account
C1-TL-OPE-TR	Build Overpayment Events for Tax Role
C1-TPFR-APRL	Transfer Payments Using Form References
C1-TPFR-VDEF	Transfer Payments Using Form References - Validation
C1-TS-RTOID	Tender Source - Reset Obligation ID
C1-TXCLVAL	Tax Clearance Certificate Request - Validation
C1-UEXPYTODO	Unrecognized External Payment - Create To Do Entry
C1-UPDTXPINF	Update Taxpayer Contact Info
C1-WSSEP-TME	Self Service External Payment Report Timeout

### New Parameters for Existing Algorithm Types

Algorithm Type	Seq No	Parm Req SW	Label
C1-CSH-AC-CA	3	N	Adjustment Cancel Reason
C1-OP-RUNVAL	10	Y	Validation Type
C1-OP-SUPPCH	20	N	Reason Code Usage
C1-OP-SUPPMN	10	N	Reason Code Usage
C1-OP-VALSTD	10	Y	Check Bank Details (Y/N)
C1-OP-VALSTD	20	Y	Always Reconfirm Bank (Y/N)

### New Batch Control

Batch Code	Description
C1-BEM	Bank Event Monitor
C1-BEMD	Bank Event Deferred Monitor with Date
C1-CREFC	Create Controls For Uploaded Forms
C1-PEPL0	Payment Event Upload - Determine Distribution Rules
C1-SCTIE	SEPA Credit Transfer Instruction Extract

Batch Code	Description
C1-SSPRC	Service Task Payment Reconciliation Monitor
C1-SSREM	Service Task Reminder Request Monitor
C1-SSTDF	Self Service Task Monitor (Deferred)

## Lookup Field

Field Name
ADJ_CAN_RSN_SYDE_FLG
BANK_DTLS_ACTION_FLG
BANK_EVENT_TYPE_SEVT_FLG
BANK_EVENT_USG_FLG
C1_PAYMENT_METHOD_FLG
C1_PAYMENT_TARGET_FLG
C1_PAY_DEST_PROC_ACTION_FLG
C1_SELF_SVC_FORM_ACTION_FLG
C1_SS_PROC_LOGIC_SCH_TYPE_FLG
C1_TAX_CLEARANCE_PURPOSE_FLG
CAN_ACTV_APAY_FLG
DATE_CALC_OPT_FLG
ENROLLMENT_STATUS_FLG
FORM_PAY_REF_SRCE_FLG
FR_COP_FORM_DEF_BANK_DTLS_FLG
FR_POPTAXOWOV_CHG_SIGN_FLG
LINE_OF_BUSINESS_FLG
OPT_ALLOW_MULTIPLE_OFFSETS_FLG
OP_PROC_TYPE_USG_FLG
REC_CAT_FLG
SS_FILING_STATUS_FLG
USER_ACCESS_TYPE_FLG

## Lookup

Field Name	Field Value	Description
ACCESS_MODE	C1AT	Accepted
ACCESS_MODE	C1BP	Batch Post
ACCESS_MODE	C1RX	Ready To Extract
ACCESS_MODE	C1VP	Validate & Post
ACCESS_MODE	C1XT	Extracted
ACCESS_MODE	ERRS	Error Resolved
ACCESS_MODE	PNRC	Pending Reconciliation
ADJ_CAN_RSN_SYDE_FLG	C1BE	Canceled by Bank Event
ADJ_CAN_RSN_SYDE_FLG	C1OP	Canceled by Overpayment
ALG_ENTITY_FLG	C1BE	Bank Event Type - Bank Event Extract
ALG_ENTITY_FLG	C1DD	Installation - Determine Distribution Rule
ALG_ENTITY_FLG	C1RV	Overpayment Process Type - Refund Validation
ALG_ENTITY_FLG	IBDD	Installation - Bank Details Determination
AUDIT_SOURCE_FLG	C1WS	WSS Page
BANK_DTLS_ACTION_FLG	C1GM	Get Master
BANK_DTLS_ACTION_FLG	C1RD	Read
BANK_DTLS_ACTION_FLG	C1RM	Remove
BANK_EVENT_TYPE_SEVT_FLG	C1BE	Bank Event Extract
BANK_EVENT_USG_FLG	C1DP	Direct Deposit
C1_BO_STATUS_CATEGORY_FLG	C1AC	Allow System Cancel
C1_BO_STATUS_CATEGORY_FLG	C1ER	Error Resolved
C1_BO_STATUS_CATEGORY_FLG	C1PR	Pending Reconciliation
C1_PAYMENT_METHOD_FLG	ACH	ACH Payment
C1_PAYMENT_METHOD_FLG	CC	Credit Card
C1_PAYMENT_TARGET_FLG	C1CN	Collection Notice
C1_PAYMENT_TARGET_FLG	C1FP	Tax Type / Filing Period

Field Name	Field Value	Description
C1_PAYMENT_TARGET_FLG	C1OB	Obligation
C1_PAYMENT_TARGET_FLG	C1OF	Tax Form
C1_PAYMENT_TARGET_FLG	C1PP	Pay Plan
C1_PAYMENT_TARGET_FLG	C1TF	Form by DLN
C1_PAYMENT_TARGET_FLG	C1TR	Tax Role Balance
C1_PAY_DEST_PROC_ACTION_FLG	C1BD	Build
C1_PAY_DEST_PROC_ACTION_FLG	C1VL	Validate
C1_PAY_DEST_PROC_ACTION_FLG	C1VO	Validate Only
C1_SELF_SVC_FORM_ACTION_FLG	C1CP	Copy From Previous Return
C1_SELF_SVC_FORM_ACTION_FLG	C1GT	Get Taxpayer Information
C1_SELF_SVC_FORM_ACTION_FLG	C1RD	Ready To File
C1_SELF_SVC_FORM_ACTION_FLG	C1SB	Submit Form
C1_SELF_SVC_FORM_ACTION_FLG	C1VL	Check Form Data
C1_SS_PROC_LOGIC_SCH_TYPE_FLG	F1BS	Business Service
C1_SS_PROC_LOGIC_SCH_TYPE_FLG	F1SC	Service Script
CAN_ACTV_APAY_FLG	C1AL	Allowed
CAN_ACTV_APAY_FLG	C1NA	Not Allowed
CHAR_ENTTTY_FLG	BE	Bank Event
CHAR_ENTTTY_FLG	BELO	Bank Event Log
CHAR_ENTTTY_FLG	BETY	Bank Event Type
CHAR_ENTTTY_FLG	C1PU	Payment Event Upload Staging
DATE_CALC_OPT_FLG	C1BU	Add Work/Business Days
DATE_CALC_OPT_FLG	C1CA	Add Calendar Days
ENROLLMENT_STATUS_FLG	C1AP	Approved
ENROLLMENT_STATUS_FLG	C1HO	Hold
ENROLLMENT_STATUS_FLG	C1IN	Inactive

Field Name	Field Value	Description
ENROLLMENT_STATUS_FLG	C1PN	Pending
F1_SVC_TASK_CL_FLG	C1PY	Self Service Payment
F1_SVC_TASK_CL_FLG	C1SI	Standard Inquiry
F1_SVC_TASK_CL_FLG	C1SR	Service Request
F1_SVC_TASK_CL_FLG	C1SS	Standard Self Service
F1_SVC_TASK_CL_FLG	C1TI	Taxpayer Identification
FORM_PAY_REF_SRCE_FLG	C1DL	Document Locator
FORM_PAY_REF_SRCE_FLG	C1FL	Form Line
FORM_PAY_REF_SRCE_FLG	C1ID	ID Number
FORM_PAY_REF_SRCE_FLG	C1RP	Revenue Period
FORM_PAY_REF_SRCE_FLG	C1TT	Tax Type
FR_COP_FORM_DEF_BANK_DT LS_FLG	C1NO	No
FR_COP_FORM_DEF_BANK_DT LS_FLG	C1YS	Yes
FR_POPTAXOWOV_CHG_SIGN_ FLG	C1NO	No
FR_POPTAXOWOV_CHG_SIGN_ FLG	C1YS	Yes
INS_ALG_ENTITY_FLG	C1DD	Determine Distribution Rule
INS_ALG_ENTITY_FLG	IBDD	Bank Details Determination
LINE_OF_BUSINESS_FLG	C1BU	Business
LINE_OF_BUSINESS_FLG	C1ID	Individual
MODULE_FLG	SSF	Self Service Foundation
OPT_ALLOW_MULTIPLE_OFFS ETS_FLG	C1NO	No
OPT_ALLOW_MULTIPLE_OFFS ETS_FLG	C1YS	Yes
OP_PROC_TYPE_SEVT_FLG	C1RV	Refund Validation
OP_PROC_TYPE_USG_FLG	C1TF	Default for Tax Form Creation
PEVT_STG_ST_FLG	C1AU	Audit
PEVT_STG_ST_FLG	C1UP	Uploaded
REC_CAT_FLG	C1AD	Additional
REC_CAT_FLG	C1PR	Primary

Field Name	Field Value	Description
RULE_EVT_FLG	C1WV	WSS Validate
SS_FILING_STATUS_FLG	C1CM	Complete
SS_FILING_STATUS_FLG	C1NF	No Filing
SS_FILING_STATUS_FLG	C1PD	Payment Due
SS_FILING_STATUS_FLG	C1PR	In Progress
USER_ACCESS_TYPE_FLG	C1TR	Tax Role

### New TO DO Type

Todo type	Description
C1-BEACE	Adjustment Cancel Error from Bank Event
C1-BEM	Bank Event Monitor with Errors
C1-BEMD	Bank Event Deferred Monitor with Date Errors
C1-BEWTl	Bank Event Waiting Too Long
C1-CADOP	Adjustment Cancel Error from Overpayment
C1-CBEOP	Bank Event Cancel Error from Overpayment
C1-COPOP	Overpayment Cancel Error from Overpayment
C1-COPTF	Overpayment Cancel Error from Tax Form
C1-CREFC	Create Controls For Uploaded Forms Errors
C1-GSRTD	Service Request To Do
C1-PEPL0	Payment Event Upload Pre-processing Errors
C1-REFOP	Reconciliation Errors for Payment Vendor
C1-SSAI	Self Service Task Audit Issues
C1-SSCSI	Self Service Task Custom Extension Issues
C1-SSMCI	Self Service Master Configuration Issues
C1-SSREM	Scheduled Reminder Request Monitor Errors
C1-SSTI	Self Service Task Unregistered User Issues
C1-SSTTD	Self Service Task Issues
C1-TPROP	Payment Report Timeout From Payment Vendor
C1-UPROP	Unrecognized Payment From Payment Report

### New TO DO Sort Key Type Added to Existing TO Do Type

To Do Type	SeqNo	Description
C1-OBERR	2	Obligation Type Description
C1-OBERR	3	Start Date
C1-OBERR	4	nd Date
C1-TRERR	2	Start Date

### New FK Reference Added

FK Ref Code	Description
C1-ACTCL	Accounting Calendar
C1-ALTY	Alert Type
C1-APRTY	A/P Request Type
C1-APYRT	Auto Pay Route Type
C1-ATPRF	Adjustment Type Profile
C1-BANK	Bank
C1-BEVT	Bank Event
C1-BEVTY	Bank Event Type
C1-BNAC	Bank Account
C1-CCORL	Collection Class Overdue Rules
C1-CHTYP	Characteristic Type
C1-CLAGY	Collection Agency
C1-COLCL	Collection Class
C1-FREQ	Frequency
C1-FUND	Fund
C1-GLDIV	General Ledger Division
C1-LTRTP	Letter Template
C1-MANCT	Managed Content
C1-ODECR	Overdue Event Cancel Reason
C1-PPRL	Pay Plan Rule
C1-PSGTY	Payment Segment Type
C1-RC	Rate Component
C1-REVCL	Revenue Class
C1-RFVL	Rate Factor Value



FK Ref Code	Description
C1-RTVER	Rate Version
C1-SSTSK	Self Service Task
C1-XAISN	XAI Sender
C1-XAISV	XAI Inbound Service

### New Application Service added

App. Svc ID	Description
C1-BANKEVENT	Bank Event MO
C1-BANKEVENTBOAS	Direct Deposit Bank Event BO
C1-BANKEVENTTYPE	Bank Event Type MO
C1-OTPYCSUSRTASKBOAS	One-Time Payment Self Service Task BO
C1-RFSTTINQSSTSKBOAS	Refund Status Inquiry Self Service Task BO
C1-STNDRTMSSTASKBOAS	Standard Self Service Task BO
C1-UNEXPYRTSSTSKBOAS	Unrecognized External Payment Task BO
C1360FTHIST	360 Degree Financial History Zone
C1360TBHIST	360 Degree Billing History Zone
C1BKEVT	Bank Event Portal
C1BKEVTQ	Bank Event Query Portal
C1BKEVTY	Bank Event Type Portal
C1SSTASK	Self Service Task Portal
C1SSTKQP	Self Service Task Query Portal
C1SSTTYP	Self Service Task Type Portal
C1SSVIEWRAWXML	Self Service - View Raw XML Data

### New access mode added to the existing Application Service

App. Svc ID	Description	Status
C1-OVRPYPROCBOAS	Standard Overpayment Process BO	Canceled (C1CN)
C1-PARENTREGFORMBOAS	Parent Registration Form BO	Re-edit (C1RE)
C1-PARENTTAXFORMBOAS	Parent Tax Form BO	Batch Post (C1BP)
C1-PARENTTAXFORMBOAS	Parent Tax Form BO	Validate & Post (C1VP)

