

Oracle® Communications Data Model

Installation Guide

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Preface

The *Oracle Communications Data Model Installation Guide* describes how to install and configure Oracle Communications Data Model.

[Audience](#) (page vii)

[Related Documents](#) (page vii)

[Conventions](#) (page vii)

Audience

This guide is intended for anyone responsible for installing Oracle Communications Data Model on a supported operating system platform.

Installation of Oracle Communications Data Model requires basic knowledge of Oracle Database, Oracle OLAP, Oracle Data Mining, and Oracle Business Intelligence Suite Enterprise Edition.

Related Documents

For more information about Oracle Communications Data Model, see the following documents in the Oracle Communications Data Model documentation set:

- *Oracle Communications Data Model Implementation and Operations Guide*
- *Oracle Communications Data Model Reference*
- *Oracle Communications Data Model Release Notes*
- *Oracle Communications Data Model Adapters and Analytics Installation Guide*
- *Oracle Communications Data Model Adapters and Analytics User's Guide*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	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.

Convention	Meaning
<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.

Hardware and Software Requirements

Describes the hardware and software requirements of Oracle Communications Data Model:

Before you install Oracle Communications Data Model, you must verify that all hardware and software requirements are met.

[Supported Platforms for Oracle Database 12.1](#) (page 1-1)

[Hardware Requirements](#) (page 1-2)

Specifies the minimum hardware requirements for Oracle Communications Data Model.

[Software Requirements](#) (page 1-2)

Specifies the minimum software requirements for Oracle Communications Data Model.

1.1 Supported Platforms for Oracle Database 12.1

Oracle Communications Data Model is supported on the following platforms with Oracle Database 12.1. For each platform, the given operating system version or later versions are required:

- HP-UX Itanium 11.31
- Linux x86-64
 - Oracle Linux 5
 - Oracle Linux 6
 - Red Hat Enterprise Linux 5
 - Red Hat Enterprise Linux 6
 - Linux x86-64 SLES 11
- Oracle Solaris on SPARC (64-bit)
 - Oracle Solaris on SPARC (64-bit) 10 Update 10+
 - Oracle Solaris on SPARC (64-bit) 11 Update 7.5+
- Oracle Solaris on x86-64 (64-bit)
 - Oracle Solaris on x86-64 (64-bit) 10 Update 10+
 - Oracle Solaris on x86-64 (64-bit) 11 Update 7.5+
- IBM AIX on POWER Systems (64-bit)

- AIX 6.1 64-bit kernel
- AIX 7.1 64-bit kernel
- IBM: Linux on System z
 - Linux on System z SLES 11
 - Linux on System z Red Hat Enterprise Linux 6
 - Linux on System z Red Hat Enterprise Linux 5

1.2 Hardware Requirements

Specifies the minimum hardware requirements for Oracle Communications Data Model.

The Oracle Database installation guide for your platform includes procedures for checking that your installation meets the hardware and operating system requirements for Oracle Database.

Additionally, for a complete installation of Oracle Communications Data Model, the minimum hardware requirement is disk space of at least 10 GB.

The minimum hardware requirement for Oracle Communications Data Model Sample Reports installation is disk space of at least 25 GB.

1.3 Software Requirements

Specifies the minimum software requirements for Oracle Communications Data Model.

The minimum software requirements for Oracle Communications Data Model are as follows:

- Operating System: For details of supported platforms, see “[Supported Platforms](#) (page 1-1)”.

Note:

The recommended patches and software versions are accurate as of product release. For the latest recommendations for database supported platforms, see <https://support.oracle.com/>.

Oracle Database Requirements (page 1-3)

Specifies Oracle Database requirements for Oracle Communications Data Model installation.

Oracle Business Intelligence Suite Enterprise Edition (page 1-3)

Oracle Business Intelligence Suite Enterprise Edition 11g (11.1.1.7 or later). This is optional for installing Oracle Communications Data Model and the reports, but is required to view and use the reports.

1.3.1 Oracle Database Requirements

Specifies Oracle Database requirements for Oracle Communications Data Model installation.

Oracle Communications Data Model installation requires one of the following Oracle Database releases:

- Oracle Database 12c Release 1 (12.1) Enterprise Edition (12.1.0.1 or later)
- Oracle Database 11g Release 2 Enterprise Edition (11.2.0.3 or later)

Installation of the Oracle Communications Data Model component requires the following database options:

- Oracle Partitioning
- Oracle Online Analytical Processing (OLAP)
- Oracle Data Mining (for Oracle Database 12c Release 1 Oracle Advanced Analytics option)

Tip:

To confirm that you have Oracle Data Mining and OLAP options installed, follow the instructions outlined in “[Confirming that Oracle Data Mining and OLAP Options are Installed](#) (page 3-2)”.

Note:

When you install Oracle Database ensure that the database character set is Unicode (AL32UTF8) to support multilanguage installations; Oracle Communications Data Model supports the installation of English and nine other languages.

After you download and install the database, upgrade to the latest patch. Patches are available from My Oracle Support at the following location:

<http://support.oracle.com>

1.3.2 Oracle Business Intelligence Suite Enterprise Edition

Oracle Business Intelligence Suite Enterprise Edition 11g (11.1.1.7 or later). This is optional for installing Oracle Communications Data Model and the reports, but is required to view and use the reports.

You must install Oracle Business Intelligence Suite Enterprise Edition to view and to use the Oracle Communications Data Model reports (Oracle Business Intelligence Suite Enterprise Edition is not required for the installation of the Oracle

Communications Data Model component and the installation of Oracle Communications Data Model Reports is valid without Oracle Business Intelligence Suite Enterprise Edition installed).

Oracle Business Intelligence Suite Enterprise Edition 11.1.1.7 can be downloaded from the "Oracle Business Intelligence 11g downloads" link on Oracle Technology Network at:

<http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/downloads/index.html>

Installation instructions are included in the documentation.

Introduction to Oracle Communications Data Model Installation

Describes how to install Oracle Communications Data Model and other components you use to create an Oracle Communications Data Model data warehouse.

Using the Oracle Universal Installer you can perform different types of Oracle Communications Data Model installation.

[Types of Installations Provided for Oracle Communications Data Model](#) (page 2-1)

Specifies the types of installation you can perform with the Oracle Communications Data Model installer.

[Overview of the Installation Process](#) (page 2-3)

Provides an overview of the installation steps, including preinstallation tasks, running the installer, and postinstallation tasks.

[Documentation Accessibility](#) (page 2-4)

[Postinstallation Tasks](#) (page 2-4)

Describes the postinstallation tasks that you perform after you install Oracle Communications Data Model, as appropriate for your particular installation.