## New XAI Inbound Services Added

Service Name	Description
TSAddressMaintenance	Self Service - Taxpayer Address Maintenance
TSEnrollmentServiceRequest	Self Service - Enrollment Service Request
TSGetConfirmationInformation	Self Service - Get Confirmation Info
TSGetEnrollmentSummary	Self Service - Get Enrollment Summary
TSGetFilingHistory	Self Service - Get Filing History
TSGetPaymentHistory	Self Service - Get Payment History
TSGetRefundStatus	Self Service - Get Refund Status
TSGetTaxAccountAlerts	Self Service - Get Tax Account Alerts
TSGetTaxAccountSummary	Self Service - Get Tax Account Summary
TSGetTaxpayerContactInformation	Self Service - Get Taxpayer Contact Info
TSGetTaxpayerCorrespondenceInformation	Self Service - Get Taxpayer Address Info
TSGetTaxpayerSummary	Self Service - Get Taxpayer Summary
TSGetUserEnrollment	Self Service - Get User Enrollment
TSOneTimePayment	Self Service - One Time Payment
TSPrepareExtPaymentData	Self Service - Validate & Prepare Extra Info
TSProcessExtPayReportRecord	Self Service - Process Payment Report Record
TSProcessRegistrationForm	Self Service - Process Registration Form
TSProcessTaxForm	Self Service - Process Tax Form
TSRefreshFormLookup	Self Service - Refresh Form Lookup
TSRetrieveActiveFormTypes	Self Service - Retrieve Active Form Types
TSRetrieveFormTypeDefinitions	Self Service - Retrieve Form Type Definitions
TSRetrievePaymentsDue	Self Service - Retrieve Payments Due
TSTaxpayerIdentification	Self Service - Taxpayer Identification
TSTaxpayerServiceRequest	Self Service - Taxpayer Service Request
TSUploadSupportingDocument	Self Service - Upload File

## Portal

Portal Code	Description
C1BKEVT	Bank Event
C1BKEVTLP	Bank Event Log

Portal Code	Description
C1BKEVTQ	Bank Event Query
C1BKEVTY	Bank Event Type
C1SSTASK	Self Service Task
C1SSTKLP	Self Service Task Log
C1SSTKQP	Self Service Task Query
C1SSTTYP	Self Service Task Type

## Zone

Zone Code	Zone Type	Description
C1-ACHPYPRC	F1-DE-MULQRY	Self Service Processor Search
C1-ACHPYPRC1	F1-DE-QUERY	Search for Business Service
C1-ACHPYPRC2	F1-DE-QUERY	Search for Service Script
C1-ADJCL-CNT	F1-DE-SINGLE	Count Adjustment Calculation Lines
C1-BANKACLT	F1-DE	Retrieve Bank Accounts
C1-BKEVT-LOG	F1-DE	Bank Event Log
C1-BKEVTQ1	F1-DE-QUERY	Creation Date / Type / Status
C1-BKEVTQ2	F1-DE-QUERY	Person Name and Person ID Type / Value
C1-BKEVTQ3	F1-DE-QUERY	Overpayment Process ID
C1-BKEVTQ4	F1-DE-QUERY	Adjustment ID
C1-BKEVTQ5	F1-DE-QUERY	Bank Event ID
C1-BKEVTQRY	F1-DE-MULQRY	Bank Event Search
C1-BKEVTTYPE	F1-DE-SINGLE	Retrieve Active Bank Event Types
C1-BKEVTYLS	F1-DE-SINGLE	Bank Event Type List
C1-CCCLSCH	F1-DE-MULQRY	Customer Contact Class Search
C1-CCCLSCH1	F1-DE-QUERY	Contact Class
C1-CCCLSCH2	F1-DE-QUERY	Description
C1-CCTYPSCH	F1-DE-MULQRY	Customer Contact Type Search
C1-CCTYPSCH1	F1-DE-QUERY	Contact Class / Contact Type
C1-CCTYPSCH2	F1-DE-QUERY	Description
C1-CHTYPEENT	F1-DE-QUERY	Characteristic Type Search
C1-DSTRULE	F1-DE-QUERY	Distribution Rules
C1-EFF-ADDR	F1-DE-SINGLE	Retrieve Address for Person and Type

Zone Code	Zone Type	Description
C1-FSRSRCH	F1-DE-QUERY	Form Source Search
C1-GETACCREL	F1-DE-SINGLE	Get Account Relationship Types
C1-GETPERRTY	F1-DE-SINGLE	Retrieve Taxpayer Relationship Types
C1-GETRELPER	F1-DE-SINGLE	Get Related Person
C1-GTTXRLREL	F1-DE-SINGLE	Get Tax Role Relationships
C1-IDXAISRCH	F1-DE-QUERY	XAI Inbound Service Search
C1-MANCTSRCH	F1-DE-QUERY	Managed Content Search
C1-REACFRMTY	F1-DE-SINGLE	Retrieve Active Form Types
C1-RET-FPGD	F1-DE-SINGLE	Filing Period's Grace Date
C1-RETCCTYPE	F1-DE-SINGLE	Retrieve Customer Contact Types and Info
C1-RETCCHARST	F1-DE-SINGLE	Retrieve Characteristic for Service Task
C1-RETCLCGRP	F1-DE-SINGLE	Calculation Control Version's Calculation Group
C1-RETFKRFDIT	F1-DE-SINGLE	Self Service - Retrieve FK Ref Details
C1-RETMMSGTXT	F1-DE-SINGLE	Retrieve Message Text
C1-RETODLCHT	F1-DE-SINGLE	Overdue Process Log Characteristic Types
C1-RETPIDETS	F1-DE-SINGLE	Retrieve Payment Tender Details
C1-RETRASSCR	F1-DE-SINGLE	Retrieve Application Service for a Script
C1-RETROPRET	F1-DE-SINGLE	Retrieve Retry Overpayment Process
C1-RETSSTTYP	F1-DE-SINGLE	Retrieve Active Self Service Task Types
C1-RETSVCTSK	F1-DE-SINGLE	Retrieve Service Task by Confirmation ID
C1-RETSVRTYP	F1-DE-SINGLE	Retrieve Active Service Request Types
C1-RETTTYAPS	F1-DE-SINGLE	Retrieve Auto Pay Source
C1-RSTWCTEXT	F1-DE-SINGLE	Retrieve Service Task by External ID
C1-SSTASK	F1-MAPDERV	Self Service Task
C1-SSTASKLOG	F1-DE	Self Service Task Log
C1-SSTASKQ1	F1-DE-QUERY	Confirmation ID
C1-SSTASKQ2	F1-DE-QUERY	Audit Info / Task Type / Status / Date
C1-SSTASKQ3	F1-DE-QUERY	Related Object / Task Type / Status
C1-SSTASKQ4	F1-DE-QUERY	Service Task ID
C1-SSTASKQRY	F1-DE-MULQRY	Self Service Task Search

Zone Code	Zone Type	Description
C1-SSTYDISP	F1-MAPDERV	Self Service Task Type
C1-SSTYLIST	F1-DE-SINGLE	Self Service Task Type List
C1-TXTYOPTYP	F1-DE-SINGLE	Overpayment Process Types
C1-WBAUDINQ1	F1-DE-QUERY	Self Service Inquiry Audit Search
C1-WBAUDINQ2	F1-DE-QUERY	Search by Field Name/Value
C1-XAISNSRCH	F1-DE-QUERY	XAI Sender Search
C1BKEVT	F1-MAPDERV	Bank Event
C1BKEVTY	F1-MAPDERV	Bank Event Type

## Portal Zone

Portal	Zone Code
C1BKEVT	C1BKEVT
C1BKEVTLP	C1-BKEVT-LOG
C1BKEVTQ	C1-BKEVTQRY
C1BKEVTY	C1-BKEVTYLIST
C1BKEVTY	C1BKEVTY
C1SSTASK	C1-SSTASK
C1SSTKLP	C1-SSTASKLOG
C1SSTKQP	C1-SSTASKQRY
C1SSTTYP C1-	SSTYDISP
C1SSTTYP	C1-SSTYLIST
C1TXTYPE	C1-TXTYOPTYP

## New Maintenance Objects

MO Code	Description
C1-BANKEVENT	Bank Event
C1-BNKEVTTYP	Bank Event Type

## New Business Objects

Bus Obj Code	Description
C1-APRequestTypePhysicalBO	Physical BO for A/P Request Type

<b>Bus Obj Code</b>	<b>Description</b>
C1-AccessAlertsTaskType	Access Based Alerts
C1-AccessTypeAlertLookup	Access Based Alert
C1-AccountInfoTaskType	Account Information
C1-AccountMngmtGroupPhysicalBO	Physical BO for Account Management Group
C1-AccountRelTypePhysicalBO	Physical BO for Account Relationship Type
C1-AccountTypePhysicalBO	Physical BO for Account Type
C1-AccountingCalPhysicalBO	Physical BO for Accounting Calendar
C1-ActivityTypePhysicalBO	Physical BO for Activity Type
C1-AddressChangeReasonLookup	Address Change Reason
C1-AdjCancelReasonPhysicalBO	Physical BO for Adjustment Cancel Reason
C1-AdjTypePhysicalBO	Physical BO for Adjustment Type
C1-AdjTypeProfPhysicalBO	Physical BO for Adjustment Type Profile
C1-AlertTypePhysicalBO	Physical BO for Alert Type
C1-ApprovalProfilePhysicalBO	Physical BO for Approval Profile
C1-AutoPayRouteTypePhysicalBO	Physical BO for Auto Pay Route Type
C1-AutoPaySourcePhysicalBO	Physical BO for Auto Pay Source
C1-BankEventTypePhysicalBO	Physical BO for Bank Event Type
C1-BankPhysicalBO	Physical BO for Bank
C1-BusinessEnrollmentRequest	Business Enrollment Service Request Task
C1-CancelOverpayment	Cancel Overpayment
C1-ColCaseTypePhysicalBO	Physical BO for Collection Case Type
C1-CollClassODRulesPhysicalBO	Physical BO for Collection Class Overdue Rules
C1-CollectionAgencyPhysicalBO	Physical BO for Collection Agency
C1-CollectionClassPhysicalBO	Physical BO for Collection Class
C1-CreateCustomerContact	Create Customer Contact
C1-CreateOverpayment	Create Overpayment
C1-CustContactClassPhysicalBO	Physical BO for Customer Contact Class
C1-CustContactTypePhysicalBO	Physical BO for Customer Contact Type
C1-CustomerContact	Customer Contact
C1-DebtCatPriorityPhysicalBO	Physical BO for Debt Category Priority
C1-DebtCategoryPhysicalBO	Physical BO for Debt Category

Bus Obj Code	Description
C1-DirectDepositBankEvent	Direct Deposit Bank Event
C1-DirectDepositBankEventType	Direct Deposit Bank Event Type
C1-DistributionCodePhysicalBO	Physical BO for Distribution Code
C1-DistributionRulePhysicalBO	Physical BO for Distribution Rule
C1-DivisionPhysicalBO	Physical BO for Division
C1-EntitySkippedReasonLookup	Entity Skipped Reason
C1-FormSubmissionSSTaskType	Form Submission
C1-FrequencyPhysicalBO	Physical BO for Frequency
C1-FundPhysicalBO	Physical BO for Fund
C1-GLDivisionPhysicalBO	Physical BO for General Ledger Division
C1-GeneralAlertLookup	General Alert
C1-GeneralAlertsTaskType	General Alerts
C1-GenericToDoSSTask	Create To Do Service Request Task
C1-IdentifierTypePhysicalBO	Physical BO for Identifier Type
C1-IndividualEnrollmentRequest	Individual Enrollment Service Request Task
C1-IndustryCodePhysicalBO	Physical BO for Industry Code
C1-LetterTemplatePhysicalBO	Physical BO for Letter Template
C1-MassSuppressionRelease	Mass Suppression Release
C1-MatchTypePhysicalBO	Physical BO for Match Type
C1-ODEvtCancelReasonPhysicalBO	Physical BO for Overdue Event Cancel Reason
C1-ObligationTypePhysicalBO	Physical BO for Obligation Type
C1-OneTimePaymentSSTaskType	One-Time Payment
C1-OverdueEventTypePhysicalBO	Physical BO for Overdue Event Type
C1-OverdueProcTemplPhysicalBO	Physical BO for Overdue Process Template
C1-OvrpyProcTypePhysicalBO	Physical BO for Overpayment Process Type
C1-PIControlPhysicalBO	Physical BO for P&I Control
C1-PIRulePhysicalBO	Physical BO for P&I Rule
C1-PayCancelReasonPhysicalBO	Physical BO for Pay Cancel Reason
C1-PayPlanRulePhysicalBO	Physical BO for Pay Plan Rule
C1-PaySegmentTypePhysicalBO	Physical BO for Payment Segment Type
C1-PaymentVendorLookup	Payment Vendor
C1-PersonOverrideAddress	Person Override Address

<b>Bus Obj Code</b>	<b>Description</b>
C1-PersonOverviewContactOnly	Person - Contact Info
C1-PersonOverviewTypeOnly	Person - Person Type Only
C1-PersonRelTypePhysicalBO	Physical BO for Person Relationship Type
C1-PersonTypePhysicalBO	Physical BO for Person Type
C1-ProcessFlowTypePhysicalBO	Physical BO for Process Flow Type
C1-RQIdentifierPhysicalBO	Physical BO for Rate Quantity Identifier
C1-RateComponentPhysicalBO	Physical BO for Rate Component
C1-RateFactorPhysicalBO	Physical BO for Rate Factor
C1-RateFactorValuePhysicalBO	Physical BO for Rate Factor Value
C1-RateSchedulePhysicalBO	Physical BO for Rate Schedule
C1-RateVersionPhysicalBO	Physical BO for Rate Version
C1-RefundStatusInquirySSTask	Refund Status Inquiry Request Task
C1-RegFormSubmissionSSTask	Registration Form Submission Task
C1-RevenueCalendarPhysicalBO	Physical BO for Revenue Calendar
C1-RevenueClassPhysicalBO	Physical BO for Revenue Class
C1-RevenuePeriodPhysicalBO	Physical BO for Revenue Period
C1-SchedMonthlyReminderSSTask	Scheduled Monthly Reminder Request Task
C1-SchedReminderSSTaskType	Scheduled Reminder Request
C1-ScheduledReminderSSTask	Standard Scheduled Reminder Service Task
C1-SelfService-User	User Email
C1-SelfServiceMasterConfig	Self Service Master Configuration
C1-SelfServiceTaskConfirmation	Service Task Confirmation
C1-StandardDeferredSSTask	Standard Deferred Service Task
C1-StandardInquiryTask	Standard Inquiry Service Task
C1-StandardOneTimePaySSTask	One-Time Payment Service Task
C1-StandardRealTimeSSTask	Standard Real Time Service Task
C1-StandardSelfServiceTaskType	Standard Self Service Task Type
C1-SvcTskRelObjects	Service Task Related Objects
C1-TaxClearCertSvcReqSSTask	Tax Clearance Certificate Request Task
C1-TaxFormSubmissionSSTask	Tax Form Submission Task
C1-TaxRoleRelTypePhysicalBO	Physical BO for Tax Role Relationship Type
C1-TaxTypeOverpaymentProcTypes	Tax Type Overpayment Process Types
C1-TaxTypePhysicalBO	Physical BO for Tax Type



Bus Obj Code	Description
C1-TaxpayerAddressesTaskType	Taxpayer Addresses
C1-TaxpayerIdentSvcReqSSTask	Identify Taxpayer For Service Request Task
C1-TaxpayerIdentifySSTask	Identify Taxpayer For Payment Task
C1-TaxpayerInfoTaskType	Taxpayer Information
C1-TaxpayerSvcReqSSTask	Taxpayer Service RequestTask
C1-TaxpayerSvcReqSSTaskType	Taxpayer Service Request
C1-TaxpyrIdentFormFilingSSTask	Identify Taxpayer For Form Filing Task
C1-TenderSourcePhysicalBO	Physical BO for Tender Source
C1-TenderTypePhysicalBO	Physical BO for Tender Type
C1-ToDoSvcReqSSTaskType	Create To Do Request
C1-TransferPmtUsingFormRef	Transfer Payments Using Form References
C1-UnrecognizedExtPymtRptTsk	Unrecognized External Payment Task
C1-UpdateTaxpayerAddressTask	Update Taxpayer Address Task
C1-UpdateTaxpayerInfoTask	Update Taxpayer Contact Info Task
C1-UserEnrollmentRequestType	User Enrollment Request
C1-WaiverTypePhysicalBO	Physical BO for Waiver Type
C1-WebAuditInquiry	Self Service Inquiry Audit
C1-WebAuditInquiryRead	Self Service Inquiry Audit - Request XML
C1-XAII inboundService	XAI Inbound Service

## New Scripts

Script Code	Description
C1-360ShwObl	360 Degree View - Obligation Overview Zone Visibility
C1-AcAlrtDsp	Access Type Alert - Display
C1-AcAlrtPos	Access Type Alert - Post Processing
C1-AcInTyPos	Account Information - Post-processing
C1-AcInTyPre	Account Information - Pre-Processing
C1-AcTypDisp	Account Information - Retrieve Details for Display
C1-AddTskLog	Self Service Task - Add User Log Entry
C1-AddWebAI	Record Web Inquiry Audit
C1-AdjCalVis	Adjustment - Calculation Lines Visibility

Script Code	Description
C1-AlrtCnInf	Self Service - Get Taxpayer Info Alert
C1-AlrtTyDsp	Access Type Alerts - Retrieve Details for Display
C1-AlrtTyPos	Access Type Alerts - Post-Processing
C1-AlrtTyPre	Access Type Alerts - Pre-Processing
C1-BankEvTyM	Bank Event Type - Maintain
C1-BankEvent	Bank Event - Maintain
C1-BkEvTDSK	Bank Event - To Do Message Parameters and Sort Key Retriever
C1-BldExPyDt	Build External Payment Details for Official Payments
C1-BusEnrDsp	Business Enrollment Service Request - Display
C1-CToDoTyDs	Create To Do Request - Retrieve Details for Display
C1-CToDoTyPr	Create To Do Request - Pre-processing
C1-CrToDoDsp	Create To Do Service Request - Retrieve Details for Display
C1-CreSSTask	Create Self Service Task
C1-DBELog	Bank Event - Add User Log Entry
C1-DDBEDisp	Direct Deposit Bank Event - Retrieve Details for Display
C1-DDBEV-Pre	Direct Deposit Bank Event - Pre-processing
C1-DelSSTask	Delete Self Service Task
C1-DetBOWrp	Call Determine BO Business Service
C1-DetTskTyp	Retrieve Service Task Type prior to Task creation
C1-EmRemVal	Scheduled Email Reminder Validation
C1-EnrSvcReq	Enrollment Service Request
C1-EnrTypDsp	User Enrollment Request Type - Retrieve Details For Display
C1-EnrTypPos	User Enrollment Request Type - Post-processing
C1-EnrTypPre	User Enrollment Request Type - Pre-processing
C1-ExSSBusS	Execute Business Service when processing Self Service Task

Script Code	Description
C1-FRG-Lines	Get Lines for Form Rule Group and Section
C1-FRValCnTy	Form Rule - Validate Customer Contact Type
C1-FSSTTyPos	Form Submission - Post-Processing
C1-FSSTTyPre	Form Submission - Pre-Processing
C1-FeeReqFPr	Determine Fee Requirements for Filing Period
C1-FrgVal	Validate Form Rule Group
C1-FrmDefImp	Self Service - Retrieve Form Type Definitions
C1-FrmSbTyDp	Form Submission - Retrieve Details for Display
C1-GetAcctSm	Get Tax Account Summary
C1-GetAlerts	Self Service - Get Tax Account Alerts
C1-GetCnfmID	Confirmation By ID Inquiry Request
C1-GetEnrSum	Get Enrollment Summary
C1-GetFileHs	Self Service - Get Filing History
C1-GetPymtHs	Get Payment History
C1-GetTxpCon	Self Service - Get Taxpayer Contact Info
C1-GetTxpCor	Self Service - Get Taxpayer Correspondence Info
C1-GetTxpSum	Self Service - Get Taxpayer Summary
C1-GetUsrEnr	Get User Enrollment
C1-GnAlTyDsp	General Alerts - Retrieve Details for Display
C1-GnAlTyPos	General Alerts - Post-Processing
C1-GnAlTyPre	General Alerts - Pre-Processing
C1-GnAlrtDsp	Generic Alert Type - Display
C1-GnAlrtPos	Generic Alert Type - Post Processing
C1-IdTxpDisp	Taxpayer Identification - Retrieve Details for Display
C1-IdentTaxp	Taxpayer Identification Request
C1-InAlrtRet	Invoke Alert Retrievers
C1-IndEnrDsp	Individual Enrollment Service Request - Display
C1-MainTxOpt	Tax Type - Maintain Overpayment Process Types

Script Code	Description
C1-MaintAddr	Self Service - Maintain Single Taxpayer Address
C1-NavBnkAcc	Navigate to Bank Account Page
C1-NavCCType	Navigate to Customer Contact Type
C1-NaviExLkV	Navigate to Extendable Lookup Page
C1-NaviMsg	Navigate to Message Page
C1-OC-Post	Overdue Control - Post-processing
C1-OC-Pre	Overdue Control - Pre-processing
C1-OPSTTyDis	One-Time Payment - Retrieve Details for Display
C1-OPSTTyPre	One-Time Payment - Pre-processing
C1-OTPDtApSr	One-Time Payment - Determine Auto Pay Source
C1-OTPVAcTxR	Account Verification for Tax Role
C1-OTPyTyPre	One-Time Payment - Initialize Data
C1-PayRemChk	Check if Scheduled Reminder is Due
C1-PayRemDis	Scheduled Monthly Reminder Request - Retrieve Details for Display
C1-PopSvRqDt	Populate Create To Do Service Request Data
C1-PrExPyDta	Validate Payment Destination & Prepare External Payment Data
C1-PrcPyRpRc	Process Payment Report Record
C1-ProcForm	Process Form
C1-PyUnrgDsp	One-Time Payment Service Task - Display
C1-PyUnrgUsr	One-Time Payment
C1-PyVndPost	Payment Vendor BO - Post-processing
C1-PymtRecon	Payment Reconciliation for Official Payments
C1-RSIDisp	Refund Status Inquiry Service Task - Retrieve Details for Display
C1-RSISvcReq	Refund Status Inquiry Request
C1-RetAcFrTy	Self Service - Retrieve Active Form Types
C1-RetTranBO	Self Service - Retrieve Transaction BO
C1-RfFrmLkup	Self Service - Refresh Form Lookup
C1-RgFrReed	Registration Form - Re-edit Dialog

Script Code	Description
C1-RgFrSbDis	Registration Form Submission Request - Display
C1-RtPymtDue	Self Service - Retrieve Payments Due
C1-SPRRTyPos	Scheduled Payment Reminder Request - Post-Processing
C1-SPRRTyPre	Scheduled Payment Reminder Request - Pre-processing
C1-SRTkTyPos	Taxpayer Service Request - Post-Processing
C1-SRTkTyPre	Taxpayer Service Request - Pre-processing
C1-SSAdtDisp	Display Web Self Service Audit Data
C1-SSIssueEm	Self Service - Send Issues Email
C1-SSMCToDo	Create To Do for Self Service Master Configuration Issues
C1-SSMCfgDsp	Self Service Master Configuration - Display
C1-SSMCfgPos	Self Service Master Configuration - Post-processing
C1-SSMCfgPre	Self Service Master Configuration - Pre-Processing
C1-SSMCnfPre	Self Service Master Configuration - Reset Processing Control
C1-SSPayDisp	Display Web Self Service Request Data
C1-SSPosProc	Self Service Generic Post Processing
C1-SSReqDisp	Display Service Request Data
C1-SSTaskM	Self Service Task - Maintain
C1-SSTaskTyM	Self Service Task Type - Maintain
C1-SSTskDisp	Self Service Task - Retrieve Common Display
C1-STKTypDis	Standard Self Service Task Type - Retrieve Details for Display
C1-STKTypPos	Standard Self Service Task Type - Post-Processing
C1-STKTypPre	Standard Self Service Task Type - Pre-processing
C1-SchPyTyDp	Scheduled Payment Reminder Request - Retrieve Details for Display
C1-SvPtBSWrp	Invoke Savepoint Dispatcher Business Service
C1-SvPtSSWrp	Invoke Savepoint Dispatcher Service Script

Script Code	Description
C1-TaxSvcReq	Generic Taxpayer Service Request
C1-TxADTyDsp	Taxpayer Addresses - Retrieve Details for Display
C1-TxADTyPos	Taxpayer Addresses - Post-processing
C1-TxADTyPre	Taxpayer Addresses - Pre-Processing
C1-TxCCDisp	Tax Clearance Certificate - Display
C1-TxFrSbDis	Tax Form Submission Request - Display
C1-TxIdOFDsp	Taxpayer Identification - Retrieve Details for Display
C1-TxIdSRDsp	Taxpayer Identification Service Request - Display
C1-TxInTyDsp	Taxpayer Information - Retrieve Details for Display
C1-TxInTyPos	Taxpayer Information - Post-processing
C1-TxInTyPre	Taxpayer Information - Pre-Processing
C1-TxSvcRqDp	Taxpayer Service Request - Retrieve Details for Display
C1-UEPRTDisp	Unrecognized External Payment - Retrieve Details for Display
C1-UpdAddDsp	Update Taxpayer Address Service Task - Display
C1-UpdTxpDsp	Update Taxpayer Info Service Task - Display
C1-UpdTxpInf	Update Taxpayer Contact Info
C1-UplSupFile	Upload Supporting File
C1-ValBkEvtQ	Bank Event Query - Validate Filters
C1-ValSTaskQ	Validate Self Service Task Query Filters
C1-WbUsrInfo	Get Web User Name with User ID
C1-WebIADisp	Self Service Inquiry Audit - Retrieve Details for Display
C1-WebXAIIInf	Self Service Inquiry Audit - Get XAI Schema
New Map	
Map Code	Description
C1-AccessTypeAlertProcDisp	Access Alert Type Processors - Display
C1-AccessTypeAlertProcMaint	Access Alert Type Processors - Maintenance
C1-AccessTypeAlertTypesDisp	Access Based Alert Task Type - Display
C1-AccessTypeAlertTypesMaint	Access Based Alert Task Type - Maintenance