[Preinstallation Tasks](#) (page 2-4)

Describes the preinstallation tasks.

[Performing Predeinstallation Tasks](#) (page 2-4)

2.1 Types of Installations Provided for Oracle Communications Data Model

Specifies the types of installation you can perform with the Oracle Communications Data Model installer.

Using the Oracle Universal Installer you can perform two types of Oracle Communications Data Model installation:

- Installation of the Oracle Communications Data Model component. You *must* install this component to create an Oracle Communications Data Model data warehouse.
- Installation of reports and schemas that you can use for ideas about how to design your own reports. Installing the reports is optional.

Different items are installed depending on whether you install the database objects or the reports.

Communications Data Model Installation

When you perform a **Communications Data Model** installation of Oracle Communications Data Model, the Oracle Universal Installer installs the Oracle Communications Data Model component without data. Specifically, the installer creates the following schema in the target database:

- `ocdm_sys` which is the main schema for Oracle Communications Data Model. This schema contains all the relational and OLAP components of Oracle Communications Data Model, including the Oracle Communications Data Model data mining tables. This schema also contains all the mining components of Oracle Communications Data Model.

See Also:

For detailed information about all created objects in the `ocdm_sys` schema, see the *Oracle Communications Data Model Reference*.

There is no data in this schema. You need to populate data into the schema.

Sample Reports Installation

When you perform a **Sample Reports** installation of the Oracle Communications Data Model, the installer creates the Oracle Communications Data Model sample schema in the target database. Specifically, the installer installs:

- The following files that provide the data for the reports:
 - `ocdm_sample.dmp.zip` which is a dump file of the schemas that contain the sample data for the relational and data mining components of Oracle Communications Data Model.

Tip:

The default user name for the schema is `ocdm_sample`.

- The following files that define and create the sample reports:
 - `ocdm.rpd`
 - `ocdmwebcat.zip`

Oracle Communications Data Model Home Directory Structure

The installation image contains the following directories under `ORACLE_HOME/ocdm`:

- `adons`: when you install Add-ons, this directory contains the files required for the selected optional adapters or analytics subproducts.
- `report`: which contains the sample report files for Oracle Communications Data Model installation.
- `utl`: which contains metadata and TM Forum KPI information. The TM Forum provides business-critical industry standards and expertise to enable the creation, delivery, and monetization of digital services. For more information on TM Forum, see

<http://www.tmforum.org/>

- pdm: which contains the physical schema dump, creation scripts, and lookup value population in subdirectories:

Table 2-1 PDM directory subdirectories

Subdirectory	Description
relational	Relational schema installation scripts and relational related files
relational/ddl/ocdm/calendar	Calendar data population package
relational/ddl	Relational schema installation scripts
relational/flexible_hierarchy	Flexible hierarchy scripts
relational//ddl/ocdm/intra_etl	Intra-ETL and related files
relational/sample_schema	Physical sample schema
mining	Data mining scripts and related files
olap	OLAP scripts and related files

2.2 Overview of the Installation Process

Provides an overview of the installation steps, including preinstallation tasks, running the installer, and postinstallation tasks.

1. Read *Oracle Communications Data Model Release Notes* to identify any last minute changes.
2. Verify that your system is one of the supported platforms and that it satisfies the hardware and software requirements as described in [Hardware and Software Requirements](#) (page 1-1).
3. Identify and perform any necessary preinstallation tasks, as described in [Preinstallation Tasks](#) (page 3-1).
4. Install the Oracle Communications Data Model component or the Oracle Communications Data Model reports as described in [Running the Installer](#) (page 3-8).

Tip:

You can also perform a silent installation, see [Installing Using a Silent Installation](#) (page 3-20) for more information.

5. Identify and perform any necessary postinstallation tasks, as described in [PostInstallation Tasks](#) (page 3-11).
6. Install the additional components that you need to create an Oracle Communications Data Model data warehouse or run the reports, as described in [Installation of Additional Components](#) (page 4-1)

Note:

To deinstall Oracle Communications Data Model, follow the directions in [Backup Recovery and Deinstallation of Oracle Communications Data Model](#) (page 5-1)

Note:

You *must* deinstall Oracle Communications Data Model before you reinstall it over an existing version of Oracle Communications Data Model.

2.3 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

2.4 Postinstallation Tasks

Describes the postinstallation tasks that you perform after you install Oracle Communications Data Model, as appropriate for your particular installation.

After you install Oracle Communications Data Model, perform the following steps as appropriate for your particular installation:

After performing these tasks, install other components that are required for your particular Oracle Communications Data Model warehouse, as described in [Installation of Additional Components](#) (page 4-1)

2.5 Preinstallation Tasks

Describes the preinstallation tasks.

Before you install the Oracle Communications Data Model, perform the following tasks:

- Back up the Oracle Database.
- Perform the preinstallation steps:

2.6 Performing Predeinstallation Tasks

The deinstallation script removes the `ocdm_sys` schema. Consequently, before you run the deinstallation script, ensure that there are no active sessions that connect to the `ocdm_sys` schema.

Identifying if the ocdm_sys schema is active

To identify if there are active sessions connecting to the schema take the following steps:

1. Sign in as DBA.
2. Execute the following SQL statements:

```
select SID,SERIAL# from v$session where USERNAME='OCDM_SYS';
```

If this query returns a session ID, then there is an active session.

Example 2-1 Ending an active ocdm_sys schema session

To end an active session execute the following statement in which you replace *sid* and *serial* that are the session ID and serial number returned by the earlier queries.

```
alter system kill session 'sid,serial' ;
```

Installation of Oracle Communications Data Model

Describes how to install Oracle Communications Data Model.

Describes the installation tasks, including:

[Preinstallation Tasks](#) (page 3-1)

Describes the preinstallation tasks.

[Running the Installer](#) (page 3-8)

Describes the steps required to install Oracle Communications Data Model.

[Postinstallation Tasks](#) (page 3-11)

Describes the postinstallation tasks that you perform after you install Oracle Communications Data Model, as appropriate for your particular installation.

[Installing Using a Silent Installation](#) (page 3-20)

Describes running the installer using silent installation.

3.1 Preinstallation Tasks

Describes the preinstallation tasks.

Before you install the Oracle Communications Data Model, perform the following tasks:

- Back up the Oracle Database.
- Perform the preinstallation steps:

[Ensuring Required Software is Installed](#) (page 3-2)

Describes the steps to ensure that the software required for Oracle Communications Data Model is installed.