Script Code	Description
C1-AccountInfoIncludeAddrDisp	Account Info - Include Address - Display
C1-AccountInfoIncludeAddrMaint	Account Info Include Address - Maintenance
C1-AccountInfoProcDisp	Account Info Processor - Display
C1-AccountInfoProcMaint	Account Info Processor - Maintenance
C1-AccountInfoSumDisp	Acct Info Instructions - Display
C1-AccountInfoSumMaint	Acct Info Instructions - Maintenance
C1-AlertProcDisp	Generic Alert Type Processor - Display
C1-AlertProcMaint	Generic Alert Type Processor - Maintenance
C1-BankEventAddUserLog	Bank Event - Add User Log Entry
C1-BankEventQueryFilter1	Bank Event Filter - Date, Type, Status
C1-BankEventQueryFilter3	Bank Event Filter - Overpayment Process ID
C1-BankEventQueryFilter4	Bank Event Query Filter - Adjustment ID
C1-CCTypeQueryFilter	Customer Contact Type - Query Filters
C1-EnrollmentRequestDisp	Self Service Enrollment Request Details Display
C1-ExpandEntityNameFieldFrag	Expand Entity Name Field Fragment
C1-FilingHistoryDisplay	Account Info Filing History - Display
C1-FilingHistoryMaint	Account Info Filing History - Maintenance
C1-FormDataRawDisp	Form Submission Form Data Raw - Display
C1-FormSubLinkedDocDisp	Form Submission - Linked Documents Display
C1-GeneralAlertTypesDisp	General Alert Type - Display
C1-GeneralAlertTypesMaint	General Alert Type - Maintenance
C1-GenericCreateToDoReqDetDisp	Create To Do Service Request Display
C1-MasterConfRefundStatusDisp	Self Service Refund Status Display
C1-MasterConfRefundStatusMaint	Self Service Refund Status Maintenance
C1-OneTimePaySSTaskTypeDisplay	One-Time Payment Task Type - Display
C1-OneTimePaySSTaskTypeMaint	One-Time Payment Task Type - Maintenance
C1-OverdueCtrlRevenuePrdDisp	Overdue Control Revenue Period - Display
C1-OverdueCtrlRevenuePrdMaint	Overdue Control Revenue Period - Maintenance
C1-OvrpyProcRetryOvrpyInfoDisp	Retry Overpayment Process - Display
C1-PaymentVendorLookupDisp	Payment Vendor - Display
C1-PaymentVendorLookupMaint	Payment Vendor - Maintenance

Script Code	Description
C1-PymntHistCancelldPymntDisp	Account Info - Canceled Payment - Display
C1-PymntHistCancelldPymntMaint	Account Info Canceled Payment Maintenance
C1-SSAuditCommonMainDisp	Self Service Task Audit Display
C1-SSErrorMessageDisp	Self Service Error Message Display
C1-SSMastConfACHPayCasUsrDisp	Self Service Payment Config Display
C1-SSMastConfACHPayCasUsrMaint	Self Service Payment Config Maintenance
C1-SSMastConfAccountInfoDisp	Self Service Account Info Display
C1-SSMastConfAccountInfoMaint	Self Service Account Info Maintenance
C1-SSMastConfAlertDisp	Self Service Alert Display
C1-SSMastConfAlertMaint	Self Service Alert Maintenance
C1-SSMastConfFrmTypImprtDisp	Self Service Form Type Import Display
C1-SSMastConfFrmTypImprtMaint	Self Service Form Type Import Maintenance
C1-SSMastConfProcControlDisp	Self Service Processing Control Display
C1-SSMastConfProcControlMaint	Self Service Processing Control Maintenance
C1-SSMastConfSupportDisp	Self Service Configuration Support Display
C1-SSMastConfSupportMaint	Self Service Configuration Support Maintenance
C1-SSMastConfTxpInfoDisp	Self Service Taxpayer Info Display
C1-SSMastConfTxpInfoMaint	Self Service Taxpayer Info Maintenance
C1-SSMastConfUserAccessDisp	Self Service User Access Display
C1-SSMastConfUserAccessMaint	Self Service User Access Maintenance
C1-SSMasterConfFormSubDisp	Self Service Form Submission Display
C1-SSMasterConfFormSubMaint	Self Service Form Submission Maintenance
C1-SSMasterConfSupFileUplDisp	Self Service Supporting Files Display
C1-SSMasterConfSupFileUplMaint	Self Service Supporting Files Maintenance
C1-SSMasterConfigDisplay	Self Service Master Config - Display
C1-SSMasterConfigMaint	Self Service Master Config - Maintenance
C1-SSRecordInfo	Self Service - Record Information
C1-SSRequestConfigDisp	Self Service Request Config - Display
C1-SSRequestConfigMaint	Self Service Request Config - Maintenance
C1-SSTaskCommonConfirmationDsp	Self Service Task Confirmation Display
C1-SSTaskCommonRelObjDisp	Service Task Related Objects - Display



Script Code	Description
C1-SSTaskMainRawRequestDisp	Self Service Task Raw Request - Display
C1-SSTaskMainSvcTaskIdDisp	Self Service Task Info - Display
C1-SSTaskQueryFilter2	Service Task Filter - Audit, Type, Status
C1-SSTaskQueryFilter3	Service Task Filter - Related Object
C1-SSTaskTypeCommonMainDisp	Self Service Task Type Main - Display
C1-SSTaskTypeCommonMainMaint	Self Service Task Type Main - Maintenance
C1-SSTaskTypeDetailsDisp	Self Service Task Type Detail - Display
C1-SSTaskTypeDetailsMaint	Self Service Task Type Detail Maintenance
C1-SSTaskTypeIdDisp	Self Service Task Type ID - Display
C1-SSTaskTypeIdMaint	Self Service Task Type ID - Maintenance
C1-SSTaskTypeTrxBoDisp	Self Service Task Type BO - Display
C1-SSTaskTypeTrxBoMaint	Self Service Task Type BO - Maintenance
C1-SelfServiceTaskLog	Self Service Task - Add User Log Entry
C1-SrvReqTskTypRqDtProcDisp	Request Data Processor - Display
C1-SrvReqTskTypRqDtProcMaint	Request Data Processor Maintenance
C1-StandardOneTimePayDistDisp	One-Time Payment Distribution - Display
C1-StandardOneTimePayExtDisp	One-Time Payment External Data - Display
C1-TaxClearCertPaperCopyDisp	Paper Copy Requested Display
C1-TaxpayerAddressProcDisp	Taxpayer Address Processors - Display
C1-TaxpayerAddressProcMaint	Taxpayer Address Processors - Maintenance
C1-TaxpayerIdentPayOnBehalfDisp	Taxpayer Identification Pay On Behalf Of - Display
C1-TaxpayerIdentRespDataDisp	Taxpayer Identification Response Data Display
C1-TaxpayerInfoProcDisp	Taxpayer Information Processor - Display
C1-TaxpayerInfoProcMaint	Taxpayer Information Processor Maintenance
C1-TaxpayerInfoSumDisp	Taxpayer Information Summary - Display
C1-TaxpayerInfoSumMaint	Taxpayer Information Summary - Maintenance
C1-TxfrPmtUsingFormRefDisp	Transfer Payments Using Form References - Display
C1-TxfrPmtUsingFormRefMaint	Transfer Payments Using Form References - Maintenance
C1-TxpContactInfoDisp	Taxpayer Info Contact - Display

Script Code	Description
C1-TxpContactInfoMaint	Taxpayer Info Contact - Maintenance
C1-UnrcgnzdExtPymtRptTskDisp	Unrecognized External Payment - Display
C1-UserEnrollmentProcDisp	User Enrollment Processor - Display
C1-UserEnrollmentProcMaint	User Enrollment Processor - Maintenance
C1-WebAuditInqQueryFilter1	Self Service Inquiry Audit Filters
C1-WebAuditInqQueryFilter2	Inquiry Audit Field Name / Value Filters
C1-WebInquiryAuditDisplay	Self Service Inquiry Audit - Display
C1-WebReqDataDetailsDisplay	Web Service Request XML Display

## De-supported System Data for 2.4.0.2.0

### Algorithm Type

Algorithm Type	Description
APPR-BC	Batch Control Next Run Number
APPR-PC	Person identifier substitution
ARCR-AD	Adjustment Archive Criteria
ARCR-BI	Bill Archive Criteria
ARCR-ME	Match Event Archive Criteria
ARCR-PY	Payment Archive Criteria
ARPR-FT	FT Archive Processing
ARPR-PY	Payment Event Archive Processing
C1-ARI-EMPTY	Collection Agency Referral Info - Empty Sample
C1-CB-EMPTY	An empty sample algorithm - Cancel Bill
C1-CRI-EMPTY	Compliance Rating History Info - Empty Sample
C1-OEI-EMPTY	Overdue Event Info - Empty Sample
C1-OTI-EMPTY	Overdue Process Info - Empty Sample
C1-RSC-DCREQ	Simple Calculation P&I Rule - Debt Category Required
C1-RSC-PICV	Simple Calculation P&I Rule - Validate P &I Control
OVSE-EMPTY	Empty sample - Override Seasonal Proration

### Algorithm Parameter

Algorithm Type	SeqNo	Param Req SW	Label
APPR-PC	1	Y	Person Identifier Type
APPR-PC	2	Y	Substitution Characters (must conform to the identifier type format)
ARCR-AD	1	Y	Archive Days (in number of days)
ARCR-BI	1	Y	Archive Days (in number of days)
ARCR-ME	1	Y	Archive Days (in number of days)
ARCR-PY	1	Y	Archive Days (in number of days)
ARPR-FT	10	Y	Archive Adjustment Type
ARPR-FT	20	Y	Archive Adjustment Effective Date
ARPR-FT	30	Y	Modify Balance Control (Y/N)

## Batch Control

Batch Code	Description
AR-CRCHR	Create child archive roots - Not Supported
AR-DCDT	Move or delete data - Not Supported
AR-DCDTF	Copy to file and delete - Not Supported
AR-PRFK	Recursive integrity check - Not Supported
CIPVAPAI	Insert CI_PRM_ALT_ADDR
CIPVAPAK	Generate CI_PRM_ALT_ADDR keys
CIPVAPAV	FK validation CI_PRM_ALT_ADDR
CIPVBCGI	Insert CI_BILL_CHG
CIPVBCGK	Generate CI_BILL_CHG keys
CIPVBCGV	FK validation CI_BILL_CHG
CIPVBCHI	Insert CI_BILL_CHAR
CIPVBCHV	FK validation CI_BILL_CHAR
CIPVBCLI	Insert CI_B_CHG_LINE
CIPVBCLV	FK validation CI_B_CHG_LINE
CIPVBLLV	FK validation CI_BILL
CIPVBLMI	Insert CI_BILL_MSGS
CIPVBLMV	FK validation CI_BILL_MSGS
CIPVBLRI	Insert CI_BILL_ROUTING
CIPVBLRV	FK validation CI_BILL_ROUTING
CIPVBSAI	Insert CI_BILL_SA
CIPVBSAV	FK validation CI_BILL_SA
CIPVBSCI	Insert CI_BSEG_CALC
CIPVBSCV	FK validation CI_BSEG_CALC
CIPVBSGK	Generate CI_BSEG keys
CIPVBSLI	Insert CI_BSEG_CALC_LN
CIPVBSLV	FK validation CI_BSEG_CALC_LN
CIPVMSGI	Insert CI_ACCT_MSG
CIPVMSGV	FK validation CI_ACCT_MSG
CIPVPCHI	Insert CI_PREM_CHAR
CIPVPCHV	FK validation CI_PREM_CHAR
CIPVPGOI	Insert CI_PREM_GEO

Batch Code	Description
CIPVPGOV	FK validation CI_PREM_GEO
CIPVSAHI	Insert CI_SA_RS_HIST
CIPVSAHV	FK validation CI_SA_RS_HIST
CIPVSARI	Insert CI_SA_RCHG_HIST
CIPVSARV	FK validation CI_SA_RCHG_HIST
CIPVSEGI	Insert CI_BSEG
CIPVSEGV	FK validation CI_BSEG
CIPVSMGI	Insert CI_SA_MSG
CIPVSMGV	FK validation CI_SA_MSG
CIPVSQTI	Insert CI_BSEG_SQ
CIPVSQTV	FK validation CI_BSEG_SQ
CIPVSRRI	Insert CI_BSEG_READ
CIPVSRRV	FK validation CI_BSEG_READ
TD-XAIDN	To Do for XAI Download Staging in error
VAL-BCHG	Validate Billable Charge (Classic)

## Application Services

Application service	Description
CILXNDNP	XAI Download Maintenance

## Application Services Action

Application service	Access Mode
C1-STDREGF RMTYBOAS	C1CN
C1-STDREGF RMTYBOAS	C1PS
C1-STDREGF RMTYBOAS	C1RP
C1-STDREGF RMTYBOAS	C1SP
C1-STDREGF RMTYBOAS	C1VA
C1-STDREGF RMTYBOAS	C1WI
C1AUDIT	A
C1AUDIT	C
C1AUDIT	D
CILXNDNP	A

Application service	Access Mode
CILXNDNP	C
CILXNDNP	R

**Lookup Field**

None.

**Lookup**

Field Name	Field Value	Description
F1GC_OPT_TYP_FL G	C1CC	Calendar Characteristic Type

**ToDo Type**

ToDo Type	Description
TD-XAIDN	XAI Download Staging in error

**TO DO Drill Key Type**

ToDo Type	SeqNo	Table Name	Field Name
TD-XAIDN	1	CI_XAI_DWN	NT_DWN_ID
TD-XAIDN	2	CI_XAI_DWN	XAI_RT_TYPE_CD

**TODO Sort Key Type**

ToDo Type	SeqNo	Description
C1-OVAPP	3	Overpayment Amount
TD-XAIDN	1	Error Message Number
TD-XAIDN	2	Description

# Appendix B

---

## Oracle Public Sector Revenue Management System Table Guide

This chapter lists the system tables owned by Oracle Public Sector Revenue Management V2.4.0 and explains the data standards of the system tables. The data standards are required for Oracle Public Sector Revenue Management installation, development within Oracle Public Sector Revenue Management, configuration of the product, and customization of the product. Adhering to the data standards is a prerequisite for a seamless upgrade to the next release of the product.

For information about the application framework system tables, see **Appendix B: Oracle Application Framework System Table Guide**.