[Changing the Default Value for the Maximum for the PROCESSES Initialization Parameter](#) (page 3-3)

Set the maximum PROCESSES initialization parameter.

[Changing the Maximum Data Files \(db_files\) Option](#) (page 3-4)

Describes increasing the maximum number of data files with `db_files` parameter.

[Disabling Oracle Database Vault](#) (page 3-4)

Describes the steps to disable the Database Vault option.

[Ensuring a Value is Set for the Service Name](#) (page 3-6)

Ensure that the `tnsnames.ora` file includes a value for `SERVICE_NAME`.

3.1.1 Ensuring Required Software is Installed

Describes the steps to ensure that the software required for Oracle Communications Data Model is installed.

As discussed in “[Software Requirements](#) (page 1-2)”, you must have certain software installed before you can successfully install the Oracle Communications Data Model component or the Oracle Communications Data Model sample data and reports.

Before you install Oracle Communications Data Model take the following steps to ensure that for each type of installation, the required software is installed:

[Confirming that Oracle Data Mining and OLAP Options are Installed](#) (page 3-2)

Before you install Oracle Communications Data Model, confirm that the required database options are installed for Data Mining and OLAP.

[Confirming that Oracle Business Intelligence Suite Enterprise Edition is Installed](#) (page 3-3)

Before you install the sample data and reports for Oracle Communications Data Model, confirm that Oracle Business Intelligence Suite Enterprise Edition is installed.

[Confirming that Oracle Business Intelligence Developer Client Tools Installer is Installed](#) (page 3-3)

Describes how to confirm that Oracle Business Intelligence Developer Client Tools Installer is installed.

3.1.1.1 Confirming that Oracle Data Mining and OLAP Options are Installed

Before you install Oracle Communications Data Model, confirm that the required database options are installed for Data Mining and OLAP.

To check that the Oracle Data Mining and OLAP options are installed, log in as SYS and enter the following SQL queries:

```
SELECT VALUE FROM V$OPTION WHERE PARAMETER = 'Data Mining' ;  
SELECT VALUE FROM V$OPTION WHERE PARAMETER = 'OLAP' ;
```

If these queries return TRUE, the options are installed.

3.1.1.2 Confirming that Oracle Business Intelligence Suite Enterprise Edition is Installed

Before you install the sample data and reports for Oracle Communications Data Model, confirm that Oracle Business Intelligence Suite Enterprise Edition is installed.

To test that Oracle Business Intelligence Suite Enterprise Edition is installed, open the following link in a browser.

```
http://hostname:7001/analytics
```

The sample Oracle Business Intelligence Suite Enterprise Edition login window is displayed.

If Oracle Business Intelligence Suite Enterprise Edition is not installed, see “[Oracle Business Intelligence Suite Enterprise Edition](#) (page 1-3)”.

Note:

The 7001 value in the link is the value of the default Oracle Business Intelligence Suite Enterprise Edition port; if you specified a different port when you installed Oracle Business Intelligence Suite Enterprise Edition, use the value for that port.

3.1.1.3 Confirming that Oracle Business Intelligence Developer Client Tools Installer is Installed

Describes how to confirm that Oracle Business Intelligence Developer Client Tools Installer is Installed.

Select the version of Oracle Business Intelligence Developer Client Tools Installer according to the version of Oracle Business Intelligence Suite Enterprise Edition. For example, if the version of Oracle Business Intelligence Suite Enterprise Edition is 11.1.1.7.0, then select Oracle Business Intelligence Developer Client Tools Installer version is 11.1.1.7.0.

For more information, see:

<http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/downloads/bus-intelligence-11g-165436.html>

3.1.2 Changing the Default Value for the Maximum for the PROCESSES Initialization Parameter

Set the maximum PROCESSES initialization parameter.

Oracle Communications Data Model requires that the initial value for the PROCESSES initialization parameter be set to a value greater than the default database installation value.

How to determine the current value for the PROCESSES parameter

To determine the current value for the maximum `processes` parameter, log in to the Oracle Database as DBA, and then execute the following SQL statement:

```
show parameter processes;
```

How to change the value for the maximum processes

To change the value for the maximum `processes`, issue the following statements. Depending on your database options, the value specified for `processes` should be set to a minimum value greater than or equal to 250.

```
alter system set processes=250 scope=spfile;
shutdown immediate
startup
```

3.1.3 Changing the Maximum Data Files (`db_files`) Option

Describes increasing the maximum number of data files with `db_files` parameter.

Oracle Communications Data Model supports the partition of transaction-related fact tables according to your data volume estimation. You can specify the start year, end year and then the transaction related fact tables are partitioned by the date as one partition for each month.

In order to support the partition of transaction-related fact tables, you might need a different value for the maximum number of data files that is presently specified for the database.

How to determine the value for maximum number of data files

Use the following formula to determine the value that you need for the maximum number of data files:

```
Maximum Datafiles = Default Value + 300 + ((End year) - (Start year) + 1) * 12
```

How to determine the current value for the maximum number of data files

To determine the current value for the maximum number of data files, log in to the Oracle Database as DBA, and then execute the following SQL statement.

```
show parameter db_files
```

In the results for this statement, the `value` column shows the current maximum number of data files.

How to change the value for the maximum number of data files

To change the value for the maximum number of data files, issue the following statements where `new_number` is the new value that you want to specify.

```
alter system set db_files = new_number scope = spfile;
shutdown immediate
startup
```

3.1.4 Disabling Oracle Database Vault

Describes the steps to disable the Database Vault option.

The Oracle Communications Data Model installer requires additional steps on a Vault-enabled database. For an Oracle Database with the Oracle Database Vault enabled, take the following steps to disable Oracle Database Vault before you install Oracle Communications Data Model.

To find out if the Oracle Database is Vault-enabled, do the following:

```
SELECT * FROM V$OPTION WHERE PARAMETER = 'Oracle Database Vault';
```

If this command returns true, then the Oracle Database Vault is enabled.

To disable the Oracle Database Vault, do the following:

1. On UNIX systems, ensure that the environment variables, `ORACLE_HOME`, `ORACLE_SID`, and `PATH` are correctly set.
2. Log in to SQL*Plus as user `SYS` with the `SYSOPER` privilege.
3. Shut down the database.
4. From the command line, stop the Database Control console process and the listener. For example:

```
sqlplus sys as sysoper
Enter password: password
SQL> SHUTDOWN IMMEDIATE
SQL> EXIT
$ emctl stop dbconsole
$ lsnrctl stop listener_name
```

For Oracle RAC installations, shut down each database instance as follows:

```
$ srvctl stop database -d db_name
```

5. Disable Oracle Database Vault with the following commands (this is a UNIX system example):

```
cd $ORACLE_HOME/rdbms/lib
make -f ins_rdbms.mk dv_off
cd $ORACLE_HOME/bin
relink all
```

For Oracle RAC installations, run these commands on all nodes.