This section includes:

- **Business Configuration Tables**

## Business Configuration Tables

### Installation Options

The installation option has only one row that is shipped with the initial installation of the product. The updateable columns in these tables are 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	CO_INSTALLATION
Initial Data	Location Geo Type Usage: Required Alternate Representation: None Person ID Usage: Required Bill Segment Freeze Option: Freeze At Will Accounting Date Freeze Option: Change If Period Is Closed Rollover Threshold Factor: 0.7 User Can Override Bill Date: Yes Fund Accounting: Not Practiced



# Appendix C

---

## Upgrades to the Oracle Utilities Application Framework Database for 4.2.0.3

This section describes the database upgrade process for the Oracle Utilities Application Framework database from V4.2.0.2 to V4.2.0 Service Pack 3 (v4.2.0.3). It highlights changes made to the administrative tables and how those changes should be applied to the data in order for your current database to work with the V4.2.0.3 application, and to preserve the business logic implemented in the previous version of the application. The changes that do not require data upgrade are not described in this document. The tasks that need to be performed after running the upgrade scripts are included.

The added functionality of V4.2.0.3 is not the scope of this documentation. The upgrade scripts do not turn on the newly added functionality by default. For new functionality, refer the V4.2.0.3 User Guides.

This section includes:

- **Automatic Data Upgrade**
- **Schema Change**

## Automatic Data Upgrade

This section describes what the upgrade script will populate in new tables and columns to preserve the existing base product application functions of the previous version of the Oracle Utilities Application Framework.

### Long Context Value on XAI Receiver

A new Context Value Long (F1\_CTXT\_VAL\_LONG) field is added to XAI Receiver Table CI\_XAI\_RCVR\_CTX). This new field is a longer version of the existing field CTXT\_VAL, which supported only 50 characters. To accommodate the long encryption key generated by the Java key generator for the keystore, the new column is added on the XAI Receiver Table to store the encrypted key. The existing column CTXT\_VAL on this table would be unsupported. To make this possible, all current data in the CTXT\_VAL column will be updated into the F1\_CTXT\_VAL\_LONG column as part of the upgrade script. Note that CTXT\_VAL is deprecated, and will be dropped in subsequent releases.

## Schema Change

### New Tables

The following new tables are added to Oracle Utilities Application Framework V4.2.0.3.

Tables	Description
F1_KEY_HASH	Keystore signature
F1_REQ_CHAR	Request characteristic

### New Views

View	Description
F1_BO_LIFECYCLE_STAT US_VW BO	Lifecycle Status View

### Dropped Tables

None.

### Unsupported Tables

None.

### Added Columns

None.

### Dropped Columns

None.

## Unsupported Table Columns

The following will be deprecated in a future release:

- CI\_XAI\_SNDR\_CTX: CTXT\_VAL column is not used.

## Column Format Change

None.



# Appendix D

---

## Oracle Application Framework System Table Guide

This section lists the system tables owned by the Oracle Utilities Application Framework V4.2.0.2 and explains the data standards of the system tables. The data standards are required for the installation of Oracle Utilities Application Framework, development within the Oracle Utilities Application Framework, and the configuration and customization of Oracle Utilities products. Adhering to the data standards is a prerequisite for seamless upgrade to future releases.

This section includes:

- **About the Application Framework System Tables**
- **System Table Standards**
- **Guidelines for System Table Updates**
- **System Table List**

## About the Application Framework System Tables

System tables are a subset of the tables that must be populated at the time the product is installed. 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.

## 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 ensure that there will be no data conflict between customer modifications and future Oracle Utilities product releases.
- The data prefix is used to prevent test data from being released to production.

**Developer's Note:** All test data added to the system data tables must be prefixed by ZZ (all upper case) in order for the installation and upgrade utility to recognize them as test data.

# Guidelines for System Table Updates

This section describes guidelines regarding the updating of the system table properties.

## Business Configuration Tables

The majority of data in the tables in this group belongs to the customer. But these tables are shipped with some initial data in order 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.

### Application Security and User Profile

These tables define the access rights of a User Group to Application Services and Application Users.

Properties	Description
Tables	SC_ACCESS_CNTL, SC_USER, SC_USR_GRP_PROF, SC_USR_GRP_USR, SC_USER_GROUP, SC_USER_GROUP_L
Initial Data	User Group All SERVICES and default system user SYSUSER. Upon installation the system default User Group All SERVICES is given unrestricted accesses to all services defined in Oracle Utilities Application Framework.

**Developer's 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.

### Currency Code

The ISO 4217 three-letter codes are taken as the standard code for the representation of each currency.

Properties	Description
Tables	CI_CURRENCY_CD, CI_CURRENCY_CD_L
Initial Data	United States Dollar (USD).

### Display Profile

The Display Profile Code is referenced in the User (SC\_USER) table.

Properties	Description
Tables	CI_DISP_PROF, CI_DISP_PROF_L
Initial Data	North America (NORTHAM) and Europe (EURO).

### Installation Options

Installation Option has only one row that is shipped with the initial installation of the Oracle Utilities Application Framework. The updatable columns in these tables are 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.

**Developer's 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.

## Language Code

Language Code must be a valid code defined in ISO 639-2 Alpha-3. Adding a new language code to the table without translating all language dependent objects in the system can cause errors when a user chooses the language.

Properties	Description
Tables	CI_LANGUAGE
Initial Data	English (ENG).

## To Do Priority and Role

New To Do Types released will be linked to the default To Do Role and set to the product assigned priority value initially. These initial settings can be overridden by the implementation.

Properties	Description
Tables	CI_ROLE(L), CI_TD_VAL_ROLE
Initial Data	F1_DFLT

## 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.

### Standards

When adding 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 Public Sector Revenue Management 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 the Oracle Utilities Application Framework or the base products. 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.

Starting with version 2.2 of the framework a new system data upgrade rule was introduced - Override Owner flag. If duplicate data rows (data row with same primary key values) are found at the time of upgrade, the owner flag values will get overridden. The lower level application system



data will override the upper level system data. For example, F1 overrides C1, F1&C1 override CM, and so on. This rule will be applied to the following tables: CI\_CHAR\_ENTITY, CI\_MD\_MO\_ALG, F1\_BUS\_OBJ\_ALG, F1\_BUS\_OBJ\_STATUS\_ALG, CI\_MD\_MO\_OPT, F1\_BUS\_OBJ\_OPT, F1\_BUS\_OBJ\_STATUS\_OPT, F1\_BUS\_OBJ\_STATUS, F1\_BUS\_OBJ\_STATUS\_L

### Algorithm Type

Properties	Description
Tables	CI_ALG_TYPE, CI_ALG_TYPE_L, CI_ALG_TYPE_PRM, CI_ALG_TYPE_PRM_L
Standard Data Fields	Algorithm Type (ALG_TYPE_CD)
Customer Modification	None

### Algorithm

Properties	Description
Tables	CI_ALG, CI_ALG_L, CI_ALG_PARM, CI_ALG_VER
Standard Data Fields	Algorithm (ALG_CD)
Customer Modification	None

### Application Security

Properties	Description
Tables	SC_APP_SERVICE, SC_APP_SERVICE_L, CI_APP_SVC_ACC
Standard Data Fields	Application Service ID (APP_SVC_ID). Customer care and billing products prior to version 2.0 will continue to use CI as a prefix for the application service.
Customer Modification	None

### Batch Control

Properties	Description
Tables	CI_BATCH_CTRL, CI_BATCH_CTRL_L, CI_BATCH_CTRL_P, CI_BATCH_CTRL_P_L
Standard Data Fields	Batch Process (BATCH_CD), Program Name (PROGRAM_NAME)

Properties	Description
Customer Modification	Next Batch Number (NEXT_BATCH_NBR), Last Update Instance (LAST_UPDATE_INST), Last Update Date time (LAST_UPDATE_DTTM) and the batch process update these columns. Time Interval (TIMER_INTERVAL), Thread Count (BATCH_THREAD_CNT), Maximum Commit Records (MAX_COMMIT_RECS), User (USER_ID), Language (LANGUAGE_CD), Email Address (EMAILID), Start program debug tracing (TRC_PGM_STRT_SW), End Program Debug trace (TRC_PGM_END_SW), SQL debug tracing (TRC_SQL_SW) and Standard debug tracing (TRC_STD_SW) on CI_BATCH_CTRL Table. Batch Parameter Value (BATCH_PARM_VAL) on Batch Control Parameters Table (CI_BATCH_CTRL_P)

### Business Object

Properties	Description
Tables	F1_BUS_OBJ, F1_BUS_OBJ_L, F1_BUS_OBJ_ALG, F1_BUS_OBJ_OPT, F1_BUS_OBJ_STATUS, F1_BUS_OBJ_STATUS_L, F1_BUS_OBJ_STATUS_ALG, F1_BUS_OBJ_STATUS_OPT, F1_BUS_OBJ_STATUS_RSN, F1_BUS_OBJ_STATUS_RSN_L, F1_BUS_OBJ_STATUS_RSN_CHAR F1_BUS_OBJ_TR_RULE, F1_BUS_OBJ_TR_RULE_L
Standard Data Fields	Business Object (BUS_OBJ_CD), Status Reason (BO_STATUS_REASON_CD)
Customer Modification	Batch Control (BATCH_CD), Alert (BO_ALERT_FLG), Sequence (SORT_SEQ5), Status Reason (STATUS_REASON_FLG) fields on Business Object Status Table (F1_BUS_OBJ_STATUS). Instance Control (INSTANCE_CTRL_FLG), Application Service (APP_SVC_ID) on Business Object Table (F1_BUS_OBJ). Status Reason Selection (STATUS_REASON_SELECT_FLG) on Status Reason Table (F1_BUS_OBJ_STATUS_RSN)

## Business Service

Properties	Description
Tables	F1_BUS_SVC, F1_BUS_SVC_L
Standard Data Fields	Business Service (BUS_SVC_CD)
Customer Modification	Application Service (APP_SVC_ID)

## Characteristics

Properties	Description
Tables	CI_CHAR_TYPE, CI_CHAR_TYPE_L, CI_CHAR_ENTITY, CI_CHAR_VAL, CI_CHAR_VAL_L
Standard Data Fields	Characteristic Type (CHAR_TYPE_CD)
Customer Modification	Adhoc Characteristic Value Validation Rule (ADHOC_VAL_ALG_CD) on Characteristic Entity Table (CI_CHAR_ENTITY)

## Configuration 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_INSTR_L, F1_MIGR_REQ_INSTR_ENTITY
Standard Data Fields	Migration Plan Code (MIGR_PLAN_CD), Migration Request Code (MIGR_REQ_CD)
Customer Modification	None

## Data Area

Properties	Description
Tables	F1_DATA_AREA, F1_DATA_AREA_L
Standard Data Fields	Data Area Code (DATA_AREA_CD)
Customer Modification	None

## Display Icon

Properties	Description
Tables	CI_DISP_ICON, CI_DISP_ICON_L
Standard Data Fields	Display Icon Code (DISP_ICON_CD)
Customer Modification	None

## Extendable Lookup

Properties	Description
Tables	F1_EXT_LOOKUP_VAL, F1_EXT_LOOKUP_VAL_L
Standard Data Fields	Business Object (BUS_OBJ_CD), Extendable Lookup Value (F1_EXT_LOOKUP_VALUE)
Customer Modification	Override Description (DESCR_OVRD) on Extendable Lookup Field Value Language Table (F1_EXT_LOOKUP_VAL_L)

## Foreign Key Reference

Properties	Description
Tables	CI_FK_REF, CI_FK_REF_L
Standard Data Fields	FK reference code (FK_REF_CD)
Customer Modification	Info Program Name (INFO_PRG), Zone (ZONE_CD)

## Inbound Web Service

Properties	Description
Tables	F1_IWS_SVC_L,F1_IWS_SVC,F1_IWS_S VC_OPER_L,F1_IWS_SVC_OPER, 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_A NN_TYPE_PARM_L
Standard Data Fields	Webservice Name (IN_SVC_NAME), Annotation (ANN_CD), Annotation Type (ANN_TYPE_CD)
Customer Modification	Debug (DEBUG_SW), Active (ACTIVE_SW), Trace (TRACE_SW), Post Error (POST_ERROR_SW), Request XSL (REQUEST_XSL), Response XSL (RESPONSE_XSL)

## Lookup

Properties	Description
Tables	CI_LOOKUP_FIELD, CI_LOOKUP_VAL, CI_LOOKUP_VAL_L,
Standard Data Fields	<p>Field Name (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>Field Value (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 can extend the Oracle Utilities Application Framework owned lookup field's value with caution. When it needs to be extended, prefix the first letter of the Owner Flag to the value. For example, when adding a new value to the algorithm entity flag (ALG_ENTITY_FLG), prefix with C1 if you are developing an Oracle Utilities Customer Care and Billing product.</li> </ul>
Customer Modification	Override Description (DESCR_OVRD) on Lookup Field Value Language Table (CI_LOOKUP_VAL_L)

## Map

Properties	Description
Tables	F1_MAP, F1_MAP_L
Standard Data Fields	UI Map (MAP_CD)
Customer Modification	None

## Managed Content

Properties	Description
Tables	F1_MANAG_CONTENT, F1_MANAG_CONTENT_L
Standard Data Fields	Managed Content (MANAG_CONTENT_CD)
Customer Modification	None

## Messages

Properties	Description
Tables	CI_MSG_CATEGORY, CI_MSG_CATEGORY_L, CI_MSG, CI_MSG_L
Standard Data Fields	<p>Message Category (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. You must use only the assigned category for your product.</li> <li>Oracle Utilities Customer Care and Billing and Oracle Utilities Business Intelligence - 00001 thru 00100</li> <li>Oracle Utilities Application Framework Java - 11001 thru 11100</li> <li>Oracle Utilities Customer Care and Billing Java - 11101 thru 11200</li> <li>Oracle Utilities Business Intelligence Java - 11201 thru 11300</li> <li>Implementer COBOL - 90000</li> <li>Implementer WSS - 90001</li> <li>Implementer Java - 90002</li> <li>Reserved for Tests - 99999</li> </ul> <p>Message Number (MESSAGE_NBR) for COBOL 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>Message Number (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	Override Description (DESCRLONG_OVRD), Message Text Override (MESSAGE_TEXT_OVRD)