6. Startup the Oracle Database, Database Control console process, and listener. For example, on UNIX systems, log in to SQL*Plus as user `SYS` with the `SYSOPER` privilege and restart the database. Then from the command line, restart the Database Control console process and listener. For example:

```
sqlplus sys as sysoper
Enter password: password
SQL> STARTUP
SQL> EXIT
$ emctl start dbconsole
$ lsnrctl start listener_name
```

For Oracle RAC installations, restart each database instance as follows:

```
$ srvctl start database -d db_name
```

After you have installed Oracle Communications Data Model, you reenable Oracle Database Vault, as described in “[Reenabling Oracle Database Vault](#) (page 3-16)”.

For more information, see *Oracle Database Vault Administrator’s Guide*.

3.1.5 Ensuring a Value is Set for the Service Name

Ensure that the `tnsnames.ora` file includes a value for `SERVICE_NAME`.

In a Non Oracle RAC Environment

- **In a Non Multitenant Environment**

Ensure that in `tnsnames.ora` the service name is provided. To check and modify `tnsnames.ora`, perform the following steps:

1. Go to the directory: `$ORACLE_HOME/network/admin`
2. Edit `tnsnames.ora` to make sure the `SERVICE_NAME` value is provided. For example:

```
orcl= (DESCRIPTION =
      (ADDRESS = (PROTOCOL = TCP)(HOST = example.oracle.com)(PORT = 1521))
      (CONNECT_DATA = (SERVER = DEDICATED) (SERVICE_NAME = orcl) ) )
```

- **In a Multitenant Environment**

In a multitenant environment, every container, root or pluggable has its own service name and you need to use the PDB container for application users. While installing the data model you need to provide the service name of the pluggable database (PDB).

You must manually add the PDB entry in the `tnsnames.ora` before proceeding with the install:

1. Go to the directory: `$ORACLE_HOME/network/admin`
2. Edit `tnsnames.ora` to ensure the `SERVICE_NAME` value is provided. For example:

```
PDBORCL12 = (DESCRIPTION =
            (ADDRESS = (PROTOCOL = TCP)(HOST = localhost)(PORT = 1522))
            (CONNECT_DATA = (SERVER = DEDICATED)
                          (SERVICE_NAME = pdborcl12. example.com) ) )
```

To create the entry using the description in `tnsnames.ora` for the connection to the CDB, copy the CDB entry and then modify the copied CDB entry as the PDB entry.

In an Oracle RAC Environment

The important difference compared with other Oracle RAC service name configuration settings is to use a specific host name, not a Single Client Access Name (SCAN).

Note, although a specific host is used, Oracle Communications Data Model will be installed to all nodes.

- **In a Non Multitenant Environment**

Ensure that in `tnsnames.ora` the service name is provided. To check and modify `tnsnames.ora`, perform the following steps:

1. Go to the directory: `$ORACLE_HOME/network/admin`.

2. Edit `tnsnames.ora` to add an entry to the specific host to use with the actual host name, not the scanname. For example, Two Oracle RAC nodes(`example00eax`, `example00eay`), the scanname is `example00eaxy-scn`. and OUI will start on node `example00eax`. The original tns information, for example is:

```
CSOCDM=
  (DESCRIPTION=
    (ADDRESS = (PROTOCOL =TCP)(HOST=example00eaxy-scn)(PORT=1521))
    (CONNECT_DATA =
      (SERVER =DEDICATED)
      (SERVICE_NAME =csocdm.us.oracle.com)
    )
  )
```

Then add an entry specific to host `example00eax`.

```
example00eax=
  (DESCRIPTION=
    (ADDRESS = (PROTOCOL =TCP)(HOST=example00eax)(PORT=1521))
    (CONNECT_DATA =
      (SERVER =DEDICATED)
      (SERVICE_NAME =csocdm.us.oracle.com)
    )
  )
```

Use `example00eax` as the service name to install Oracle Communications Data Model. No change is required to node `example00eay`.

- **In a Multitenant Environment**

In a multitenant environment, every container, root or pluggable, has its own service name and you need to use the PDB container for application users. While installing the data model you need to provide the service name of the pluggable database (PDB).

You must manually add the PDB entry in the `tnsnames.ora` before proceeding with the install:

1. Go to the directory: `$ORACLE_HOME/network/admin`
2. Edit `tnsnames.ora` to ensure the `SERVICE_NAME` value is provided. For example:

```
example00eax = (DESCRIPTION =
  (ADDRESS = (PROTOCOL = TCP)(HOST =example00eax)(PORT = 1521))
  (CONNECT_DATA = (SERVER = DEDICATED)
  (SERVICE_NAME = pdborcl12. example.com) ) )
```

To create the entry using the description in `tnsnames.ora` for the connection to the CDB, copy the CDB entry and then modify the copied CDB entry as the PDB entry. Note, use actual host name(`HOST =example00eax`) not the scanname, for example: `example00eaxy-scn`.

Only the tns of the host where OUI starts needs to update the `tnsnames.ora`, the other `tnsnames.ora` files at other nodes are not required to be changed.

3.2 Running the Installer

Describes the steps required to install Oracle Communications Data Model.

Before you install Oracle Communications Data Model, perform the necessary preinstallation tasks described in [“Preinstallation Tasks \(page 3-1\)”](#).

Note:

You must install Oracle Communications Data Model on the localhost where the database server is located. You can determine the value of your localhost by issuing the following command where *db_name* is the name of your Oracle database.

```
tnsname db_name
```

Follow these steps to install Oracle Communications Data Model:

1. Log in using the user ID that you plan to use to run the installation. You should use the same user ID to install Oracle Communications Data Model as used to install the Oracle Database and Oracle Business Intelligence Suite Enterprise Edition.
2. Set the `ORACLE_HOME` environment variable to the location of the database where you want to install Oracle Communications Data Model.

For example, suppose Oracle Home is in the directory `/loc/app/oracle/product/dbhome`

In a Bourne, Bash, or Korn shell, use these commands to set `ORACLE_HOME`:

```
$ ORACLE_HOME=/loc/app/oracle/product/dbhome  
$ export ORACLE_HOME
```

In a C shell, use this command to set `ORACLE_HOME`:

```
% setenv ORACLE_HOME /loc/app/oracle/product/dbhome
```

3. Start the installer from the directory that contains the Oracle Communications Data Model installation files:

```
cd directory-containing-OCDM_installation-files  
./runInstaller
```

4. The **Welcome** page is displayed. Click **Next**.
5. In the **Select Installation Type** page, select the type of Oracle Communications Data Model installation that you want to perform:
 - If you want to install the Oracle Communications Data Model component, select **Communications Data Model**. Making this selection performs the installation as described in [“Communications Data Model Installation \(page 2-2\)”](#).
 - If you want to install the Oracle Communications Data Model reports and sample data, select **Sample Reports**. Making this selection performs the installation as described in [“Sample Reports Installation \(page 2-2\)”](#).

Oracle Communications Data Model supports English and 9 other languages. To add support for one language in addition to English, click **Product Languages** and select the language.

Click **Next**.

6. In the **Specify Home Details** page, verify that the **Name** and **Path** correspond to the database in which you want to install Oracle Communications Data Model. You can click **Browse** to navigate to any valid local data file path.

Click **Next**.

7. In the **Product-Specific Prerequisite Checks** page, if one or more items are flagged, manually verify that your environment meets the minimum requirements. For details about performing this manual verification, click the flagged item and review the details in the box at the bottom of the page.

When the status of all items are checked as **Succeeded**, click **Next**.

8. In the **Specify Database Connection Information** page, provide the following information:

- Select the **Net Service Name** which is the alias used for a connect descriptor to connect to the Oracle Database where the Data Model will be installed.

Note:

In a multitenant environment, select PDB as the Net Service Name, not CDB. For example, use `pdborc1` for the Net Service Name.

Tip:

A net service name is a simple name for a service that resolves to a connect descriptor. Net service names are populated from the *OracleHome/network/admin/tnsnames.ora* file.

- Enter the **Password for SYSTEM user** of the Oracle Database where Oracle Communications Data Model will be installed.

Click **Next**.

9. The **Specify OCDM Schema Information** page is displayed when you select to install the component, **Communications Data Model**. In this dialog specify where all the data files that correspond to the Oracle Communications Data Model tablespace should reside:

- If you do *not* want to use the Automatic Storage Management (ASM) feature in Oracle Database, but instead want to explicitly specify a folder name, select **File System** and enter a folder name. You can click **Browse** to navigate to any valid local data file path.

Click **Next**.

- If you have stored your Oracle database files using the Automatic Storage Management (ASM) feature, and you also want store Oracle Communications Data Model data files using ASM, select **Automatic Storage Management (ASM)**.

Click **Next**.

In the **Select ASM Disk Group** page, select the disk group in which you want to install the Oracle Communications Data Model data files.

Click **Next**.

10. The **Specify OCDM Sample Schema Information** page displays when you select to install the **Sample Reports**. In this dialog you specify where all the data files that correspond to the Oracle Communications Data Model sample schemas should reside:

- If you do *not* want to use the Automatic Storage Management (ASM) feature in Oracle Database, but instead want to explicitly specify a folder name, select **File System** and enter a folder name. You can click **Browse** to navigate to any valid local data file path.

Click **Next**.

- If you have stored your Oracle database files using the Automatic Storage Management (ASM) feature, and you also want store Oracle Communications Data Model data files using ASM, select **Automatic Storage Management (ASM)**.

Click **Next**.

In the **Select ASM Disk Group** page, select the disk group in which you want to install the Oracle Communications Data Model data files.

Click **Next**. When you install the sample reports, the next page shows the installer Summary that summarizes the information that you specified, as shown in step 13 (page 3-11).

11. In the **Specify Calendar Date Range** page, specify the calendar date range by providing values for **Start Date** and **Number of Years**. The installer uses this information to populate the calendar data. A recommended **Number of Years** value is 15 years. Specifying larger **Number of Years** values proportionally increases the time it takes to implement the partitioning portion of Oracle Communications Data Model install activity. The start year specified with **Start Date** should be the lowest possible dates from your historical data load (lowest possible CDR date typically). There is no easy method to incrementally extend the time dimension, so your initial choice for **Number of Years** should be specified to meet your needs for a reasonably long time.

Start Date must be in the format YYYY-MM-DD; for example, 2011-01-01 stands for January 1, 2011. **Number of Years** must be a whole number.

Note:

These calendar dates have nothing to do with the number of years you will effectively keep the data. The calendar as such is totally independent of the Information Lifecycle Management process you may use.

Click **Next**.

12. In the **Specify Partitions for reference and base tables** page, specify the number of Second Level hash partitions for each entity, Organization, Customer, Access Method, Account, and Agreement. Specify a value for each field. If you enter an

invalid value the installer shows a dialog displaying the valid values. For each value you specify, you should choose a value that is a power of 2 (for example: 4, 8, 16, 32, 64 and so on).

Click **Next**.

13. The installer summarizes the information that you specified. Check that this information is correct. If necessary, click **Back** to return to previous screens and make corrections. When you are satisfied with the information, click **Install**.
14. The Oracle Communications Data Model component or sample reports are installed. If there are any problems, messages are displayed. After the installation finishes, the end of installation screen appears. Click **Exit** to exit the installer.

After you exit the installer, perform any necessary postinstallation tasks described in [PostInstallation Tasks](#) (page 3-11). Then install the other components that you need to create an Oracle Communications Data Model warehouse, as described in [Installation of Additional Components](#) (page 4-1).

3.3 Postinstallation Tasks

Describes the postinstallation tasks that you perform after you install Oracle Communications Data Model, as appropriate for your particular installation.

After you install Oracle Communications Data Model, perform the following steps as appropriate for your particular installation:

After performing these tasks, install other components that are required for your particular Oracle Communications Data Model warehouse, as described in [Installation of Additional Components](#) (page 4-1)

[Obtain IP Patch](#) (page 3-12)

Describes the postinstallation step to obtain the IP Patch. The IP Patch includes additional documentation.

[Unlocking the OCDM_SYS, OCDM_USER, OCDM_REPORT Accounts](#) (page 3-12)

Describes steps to unlock the OCDM_SYS, OCDM_USER, OCDM_REPORT accounts.

[Postinstallation for Sample Reports](#) (page 3-12)

If you installed the sample reports, you need to also perform several postinstallation steps.

[Configuring the Working OLAP Environment](#) (page 3-15)

Describes steps required to configure a working OLAP environment.

[Running OLAP Builds to Load Data into Analytical Workspace](#) (page 3-15)

Perform these steps to load data into the Oracle Communications Data Model OLAP Analytical Workspace (depending on your hardware and

configuration, the total expected time to complete these steps may be up to one hour).