### Meta Data - 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, F1_DB_OBJECTS_REPO
Standard Data Fields	<p>Table Name (TBL_NAME)</p> <ul style="list-style-type: none"> <li>Table names must match with the physical table name or view name in the database.</li> <li>Field Name (FLD_NAME) Field name must match with the physical column name in the database unless the field is a work field. Field name does not have to follow the prefixing standard unless the field is a work field or customer modification field.</li> <li>F1_DB_OBJECTS_REPO Table stores information about Indexes, Sequences, Triggers and other database objects excluding Tables and Fields (as they are already stored in the other Metadata tables)</li> </ul>
Customer Modification	<p>Audit Switches (AUDIT_INSERT_SW, AUDIT_UPDATE_SW, AUDIT_DELETE_SW), Override label (OVRD_LABEL) on MD Table Field Table (CI_MD_TBL_FLD). Audit Program Name (AUDIT_PGM_NAME), Audit Table Name (AUDIT_TBL_NAME), Audit Program Type (AUDIT_PGM_TYPE_FLG), Key Validation (KEY_VALIDATION_FLG) and Caching strategy (CACHE_FLG) on MD Table (CI_MD_TBL). Override Label (OVRD_LABEL) and Customer Specific Description (DESCRLONG_OVRD) on Field Table.</p>

### Meta Data - Constraints

Properties	Description
Tables	CI_MD_CONST, CI_MD_CONST_FLD
Standard Data Fields	<p>Constraint Id (CONST_ID)</p> <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, 01 through 99</li> </ul> </li> </ul>
Customer Modification	None

### Meta Data - Menu

Menus can be extended to support multiple products by adding a new menu line to an existing menu. The sequence number on the menu line language table (CI\_MD\_MENU\_LINE\_L) determines the order the menu lines appear. Within the same sequence, alphabetic sorting is used.

Properties	Description
Tables	CI_MD_MENU, CI_MD_MENU_L, CI_MD_MENU_ITEM, CI_MD_MENU_ITEM_L, CI_MD_MENU_LINE, CI_MD_MENU_LINE_L
Standard Data Fields	Menu Name (MENU_NAME), Menu Item Id (MENU_ITEM_ID), Menu Line Id (MENU_LINE_ID)
Customer Modification	Override Label (OVRD_LABEL) on Menu Line Language Table (CI_MD_MENU_LINE_L)

### Meta Data - Program, Location and Services

Properties	Description
Tables	CI_MD_PRG_COM, CI_MD_PRG_LOC, CI_MD_SVC, CI_MD_SVC_L, CI_MD_SVC_PRG, CI_MD_PRG_MOD, CI_MD_PRG_EL_AT, CI_MD_PRG_ELEM, CI_MD_PRG_SEC, CI_MD_PRG_SQL, CI_MD_PRG_VAR, CI_MD_PRG_TAB
Standard Data Fields	Program Component Id (PROG_COM_ID), Location Id (LOC_ID), Program Component Name (PROG_COM_NAME), Service Name (SVC_NAME), Navigation Key (NAVIGATION_KEY)
Customer Modification	User Exit Program Name (USER_EXIT_PGM_NAME) on Program Components Table (CI_MD_PRG_COM),

### Meta Data - Maintenance Object

Properties	Description
Tables	CI_MD_MO, CI_MD_MO_L, CI_MD_MO_TBL, CI_MD_MO_OPT, CI_MD_MO_ALG
Standard Data Fields	Maintenance Object (MAINT_OBJ_CD)
Customer Modification	None



## Meta Data - Work Tables

Properties	Description
Tables	CI_MD_WRK_TBL, CI_MD_WRK_TBL_L, CI_MD_WRK_TBLFLD, CI_MD_MO_WRK
Standard Data Fields	Work Table Name (WRK_TBL_NAME)
Customer Modification	None

## Meta Data - Search Object

Properties	Description
Tables	CI_MD_SO, CI_MD_SO_L, CI_MD_SO_RSFLD, CI_MD_SO_RSFLDAT, CI_MD_SOCG, CI_MD_SOCG_FLD, CI_MD_SOCG_FLDAT, CI_MD_SOCG_L, CI_MD_SOCG_SORT
Standard Data Fields	Search Object (SO_CD)
Customer Modification	None

## Navigation Option

Properties	Description
Tables	CI_NAV_OPT, CI_NAV_OPT_L, CI_NAV_OPT_CTXT, CI_NAV_OPT_USG, CI_MD_NAV
Standard Data Fields	Navigation Option Code (NAV_OPT_CD), Navigation Key (NAVIGATION_KEY)
Customer Modification	None

## Portal and Zone

Properties	Description
Tables	CI_PORTAL, CI_PORTAL_L, CI_PORTAL_ZONE, 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
Standard Data Fields	Portal Code (PORTAL_CD), Zone Code (ZONE_CD), Zone Type Code (ZONE_HDL_CD) <ul style="list-style-type: none"> <li>A new Zone can be added to the Product owned Portal Pages.</li> <li>The existing Zones cannot be removed from the Product owned Portal Pages.</li> </ul>
Customer Modification	Sort Sequence (SORT_SEQ) on Context Sensitive Zone Table (CI_UI_ZONE). Show on Portal Preferences (USER_CONFIG_FLG) on Portal Table (CI_PORTAL). Override Sequence (SORT_SEQ_OVRD) on Portal Zone Table (CI_PORTAL_ZONE). Customer Specific Description (DESCRLONG_OVRD) on Zone Language Table (CI_ZONE_L). Override Parameter Value (ZONE_HDL_PARM_OVRD) on Zone Type Parameters Table (CI_ZONE_HDL_PRM). Override Parameter Value (ZONE_PARM_VAL_OVRD) on Zone Parameters Table (CI_ZONE_PRM).

## Sequence

Properties	Description
Tables	CI_SEQ
Standard Data Fields	Sequence Name (SEQ_NAME)
Customer Modification	Sequence Number (SEQ_NBR) This field is updated by the application process and must be set to 1 initially.

## Schema

Properties	Description
Tables	F1_SCHEMA
Standard Data Fields	Schema Name (SCHEMA_NAME)
Customer Modification	None

## 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	Script (SCR_CD)
Customer Modification	None

## To Do Type

Properties	Description
Tables	CI_TD_TYPE, CI_TD_TYPE_L, CI_TD_SRTKEY_TY, CI_TD_DRLKEY_TY, CI_TD_SRTKEY_TY_L
Standard Data Fields	To Do Type Code (TD_TYPE_CD)
Customer Modification	Creation Batch Code (CRE_BATCH_CD), Route Batch Code (RTE_BATCH_CD), Priority Flag (TD_PRIORITY_FLG) on To Do Type Table (CI_TD_TYPE)

## XAI Configuration

Properties	Description
Tables	CI_XAI_ADAPTER, CI_XAI_ADAPTER_L, CI_XAI_CLASS, CI_XAI_CLASS_L, CI_XAI_ENV_HNDL, CI_XAI_ENV_HNDL_L, CI_XAI_FORMAT, CI_XAI_FORMAT_L, CI_XAI_RCVR, CI_XAI_RCVR_L, CI_XAI_RCVR_CTX, CI_XAI_RCVR_RSP, CI_XAI_RCVR_RGRP, CI_XAI_SENDER, CI_XAI_SERNDER_L, CI_XAI_SNDR_CTX, CI_XAI_OPTION
Standard Data Fields	Adapter Id (XAI_ADAPTER_ID), Class Id (XAI_CLASS_ID), Envelope Handler Id (XAI_ENV_HNDL_ID), XAI Format Id (XAI_FORMAT_ID), Receiver Id (XAI_RCVR_ID), Sender Id (XAI_SENDER_ID)
Customer Modification	Option Value (OPTION_VALUE) on XAI Option Table (CI_XAI_OPTION)

The following XAI tables might have system data installed upon the initial installation but a subsequent system data upgrade process will not update the content of these table unless the change is documented in the database upgrade guide: CI\_XAI\_RCVR, CI\_XAI\_RCVR\_L, CI\_XAI\_RCVR\_CTX, CI\_XAI\_RCVR\_RSP, CI\_XAI\_RCVR\_RGRP, CI\_XAI\_SENDER, CI\_XAI\_SERNDER\_L, CI\_XAI\_SNDR\_CTX

## XAI Services

Properties	Description
Tables	CI_XAI_IN_SVC, CI_XAI_IN_SVC_L, CI_XAI_SVC_PARM
Standard Data Fields	XAI Inbound Service Id (XAI_IN_SVC_ID), XAI Inbound Service Name (XAI_IN_SVC_NAME)
Customer Modification	XAI Version (XAI_VERSION_ID), Trace (TRACE_SW), Debug (DEBUG_SW), Request XSL (INPUT_XSL), Response XSL (RESPONSE_XSL), Record XSL (RECORD_XSL and Post Error (POST_ERROR_SW) on XAI Inbound Service Table (CI_XAI_IN_SVC)

## Oracle Utilities Application Framework Only Tables

All data of the tables in this group belong to the Oracle Utilities Application Framework. No data modification or addition is allowed for these tables by base product development and customer modification. When an environment is upgraded to the next release of the Oracle Utilities Application Framework, the upgrade process will refresh the data in these tables.

- CI\_MD\_AT\_DTL / CI\_MD\_AT\_DTL\_L
- CI\_MD\_ATT\_TY
- CI\_MD\_CTL / CI\_MD\_CTL\_L
- CI\_MD\_CTL\_TMPL
- CI\_MD\_ELTY / CI\_MD\_ELTY\_L
- CI\_MD\_ELTY\_AT
- CI\_MD\_LOOKUP / CI\_MD\_LOOKUP\_F
- CI\_MD\_PDF / CI\_MD\_PDF\_VAL
- CI\_MD\_MSG / CI\_MD\_MSG\_L
- CI\_MD\_SRC\_TYPE / CI\_MD\_SRC\_TYPE\_L
- CI\_MD\_TMPL / CI\_MD\_TMPL\_L
- CI\_MD\_TMPL\_ELTY
- CI\_MD\_TMPL\_VAR / CI\_MD\_TMPL\_VAR\_L
- CI\_MD\_VAR / CI\_MD\_VAR\_DTL / CI\_MD\_VAR\_DTL\_L
- CI\_XAI\_EXECUTER / CI\_XAI\_EXECUTER\_L

## System Table List

This section contains names of system tables, upgrade actions, and a brief description of tables. The upgrade actions are explained below.

**Keep (KP):** The data in 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 in 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.

**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	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
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_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

Table Name	Upgrade Action	Description
CI_DISP_ICON	MG	Display Icon
CI_DISP_ICON_L	MG	Display Icon 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_CONST	MG	Constraints
CI_MD_CONST_FLD	MG	Constraint Fields
CI_MD_FLD	MG	Field
CI_MD_FLD_L	MG	Field Language
CI_MD_MENU	MG	Menu Information
CI_MD_MENU_IMOD	MG	Menu Item Module Maint
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_NAV	MG	Navigation Key
CI_MD_PRG_COM	MG	Program Components
CI_MD_PRG_ELEM	MG	UI Page Elements
CI_MD_PRG_EL_AT	MG	UI Page Element Attributes

Table Name	Upgrade Action	Description
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 Meta Data
CI_MD_PRG_TAB	MG	UI Tab Meta Data
CI_MD_PRG_VAR	MG	Program Variable
CI_MD_SO	MG	Search Object
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_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_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	MD Table
CI_MD_TBL_FLD	MG	MD Table Field
CI_MD_TBL_FLD_L	MG	MD Table Field Language
CI_MD_TBL_L	MG	MD Table Language
CI_MD_WRK_TBL	MG	Work Table
CI_MD_WRK_TBLFLD	MG	Work Table Field
CI_MD_WRK_TBL_L	MG	Work Table Language
CI_MSG	MG	Message
CI_MSG_CATEGORY	MG	Message Category
CI_MSG_CATEGORY_L	MG	Message Category Language
CI_MSG_L	MG	Message Language



Table Name	Upgrade Action	Description
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_PORTAL	MG	Portal
CI_PORTAL_L	MG	Portal Language
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
CI_SCR_PRMP	MG	Script Prompt
CI_SCR_PRMP_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_UI_ZONE	MG	Context Sensitive Zone
CI_USR_NAV_LINK	MG	User Favorite Links
CI_XAI_ADAPTER	MG	XAI Adapter
CI_XAI_ADAPTER_L	MG	XAI Adapter Lang
CI_XAI_CLASS	MG	XAI Class
CI_XAI_CLASS_L	MG	XAI Class Language
CI_XAI_ENV_HNDL	MG	XAI Envelope Handler

Table Name	Upgrade Action	Description
CI_XAI_ENV_HNDL_L	MG	XAI Envelope Handler Language
CI_XAI_IN_SVC	MG	XAI Inbound Service
CI_XAI_IN_SVC_L	MG	XAI Inbound Service Language
CI_XAI_SVC_PARM	MG	XAI Inbound Service Parameters
CI_ZONE	MG	Zone
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_RS	MG	Status Reason
F1_BUS_OBJ_STATUS_RS_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_DATA_AREA	MG	Data Area