[Reenabling Oracle Database Vault](#) (page 3-16)

If you want to enable Oracle Database Vault and you disabled it before installation, then follow these steps to reenable Oracle Database Vault.

[Ensuring Oracle Communications Data Model Objects are Valid](#) (page 3-17)

Describes steps required to recompile to ensure that the Oracle Communications Data Model objects are valid.

[Configuring Oracle Data Miner Repository](#) (page 3-17)

If you want to use Oracle Data Miner with Oracle Communications Data Model to perform data mining, verify that the Oracle Data Miner Repository is available in the database instance and configure Oracle Communications Data Model for Oracle Data Miner.

[Ensuring PGA_AGGREGATE_TARGET is Set to the Proper Value](#) (page 3-20)

Describes the steps to change the values specified for PGA_AGGREGATE_TARGET and WORKAREA_SIZE_POLICY.

3.3.1 Obtain IP Patch

Describes the postinstallation step to obtain the IP Patch. The IP Patch includes additional documentation.

1. To obtain the IP Patch and for the latest information about Oracle Communications Data Model patch sets, go to My Oracle Support at <https://support.oracle.com>

3.3.2 Unlocking the OCDM_SYS, OCDM_USER, OCDM_REPORT Accounts

Describes steps to unlock the OCDM_SYS, OCDM_USER, OCDM_REPORT accounts.

After running the installer the OCDM_SYS , OCDM_USER , OCDM_REPORT accounts are locked. To unlock these accounts:

1. Log in to the database as DBA.
2. Unlock these accounts by issuing the following SQL statements.

```
alter user ocdm_sys account unlock;  
alter user ocdm_user account unlock;  
alter user ocdm_report account unlock;
```

3.3.3 Postinstallation for Sample Reports

If you installed the sample reports, you need to also perform several postinstallation steps.

If you installed the Oracle Communications Data Model sample reports, then perform the following steps:.

[Unlocking the OCDM_SAMPLE Account](#) (page 3-13)

Describes steps to unlock the OCDM_SAMPLE account.

[Limiting User Privileges When You Install Sample Reports](#) (page 3-13)

By default, when you perform a Sample Reports installation, the sample reports connect to OCDM_SYS schema directly. To grant only select privileges for sample reports perform these steps.

[Installing RPD and Web Catalog for Oracle Business Intelligence Suite Enterprise Edition](#) (page 3-13)

Describes installing the RPD file and deploying the Web Catalog.

3.3.3.1 Unlocking the OCDM_SAMPLE Account

Describes steps to unlock the OCDM_SAMPLE account.

After installing the Oracle Communications Data Model sample reports, the OCDM_SAMPLE account is locked. To unlock this account:

1. Log in to the database as DBA.
2. Unlock the account by issuing the following SQL statement.

```
alter user ocdm_sample account unlock identified by password;
```

3.3.3.2 Limiting User Privileges When You Install Sample Reports

By default, when you perform a Sample Reports installation, the sample reports connect to OCDM_SYS schema directly. To grant only select privileges for sample reports perform these steps.

By default, when you perform a Sample Reports installation, the sample reports connect to OCDM_SYS schema directly. For security reasons, you may want to grant only select privileges to users who will be working with the sample reports.

1. Create a dedicated reporting user (for example, OCDM_Report).
2. Grant select privilege for all Oracle Communications Data Model tables required for reporting to the user you created in Step 1. The easy way is to grant the select privilege for all Oracle Communications Data Model tables, which start with one of the following prefixes: DWA, DWB, DWD, DWR, DWL.
3. Create a view (or synonym) in OCDM_REPORT schema, pointing to the OCDM_SYS tables.
4. In the Oracle Business Intelligence Suite Enterprise Edition repository, change the connection information to point to the new schema.

3.3.3.3 Installing RPD and Web Catalog for Oracle Business Intelligence Suite Enterprise Edition

Describes installing the RPD file and deploying the Web Catalog.

If you installed the Oracle Communications Data Model Oracle sample reports, you need to deploy the Oracle Communications Data Model RPD and Web Catalog on the Business Intelligence Suite Enterprise Edition 11g instance. For more information on deploying RPD and Web Catalog in BIEE, see *Oracle Fusion Middleware System Administrator's Guide for Oracle Business Intelligence Enterprise Edition*.

After you use the installer to install the sample reports, you can find the RPD file and the Web Catalog file in the \$ORACLE_HOME/ocdm/report directory:

ocdm.rpd
ocdmwebcat.zip

Unzip the Web Catalog

Before you deploy the Web Catalog, you need to unzip ocdmwebcat.zip.

Update the RPD Connection Pool

Do the following to update the RPD connection pool:

1. Open Oracle Business Intelligence Developer Client Tools and select File->Open->Offline...,
Browse to locate \$ORACLE_HOME/ocdm/report/ocdm.rpd
2. Double click **Connection Pool** in ODWT at the Physical layer.
3. Update the Host, Port, Service and User name to point to Oracle Communications Data Model schema.

Note:

In addition, follow steps 2 and 3 to update the connection pool in OCDM_OLAP at the Physical layer.

4. Click **OK** to exit and then click **Save**.
5. Test the connection pool to check that it is successfully configured. Right click a table, such as DWA_ACCT_DEBT_MO in the ODWT.OCDM_SYS. Select, **Update Row Count**. If no errors are reported then the connection pool is successfully configured.

Deploy the RPD and Web Catalog

Perform the following steps to deploy the Oracle Communications Data Model RPD and Web Catalog.

1. Use your browser to open the weblogic Enterprise Manager portal:

`http://SERVERNAME:7001/em`

Log in with the weblogic admin ID and password.

From the Business Intelligence tab select coreapplication, then select **Deployment** and click **Repository**. Next deploy the RPD and Web Catalog.

Note:

When you deploy the RPD you need to provide an RPD password. Contact Oracle Support to obtain a temporary RPD password.

2. Use your browser to open the weblogic console portal:

`http://SERVERNAME:7001/console/login/LoginForm.jsp`

Log in with your weblogic admin ID and password. Go to your security realm and create a user named `ocdm` and set a password for this user.

3. Follow the instructions to "Refreshing User GUIDs" to update the GUIDs. For more information, see *Oracle Fusion Middleware Security Guide for Oracle Business Intelligence Enterprise Edition*.

3.3.4 Configuring the Working OLAP Environment

Describes steps required to configure a working OLAP environment.

To set up a working OLAP environment for an Oracle Communications Data Model warehouse, configure the database with the following parameter and configuration settings:

- Set `sga_target` to 35% of available memory.
- Set `pga_aggregate_target` to 35% of available memory
- Set `olap_page_pool_size=0`. (This specifies dynamic page pool.)
- Set `_olap_page_pool_hi=30` (that is, lower than default of 50).
- Set `_olap_parallel_update_threshold` and `_olap_parallel_update_small_threshold` to a high value (for example, ~2Gb. . 2147483647). These settings turn off parallel update for the analytic workspace.
- Set `memory_max_target` to value greater than SGA and PGA settings. This is the maximum amount of memory used for both SGA and PGA. The SGA and PGA settings specified are the minimum settings. (Note that failure to set `memory_max_target` leads to failure of instance startup (the next time these settings are validated which occurs if `spfile` had an older and distinct setting for `memory_max_target`).

The following statements illustrate changing these settings.

```
alter system set sga_target=1365M scope=spfile;
alter system set pga_aggregate_target=1365M scope=spfile;
alter system set memory_max_target=3030M scope=spfile;
alter system set olap_page_pool_size=0 scope=spfile;
alter system set "_olap_parallel_update_small_threshold"=2147483647 scope=spfile;
alter system set "_olap_page_pool_hi"=30 scope=spfile;
alter system set job_queue_processes=5 scope=spfile;
shutdown immediate;
startup;
```

3.3.5 Running OLAP Builds to Load Data into Analytical Workspace

Perform these steps to load data into the Oracle Communications Data Model OLAP Analytical Workspace (depending on your hardware and configuration, the total expected time to complete these steps may be up to one hour).

The Oracle Communications Data Model Sample Reports installation loads an empty Analytical Workspace named `OCDM` into the sample schema `ocdm_sample`. You must load the sample schema data into the empty OLAP Analytical Workspace before you can run the reports or view data in the sample reports.

Note:

The Non-OLAP sample reports such as the data mining related sample reports and relational sample reports work without performing these OLAP Analytic Workspace steps.

1. Login to `ocdm_sample` schema through SQL*Plus or SQL Developer.
2. Run the procedure `pkg_ocdm_olap_etl_aw_load.run`.

```
SQL>begin
      pkg_ocdm_olap_etl_aw_load.run;
      end;
      /
SQL>
```

This load typically completes in 30-35 minutes (usually in less than one hour).

3. After the load completes, check the log table `dwc_olap_activity`.

```
SQL> select cubename,load_status,error_dtl from dwc_olap_activity order by
      cubename;
      /
SQL>
```

The result should be similar to the following:

```
ACM COMPLETED-SUCCESS
ADM COMPLETED-SUCCESS
AGRMNT COMPLETED-SUCCESS
APM COMPLETED-SUCCESS
CCM COMPLETED-SUCCESS
CHRN COMPLETED-SUCCESS
CMSN COMPLETED-SUCCESS
COM COMPLETED-SUCCESS
CSM COMPLETED-SUCCESS
IAM COMPLETED-SUCCESS
INV COMPLETED-SUCCESS
INVCM COMPLETED-SUCCESS
RVN COMPLETED-SUCCESS
SLS COMPLETED-SUCCESS
```

4. The Oracle Communications Data Model OLAP Analytical Workspace is now successfully loaded with the data in the underlying schema.

3.3.6 Reenabling Oracle Database Vault

If you want to enable Oracle Database Vault and you disabled it before installation, then follow these steps to reenabling Oracle Database Vault.

If you are using the Oracle Database Vault and you disabled it before installation as described in “[Disabling Oracle Database Vault](#) (page 3-4)”, reenabling Oracle Database Vault by performing the following steps:

1. Shutdown the database, Database Control console process, and listener. For example on UNIX systems, ensure that the environment variables, `ORACLE_HOME`, `ORACLE_SID`, and `PATH` are correctly set. Log in to SQL*Plus as user `SYS` with the `SYSOPER` privilege and shut down the database. Then from the command line, stop the Database Control console process and listener. For example:

```

sqlplus sys as sysoper
Enter password: password
SQL> SHUTDOWN IMMEDIATE
SQL> EXIT
$ emctl stop dbconsole
$ lsnrctl stop listener_name

```

For Oracle RAC installations, shut down each database instance as follows:

```
$ srvctl stop database -d db_name
```

2. Enable Oracle Database Vault.

```

cd $ORACLE_HOME/rdbms/lib
make -f ins_rdbms.mk dv_on
make -f ins_rdbms.mk ioracle

```

3. Startup the Oracle Database, Database Control console process, and listener. For example, on UNIX systems, log in to SQL*Plus as user SYS with the SYSOPER privilege and restart the database. Then from the command line, restart the Database Control console process and listener. For example:

```

sqlplus sys as sysoper
Enter password: password
SQL> STARTUP
SQL> EXIT
$ emctl start dbconsole
$ lsnrctl start listener_name

```

For Oracle RAC installations, restart each database instance as follows:

```
$ srvctl start database -d db_name
```

4. For Oracle RAC installations, repeat these steps for each node on which the database is installed.

For more information, see *Oracle Database Vault Administrator's Guide*.

3.3.7 Ensuring Oracle Communications Data Model Objects are Valid

Describes steps required to recompile to ensure that the Oracle Communications Data Model objects are valid.

1. To ensure that all Oracle Communications Data Model objects are valid, log in to the database as DBA and recompile all objects in `ocdm_sys` by issuing the following SQL statements:

```
exec utl_recomp.recomp_serial('OCDM_SYS');
```

3.3.8 Configuring Oracle Data Miner Repository

If you want to use Oracle Data Miner with Oracle Communications Data Model to perform data mining, verify that the Oracle Data Miner Repository is available in the database instance and configure Oracle Communications Data Model for Oracle Data Miner.

1. Check that Oracle Data Miner Repository is installed in the database instance by running the following command as a user with SYSDBA privileges:

```
SELECT SUM(CASE WHEN username = 'ODMRSYS' THEN 1 ELSE 0 END ) AS schema_cnt FROM
dba_users;
```

2. If `schema_cnt` is 0 after this command, then Oracle Data Miner Repository is not in the database. Install Oracle Data Miner Repository using SQL Developer Version 4.1.0.19 or higher. When you unzip the downloaded SQL Developer, it creates the `sqldeveloper` directory. After installation the Oracle Data Miner scripts and the readme files are in the directory `sqldeveloper\dataminer\scripts`.