Table Name	Upgrade Action	Description
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_L	MG	Extendable Lookup Language
F1_IWS_ANN	MG	Inbound Web Service Annotation
F1_IWS_ANN_L	MG	Inbound Web Service Annotation Language
F1_IWS_ANN_PARM	MG	Inbound Web Service Annotation Parameter
F1_IWS_ANN_TYPE	MG	Inbound Web Service Annotation Type
F1_IWS_ANN_TYPE_L	MG	Inbound Web Service Annotation Type Language
F1_IWS_ANN_TYPE_PARM	MG	Inbound Web Service Annotation Type Parm
F1_IWS_ANN_TYPE_PARM_L	MG	Inbound Web Service Annotation Type Parameter Language
F1_IWS_SVC	MG	Inbound Web Service
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 Operations Language
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_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

Table Name	Upgrade Action	Description
F1_MIGR_REQ	MG	Migration Request
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_SCHEMA	MG	Schema
SC_ACCESS_CNTL	MG	User Group Access Control
SC_APP_SERVICE	MG	Application Service
SC_APP_SERVICE_L	MG	Application Service Language
SC_USR_GRP_PROF	MG	User Group Profile
CI_ACC_GRP	KP	Access Group
CI_ACC_GRP_DAR	KP	Access Group / Data Access Group
CI_ACC_GRP_L	KP	Access Group Language
CI_APP_SVC_SCTY	KP	Security Type Application Service
CI_CAL_HOL	KP	Work Calendar Holidays
CI_CAL_HOL_L	KP	Work Calendar Holidays Language
CI_CAL_WORK	KP	Work Calendar
CI_CAL_WORK_L	KP	Work Calendar Language
CI_CHTY_TDTY	KP	To Do Type Template Characteristics
CI_COUNTRY	KP	Country
CI_COUNTRY_L	KP	Country Language
CI_CURRENCY_CD	KP	Currency Code
CI_CURRENCY_CD_L	KP	Currency Code Language
CI_DAR	KP	Data Access Role
CI_DAR_L	KP	Data Access Language
CI_DAR_USR	KP	Data Access User
CI_DISP_PROF	KP	Display Profile
CI_DISP_PROF_L	KP	Display Profile Language

Table Name	Upgrade Action	Description
CI_ENV_REF	KP	Environment Reference
CI_ENV_REF_L	KP	Environment Reference Language
CI_FUNC	KP	Function
CI_FUNC_FLD	KP	Function Field
CI_FUNC_FLD_L	KP	Function Field Language
CI_FUNC_L	KP	Function Language
CI_GEO_TYPE	KP	Geographic Type
CI_GEO_TYPE_L	KP	Geographic Type Language
CI_INSTALL_ALG	KP	Installation Algorithm
CI_INSTALL_MSG	KP	Installation Message
CI_INSTALL_MSG_L	KP	Installation Message Language
CI_INSTALL_PROD	KP	Installation Product
CI_MD_RPT	KP	Report Definition
CI_MD_RPT_L	KP	Report Language
CI_MD_RPT_LBL	KP	Report Labels
CI_MD_RPT_PARM	KP	Report Parameters
CI_MD_RPT_PARM_L	KP	Report Parameters Language
CI_MD_TOOLREP_XML	KP	MD Tool Reference XML
CI_MD_TOOL_REP	KP	MD Tool Reference
CI_NT_DNTY_CTXT	KP	Notification Download Type Context
CI_NT_DWN_FORM	KP	Notification Download Format
CI_NT_DWN_FORM_L	KP	Notification Download Format Language
CI_NT_DWN_PROF	KP	Notification Download Profile
CI_NT_DWN_PROF_L	KP	Notification Download Profile Language
CI_NT_DWN_TYPE	KP	Notification Download Type
CI_NT_DWN_TYPE_L	KP	Notification Download Type Language
CI_NT_UP_XTYPE	KP	Notification Upload Type

Table Name	Upgrade Action	Description
CI_NT_UP_XTYPE_L	KP	Notification Upload Type Language
CI_NT_XID	KP	External System
CI_NT_XID_L	KP	External System Language
CI_PHONE_TYPE	KP	Phone Type
CI_PHONE_TYPE_L	KP	Phone Type Language
CI_ROLE	KP	Role
CI_ROLE_L	KP	Role Language
CI_ROLE_USER	KP	Role User
CI_RPT_OPTION	KP	Report Options
CI_SC_AUTH_LVL	KP	Security Type Auth Level
CI_SC_AUTH_LVL_L	KP	Security Type Auth Level Language
CI_SC_TYPE	KP	Security Type
CI_SC_TYPE_L	KP	Security Type Language
CI_SEAS_SHIFT	KP	Seasonal Time Shift Schedule
CI_SEAS_TM_SHIFT	KP	Seasonal Time Shift
CI_SEAS_TM_SHIFT_L	KP	Seasonal Shift Language
CI_STATE	KP	State
CI_STATE_L	KP	State Language
CI_TD_EX_LIST	KP	To Do Type Message Overrides
CI_TD_TYPE_ALG	KP	To Do Type Algorithms
CI_TD_TYPE_CHAR	KP	To Do Type Characteristic
CI_TD_VAL_ROLE	KP	To Do Type Role
CI_TIME_ZONE	KP	Time Zone
CI_TIME_ZONE_L	KP	Time Zone Language
CI_USR_GRP_SC	KP	User Group Security Type
CI_USR_PORTAL	KP	User Portal
CI_USR_SCR	KP	User Scripts
CI_USR_ZONE	KP	User Zone
CI_WFM	KP	Feature Configuration
CI_WFM_L	KP	Feature Configuration Language

Table Name	Upgrade Action	Description
CI_WFM_MSG	KP	Feature Configuration Message
CI_WFM_OPT	KP	Feature Configuration Options
CI_WF_EVT_TYPE	KP	WF Event Type
CI_WF_EVT_TYPE_L	KP	WF Event Type Language
CI_WF_PP	KP	WF Process Profile
CI_WF_PP_L	KP	WF Process Profile Language
CI_WF_PP_NT	KP	WF Process Notification
CI_WF_PP_NT_CRT	KP	WF Process Notification Criteria
CI_WF_PROC_SCHED	KP	WF Process Creation Schedule
CI_WF_PROC_SCHED_K	KP	WF Process Creation Schedule Key
CI_WF_PROC_TMPL	KP	WF Process Template
CI_WF_PROC_TMPL_L	KP	WF Process Template Language
CI_WF_RESP	KP	WF Response
CI_WF_RESP_DEP	KP	WF Response Dependency
CI_XAI_JDBC_CON	KP	XAI JDBC Connection
CI_XAI_JDBC_CON_L	KP	XAI JDBC Connection Language
CI_XAI_JMS_CON	KP	XAI JMS Connection
CI_XAI_JMS_CON_L	KP	XAI JMS Connection Language
CI_XAI_JMS_Q	KP	XAI JMS Queue
CI_XAI_JMS_Q_L	KP	XAI JMS Queue Language
CI_XAI_JMS_TPC	KP	XAI JMS Topic
CI_XAI_JMS_TPC_L	KP	XAI JMS Topic Language
CI_XAI_JNDI_SVR	KP	XAI JNDI Server
CI_XAI_JNDI_SVR_L	KP	XAI JNDI Server Language
CI_XAI_OPTION	KP	XAI Option
CI_XAI_RCVR	KP	XAI Receiver
CI_XAI_RCVR_CTX	KP	XAI Receiver Context

Table Name	Upgrade Action	Description
CI_XAI_RCVR_L	KP	XAI Receiver Language
CI_XAI_RCVR_RGRP	KP	XAI Receiver Rule Group
CI_XAI_RCVR_RSP	KP	XAI Receiver Response
CI_XAI_RGRP	KP	XAI Rule Group
CI_XAI_RGRP_ATT	KP	XAI Rule Group Attachment
CI_XAI_RGRP_L	KP	XAI Rule Group Language
CI_XAI_ROUTING	KP	XAI Routing
CI_XAI_RT_TYPE	KP	XAI Route Type
CI_XAI_RT_TYPE_L	KP	XAI Route Type Language
CI_XAI_RULE	KP	XAI Rule
CI_XAI_SENDER	KP	XAI Sender
CI_XAI_SENDER_L	KP	XAI Sender Language
CI_XAI_SNDR_CTX	KP	XAI Sender Context
F1_BKT_CONFIG	KP	Bucket Configuration
F1_BKT_CONFIG_L	KP	Bucket Configuration Language
F1_BKT_CONFIG_REL_OBJ	KP	Bucket Configuration Related Object
F1_BKT_CONFIG_VAL	KP	Bucket Configuration Value
F1_BKT_CONFIG_VAL_L	KP	Bucket Configuration Value Language
F1_BUS_OBJ_STATUS_RS N_CHAR	KP	Status Reason Characteristic
F1_EXTSYS_OUTMSG_P ROF	KP	External System Outbound Message Type
F1_INSTALLATION	KP	Installation Option - Framework
F1_IWS_ANN_CHAR	KP	Inbound Web Service Annotation Characteristics
F1_IWS_ANN_TYPE_CHAR	KP	Inbound Web Service Annotation Type Characteristics
F1_IWS_SVC_ANN	KP	Inbound Web Service Link to Annotation
F1_IWS_SVC_CHAR	KP	Inbound Web Service Characteristics
F1_IWS_SVC_LOG	KP	Inbound Web Service Log



Table Name	Upgrade Action	Description
F1_IWS_SVC_LOG_PARM	KP	Inbound Web Service Log Parameter
F1_MAP_OVRD	KP	UI Map Override
F1_MD_DB_OBJ	KP	MD Database Object
F1_MST_CONFIG	KP	Master Configuration
F1_OUTMSG_TYPE	KP	Outbound Message Type
F1_OUTMSG_TYPE_L	KP	Outbound Message Type Language
F1_REQ_TYPE	KP	Request Type
F1_REQ_TYPE_L	KP	Request Type Language
F1_REQ_TYPE_LOG	KP	Request Type Log
F1_REQ_TYPE_LOG_PARM	KP	Request Type Log Parameters
F1_SVC_TASK_TYPE	KP	Service Task Type
F1_SVC_TASK_TYPE_CHAR	KP	Service Task Type Characteristics
F1_SVC_TASK_TYPE_L	KP	Service Task Type Language
F1_WEB_SVC	KP	Web Service Adapter
F1_WEB_SVC_CHAR	KP	Web Service Adapter Characteristics
F1_WEB_SVC_L	KP	Web Service Adapter Language
F1_WEB_SVC_LOG	KP	Web Service Adapter Log
F1_WEB_SVC_LOG_PARM	KP	Web Service Adapter Log Parameter
F1_WEB_SVC_OPERATIONS	KP	Web Service Adapter Operations
SC_USER	KP	User
SC_USER_CHAR	KP	User Characteristic
SC_USER_GROUP	KP	User Group
SC_USER_GROUP_L	KP	User Group Language
SC_USR_GRP_USR	KP	User Group User
CI_MD_ATT_TY	RF	MD Element Attribute Type
CI_MD_AT_DTL	RF	MD Element Attribute Type Detail
CI_MD_AT_DTL_L	RF	MD Element Attribute Type Detail Language

Table Name	Upgrade Action	Description
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_LOOKUP_F	RF	MD Lookup Field
CI_MD_MSG	RF	MD Message
CI_MD_MSG_L	RF	MD Message Language
CI_MD_PDF	RF	Predefined Fields
CI_MD_PDF_VAL	RF	Predefined Values
CI_MD_SRC_TYPE	RF	Source Type
CI_MD_SRC_TYPE_L	RF	Source Type Language
CI_MD_TMPL	RF	Template
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_XAI_EXECUTER	RF	XAI Executer
CI_XAI_EXECUTER_L	RF	XAI Executer Language

# Appendix E

---

## License and Copyright Notices

This section provides license and copyright information for the associated products. This includes the following:

- Notice Concerning Usage of ANTLR
- Notice Concerning Usage of Apache Software
- Notice Concerning Usage of ASM
- Notice Concerning Usage of Concurrent
- Notice Concerning Usage of DOM4J
- Notice Concerning Usage of International Components for Unicode (ICU4J)
- Notice Concerning Usage of Jaxen
- Notice Concerning Usage of JCIP Annotations
- Notice Concerning Usage of SLF4J
- Notice Concerning Usage of Staxmate
- Notice Concerning Usage of XMLPULL
- Notice Concerning Usage of XMLUnit
- Notice Concerning Usage of XStream
- Notice Concerning Usage of YUI

---

## Third-Party Products

The following sections provide notices and information about the third party products indicated.

### Notice Concerning Usage of ANTLR

[The BSD License]

Copyright (c) 2010 Terence Parr

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the author nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

\THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

### Notice Concerning Usage of Apache Software

The following files are covered under the Apache 2.0 license:

- bsf-2.4.0.jar
- castor-1.3.2-core.jar
- castor-1.3.2-xml-schema.jar
- castor-1.3.2-xml.jar
- cglib-2.2.jar
- commonj-3.7.1.jar
- commons-beanutils-core-1.8.3.jar
- commons-cli-1.1.jar
- commons-codec-1.6.jar
- commons-collections-3.2.1.jar
- commons-fileupload-1.2.2.jar
- commons-httpclient-3.0.1.jar

- 
- commons-io-1.3.2.jar
  - commons-lang-2.2.jar
  - log4j-1.2.17.jar
  - serializer-2.7.1.jar
  - stax2-2.1.jar
  - stax2-api-3.0.4.jar
  - wstx-asl-3.2.7.jar
  - xalan-mod-2.7.1.jar
  - xmlparserv2-11.1.1.3.0.jar

## Apache License

Version 2.0, January 2004

<http://www.apache.org/licenses/>

### TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

#### 1. Definitions.

“License” shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

“Licensor” shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

“Legal Entity” shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, “control” means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

“You” (or “Your”) shall mean an individual or Legal Entity exercising permissions granted by this License.

“Source” form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

“Object” form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

“Work” shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

“Derivative Works” shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

“Contribution” shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, “submitted” means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic

---

mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as “Not a Contribution.”

“Contributor” shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

You must give any other recipients of the Work or Derivative Works a copy of this License; and

You must cause any modified files to carry prominent notices stating that You changed the files; and

You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

If the Work includes a “NOTICE” text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

---

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an “AS IS” BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

## Notice Concerning Usage of ASM

Copyright (c) 2000-2005 INRIA, France Telecom

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holders nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)

ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

## Notice Concerning Usage of Concurrent

All classes are released to the public domain and may be used for any purpose whatsoever without permission or acknowledgment. <http://g.oswego.edu/dl/classes/EDU/oswego/cs/dl/util/concurrent/intro.html>

## Notice Concerning Usage of DOM4J

Copyright 2001-2010 (C) MetaStuff, Ltd. All Rights Reserved.

Redistribution and use of this software and associated documentation ("Software"), with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain copyright statements and notices. Redistributions must also contain a copy of this document.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name "DOM4J" must not be used to endorse or promote products derived from this Software without prior written permission of MetaStuff, Ltd. For written permission, please contact [dom4j-info@metastuff.com](mailto:dom4j-info@metastuff.com).
4. Products derived from this Software may not be called "DOM4J" nor may "DOM4J" appear in their names without prior written permission of MetaStuff, Ltd. DOM4J is a registered trademark of MetaStuff, Ltd.
5. Due credit should be given to the DOM4J Project - <http://dom4j.sourceforge.net>

THIS SOFTWARE IS PROVIDED BY METASTUFF, LTD. AND CONTRIBUTORS  
"AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT  
NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND  
FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL  
METASTUFF, LTD. OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT,  
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES  
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR  
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)  
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN  
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR  
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN  
IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Notice Concerning Usage of International Components for Unicode (ICU4J)

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1995-2010 International Business Machines Corporation and others

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,  
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF



---

MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

## Notice Concerning Usage of Jaxen

Copyright 2003-2006 The Werken Company. All Rights Reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- \* Neither the name of the Jaxen Project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Notice Concerning Usage of JCIP Annotations

Attribution 2.5

CREATIVE COMMONS CORPORATION IS NOT A LAW FIRM AND DOES NOT PROVIDE LEGAL SERVICES. DISTRIBUTION OF THIS LICENSE DOES NOT CREATE AN ATTORNEY-CLIENT RELATIONSHIP. CREATIVE COMMONS PROVIDES THIS INFORMATION ON AN "AS-IS" BASIS. CREATIVE COMMONS MAKES NO WARRANTIES REGARDING THE INFORMATION PROVIDED, AND DISCLAIMS LIABILITY FOR DAMAGES RESULTING FROM ITS USE.

License

THE WORK (AS DEFINED BELOW) IS PROVIDED UNDER THE TERMS OF THIS CREATIVE COMMONS PUBLIC LICENSE ("CCPL" OR "LICENSE"). THE WORK IS PROTECTED BY COPYRIGHT AND/OR OTHER APPLICABLE LAW. ANY USE OF

---

THE WORK OTHER THAN AS AUTHORIZED UNDER THIS LICENSE OR COPYRIGHT LAW IS PROHIBITED.

BY EXERCISING ANY RIGHTS TO THE WORK PROVIDED HERE, YOU ACCEPT AND AGREE TO BE BOUND BY THE TERMS OF THIS LICENSE. THE LICENSOR GRANTS YOU THE RIGHTS CONTAINED HERE IN CONSIDERATION OF YOUR ACCEPTANCE OF SUCH TERMS AND CONDITIONS.

1. Definitions

1. “Collective Work” means a work, such as a periodical issue, anthology or encyclopedia, in which the Work in its entirety in unmodified form, along with a number of other contributions, constituting separate and independent works in themselves, are assembled into a collective whole. A work that constitutes a Collective Work will not be considered a Derivative Work (as defined below) for the purposes of this License.

2. “Derivative Work” means a work based upon the Work or upon the Work and other pre-existing works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which the Work may be recast, transformed, or adapted, except that a work that constitutes a Collective Work will not be considered a Derivative Work for the purpose of this License. For the avoidance of doubt, where the Work is a musical composition or sound recording, the synchronization of the Work in timed-relation with a moving image (“synching”) will be considered a Derivative Work for the purpose of this License.

3. “Licensor” means the individual or entity that offers the Work under the terms of this License.

4. “Original Author” means the individual or entity who created the Work.

5. “Work” means the copyrightable work of authorship offered under the terms of this License.

6. “You” means an individual or entity exercising rights under this License who has not previously violated the terms of this License with respect to the Work, or who has received express permission from the Licensor to exercise rights under this License despite a previous violation.

2. Fair Use Rights. Nothing in this license is intended to reduce, limit, or restrict any rights arising from fair use, first sale or other limitations on the exclusive rights of the copyright owner under copyright law or other applicable laws.

3. License Grant. Subject to the terms and conditions of this License, Licensor hereby grants You a worldwide, royalty-free, non-exclusive, perpetual (for the duration of the applicable copyright) license to exercise the rights in the Work as stated below:

1. to reproduce the Work, to incorporate the Work into one or more Collective Works, and to reproduce the Work as incorporated in the Collective Works;

2. to create and reproduce Derivative Works;

3. to distribute copies or phonorecords of, display publicly, perform publicly, and perform publicly by means of a digital audio transmission the Work including as incorporated in Collective Works;

4. to distribute copies or phonorecords of, display publicly, perform publicly, and perform publicly by means of a digital audio transmission Derivative Works.

5.

For the avoidance of doubt, where the work is a musical composition:

1. Performance Royalties Under Blanket Licenses. Licensor waives the exclusive right to collect, whether individually or via a performance rights society (e.g. ASCAP,

---

BMI, SESAC), royalties for the public performance or public digital performance (e.g. webcast) of the Work.

2. Mechanical Rights and Statutory Royalties. Licensor waives the exclusive right to collect, whether individually or via a music rights agency or designated agent (e.g. Harry Fox Agency), royalties for any phonorecord You create from the Work (“cover version”) and distribute, subject to the compulsory license created by 17 USC Section 115 of the US Copyright Act (or the equivalent in other jurisdictions).

6. Webcasting Rights and Statutory Royalties. For the avoidance of doubt, where the Work is a sound recording, Licensor waives the exclusive right to collect, whether individually or via a performance-rights society (e.g. SoundExchange), royalties for the public digital performance (e.g. webcast) of the Work, subject to the compulsory license created by 17 USC Section 114 of the US Copyright Act (or the equivalent in other jurisdictions).

The above rights may be exercised in all media and formats whether now known or hereafter devised. The above rights include the right to make such modifications as are technically necessary to exercise the rights in other media and formats. All rights not expressly granted by Licensor are hereby reserved.

4. Restrictions. The license granted in Section 3 above is expressly made subject to and limited by the following restrictions:

1. You may distribute, publicly display, publicly perform, or publicly digitally perform the Work only under the terms of this License, and You must include a copy of, or the Uniform Resource Identifier for, this License with every copy or phonorecord of the Work You distribute, publicly display, publicly perform, or publicly digitally perform. You may not offer or impose any terms on the Work that alter or restrict the terms of this License or the recipients' exercise of the rights granted hereunder. You may not sublicense the Work. You must keep intact all notices that refer to this License and to the disclaimer of warranties. You may not distribute, publicly display, publicly perform, or publicly digitally perform the Work with any technological measures that control access or use of the Work in a manner inconsistent with the terms of this License Agreement. The above applies to the Work as incorporated in a Collective Work, but this does not require the Collective Work apart from the Work itself to be made subject to the terms of this License. If You create a Collective Work, upon notice from any Licensor You must, to the extent practicable, remove from the Collective Work any credit as required by clause 4(b), as requested. If You create a Derivative Work, upon notice from any Licensor You must, to the extent practicable, remove from the Derivative Work any credit as required by clause 4(b), as requested.

2. If you distribute, publicly display, publicly perform, or publicly digitally perform the Work or any Derivative Works or Collective Works, You must keep intact all copyright notices for the Work and provide, reasonable to the medium or means You are utilizing: (i) the name of the Original Author (or pseudonym, if applicable) if supplied, and/or (ii) if the Original Author and/or Licensor designate another party or parties (e.g. a sponsor institute, publishing entity, journal) for attribution in Licensor's copyright notice, terms of service or by other reasonable means, the name of such party or parties; the title of the Work if supplied; to the extent reasonably practicable, the Uniform Resource Identifier, if any, that Licensor specifies to be associated with the Work, unless such URI does not refer to the copyright notice or licensing information for the Work; and in the case of a Derivative Work, a credit identifying the use of the Work in the Derivative Work (e.g., “French translation of the Work by Original Author,” or “Screenplay based on original Work by Original Author”). Such credit may be implemented in any reasonable manner; provided, however, that in the case of a Derivative Work or Collective Work, at a minimum such credit will appear where any other comparable authorship credit appears and in a manner at least as prominent as such other comparable authorship credit.

5. Representations, Warranties and Disclaimer

UNLESS OTHERWISE MUTUALLY AGREED TO BY THE PARTIES IN WRITING, LICENSOR OFFERS THE WORK AS-IS AND MAKES NO REPRESENTATIONS OR

---

WARRANTIES OF ANY KIND CONCERNING THE WORK, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR THE ABSENCE OF LATENT OR OTHER DEFECTS, ACCURACY, OR THE PRESENCE OF ABSENCE OF ERRORS, WHETHER OR NOT DISCOVERABLE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO SUCH EXCLUSION MAY NOT APPLY TO YOU.

6. Limitation on Liability. EXCEPT TO THE EXTENT REQUIRED BY APPLICABLE LAW, IN NO EVENT WILL LICENSOR BE LIABLE TO YOU ON ANY LEGAL THEORY FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES ARISING OUT OF THIS LICENSE OR THE USE OF THE WORK, EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

#### 7. Termination

1. This License and the rights granted hereunder will terminate automatically upon any breach by You of the terms of this License. Individuals or entities who have received Derivative Works or Collective Works from You under this License, however, will not have their licenses terminated provided such individuals or entities remain in full compliance with those licenses. Sections 1, 2, 5, 6, 7, and 8 will survive any termination of this License.

2. Subject to the above terms and conditions, the license granted here is perpetual (for the duration of the applicable copyright in the Work). Notwithstanding the above, Licensor reserves the right to release the Work under different license terms or to stop distributing the Work at any time; provided, however that any such election will not serve to withdraw this License (or any other license that has been, or is required to be, granted under the terms of this License), and this License will continue in full force and effect unless terminated as stated above.

#### 8. Miscellaneous

1. Each time You distribute or publicly digitally perform the Work or a Collective Work, the Licensor offers to the recipient a license to the Work on the same terms and conditions as the license granted to You under this License.

2. Each time You distribute or publicly digitally perform a Derivative Work, Licensor offers to the recipient a license to the original Work on the same terms and conditions as the license granted to You under this License.

3. If any provision of this License is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this License, and without further action by the parties to this agreement, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.

4. No term or provision of this License shall be deemed waived and no breach consented to unless such waiver or consent shall be in writing and signed by the party to be charged with such waiver or consent.

5. This License constitutes the entire agreement between the parties with respect to the Work licensed here. There are no understandings, agreements or representations with respect to the Work not specified here. Licensor shall not be bound by any additional provisions that may appear in any communication from You. This License may not be modified without the mutual written agreement of the Licensor and You.

Creative Commons is not a party to this License, and makes no warranty whatsoever in connection with the Work. Creative Commons will not be liable to You or any party on any legal theory for any damages whatsoever, including without limitation any general, special, incidental or consequential damages arising in connection to this license. Notwithstanding the foregoing two (2) sentences, if Creative Commons has expressly identified itself as the Licensor hereunder, it shall have all rights and obligations of Licensor.

---

Except for the limited purpose of indicating to the public that the Work is licensed under the CCPL, neither party will use the trademark “Creative Commons” or any related trademark or logo of Creative Commons without the prior written consent of Creative Commons. Any permitted use will be in compliance with Creative Commons' then-current trademark usage guidelines, as may be published on its website or otherwise made available upon request from time to time.

Creative Commons may be contacted at <http://creativecommons.org/>.

## Notice Concerning Usage of SLF4J

SLF4J source code and binaries are distributed under the MIT license.

Copyright (c) 2004-2008 QOS.ch

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the “Software”), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED “AS IS”, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

## Notice Concerning Usage of Staxmate

Copyright (c) 2007, Tatu Saloranta

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- \* Neither the name of the <organization> nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY <copyright holder> “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL <copyright holder> BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT

---

(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Notice Concerning Usage of XMLPULL

XMLPULL API IS FREE

All of the XMLPULL API source code, compiled code, and documentation contained in this distribution \*except\* for tests (see separate LICENSE\_TESTS.txt) are in the Public Domain.

XMLPULL API comes with NO WARRANTY or guarantee of fitness for any purpose.

Initial authors: Stefan Haustein and Aleksander Slominski

2001-12-12

## Notice Concerning Usage of XMLUnit

Copyright (c) 2001-2007, Jeff Martin, Tim Bacon

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- \* Neither the name of the xmlunit.sourceforge.net nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Notice Concerning Usage of XStream

Copyright (c) 2003-2006, Joe Walnes

Copyright (c) 2006-2007, XStream Committers

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of

---

conditions and the following disclaimer. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of XStream nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

## Notice Concerning Usage of YUI

Copyright © 2012 Yahoo! Inc. All rights reserved.

Redistribution and use of this software in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- \* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

- \* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- \* Neither the name of Yahoo! Inc. nor the names of YUI's contributors may be used to endorse or promote products derived from this software without specific prior written permission of Yahoo! Inc.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.