SQL Developer is available at the site: <http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/index.html>

3. If `schema_cnt` is 1, then Oracle Data Miner Repository exists in the database. The minimum version required is 12.1.0.2.3. To verify the version of Oracle Data Miner Repository, run the following command as a user with SYSDBA privileges:

```
SELECT property_str_value AS version
FROM odmrsys.odmr_repository_properties
WHERE property_name= 'VERSION';
```

4. If the version is equal to 12.1.0.2.3 or higher, then requirements fulfilled.
5. If version is lower than 12.1.0.2.3, upgrade the existing Oracle Data Miner Repository to 12.1.0.2.3 or higher. Upgrade Oracle Data Miner Repository using SQL Developer version 4.1.0.19 (<http://www.oracle.com/technetwork/developer-tools/sql-developer/downloads/index.html>). When you unzip the downloaded SQL Developer, it creates `sqldeveloper` directory. You can find Data Miner scripts and readme under `sqldeveloper\dataminer\scripts` directory
1. After the 12.1.0.2.3 or a higher version of Oracle Data Miner Repository is installed, grant privileges on Oracle Data Miner Repository to Oracle Communications Data Model schema (OCDM_SYS). Replace `sqldeveloper_home` with the absolute path of SQL Developer home and then execute following command as a user with SYSDBA privileges:

```
@<sqldeveloper_home>/sqldeveloper/dataminer/scripts/usergrants.sql OCDM_SYS
```

2. Grant following privileges to OCDM_SYS schema:

```
GRANT
    CREATE TABLE,
    CREATE VIEW,
    CREATE MINING MODEL,
    CREATE PROCEDURE,
    CREATE SEQUENCE,
    CREATE TYPE,
    CREATE SYNONYM,
    CREATE ANY INDEX,
    CREATE JOB,
    CREATE RULE,
    CREATE RULE SET,
    CREATE EVALUATION CONTEXT,
    CREATE SESSION
    TO ocdm_sys;

GRANT EXECUTE ON sys.dbms_random TO ocdm_sys;
GRANT EXECUTE ON ctx_ddl TO ocdm_sys;
GRANT EXECUTE ON ctxsys.ctx_ddl TO ocdm_sys;
GRANT CTXAPP TO ocdm_sys;
GRANT EXECUTE ON sys.dbms_lock TO ocdm_sys;

GRANT EXECUTE ON odmrsys.odmr_workflow TO ocdm_sys;
```

```
GRANT SELECT ON odmrsys.odmr_messages TO ocdm_sys;
GRANT SELECT ON odmrsys.odmr_user_project_workflow TO ocdm_sys;
GRANT SELECT ON odmrsys.odmr_user_workflow_all TO ocdm_sys;
GRANT SELECT ON odmrsys.odmr_user_workflow_log TO ocdm_sys;
GRANT SELECT ON odmrsys.odmr_user_workflow_nodes TO ocdm_sys;
GRANT SELECT ON odmrsys.odmr_user_workflow_models TO ocdm_sys;
GRANT SELECT ON odmrsys.odmr_user_wf_clas_test_results TO ocdm_sys;
GRANT SELECT ON odmrsys.odmr_user_wf_regr_test_results TO ocdm_sys;
GRANT SELECT ON odmrsys.odmr_user_wf_test_results TO ocdm_sys;
```

3. Create a database directory pointing to Oracle Data Miner workflow xml files. Replace <\${ORACLE_HOME}> with the absolute path of your database home and then execute the following command as a user with SYSDBA privileges:

```
CREATE DIRECTORY ocdm_odm_workflow_dir AS '<${ORACLE_HOME}>/ocdm/pdm/mining/src/odmr_gui_files/odmr_workflow_xml';
```

4. Grant read, write privileges on database directory *ocdm_odm_workflow_dir* to Oracle Communications Data Model schema (OCDM_SYS). Execute the following command as a user with SYSDBA privileges:

```
GRANT READ, WRITE ON DIRECTORY ocdm_odm_workflow_dir TO ocdm_sys;
```

5. Create Oracle Data Miner utility package for Oracle Communications Data Model mining. Replace <\${ORACLE_HOME} with absolute path of your database home and then execute following command as OCDM_SYS user: conn ocdm_sys/schema password> @<\${ORACLE_HOME} schema password> @<\${ORACLE_HOME} >/ocdm/pdm/mining/src/odmr_gui_files/pkg_ocdm_mining_odmr_util.sql;

6. Restart SQL Developer. Then, import Oracle Communications Data Model Oracle Data Miner workflows into OCDM_SYS schema. Replace <\${ORACLE_HOME}> with the absolute path of your database home and then execute following command as **OCDM_SYS** user:

```
conn ocdm_sys/<schema password>@<${ORACLE_HOME}>/ocdm/pdm/mining/src/odmr_gui_files/ocdm_import_odm_workflow.sql;
```

7. In SQL Developer, open Oracle Data Miner connections, add a connection to OCDM_SYS schema. Open the connection to see the Oracle Data Miner project (for OCDM Data Mining_12.1.0.1) and check the following six workflows:

- prepaid_churn_dt_and_svm
- postpaid_churn_dt_and_svm
- customer_segmentation_kmeans
- customer_ltv_srvl_val_glmr
- customer_sentiment_svm
- target_promotion_svm

Check the status of the workflows execution.

[Oracle Communications Data Model Implementation and Operations Guide](#)

3.3.9 Ensuring PGA_AGGREGATE_TARGET is Set to the Proper Value

Describes the steps to change the values specified for PGA_AGGREGATE_TARGET and WORKAREA_SIZE_POLICY.

For good performance, you need to ensure that the PGA_AGGREGATE_TARGET is set to the proper value which depends on the physical RAM of your Database Server. You also need to ensure that the WORKAREA_SIZE_POLICY parameter is set to AUTO.

See Also:

For information on tuning the PGA_AGGREGATE_TARGET initialization parameter, see *Oracle Database Performance Tuning Guide*.

Note:

Setting PGA_AGGREGATE_TARGET to a nonzero value has the effect of automatically setting the WORKAREA_SIZE_POLICY parameter to AUTO.

3.4 Installing Using a Silent Installation

Describes running the installer using silent installation.

A silent installation has no graphical output and no input by the user. It is accomplished by supplying Oracle Universal Installer with a response file and specifying the `-silent` flag on the command line. Use silent installation when you want the same installation parameter on more than one computer.

Selecting a Response File (page 3-21)

Before performing a silent installation you must provide information specific to your installation in a response file.

Editing the Response File (page 3-21)

Use any text editor to edit the response file to include information specific to your system.

Specifying a Response File and Starting the Installation (page 3-22)

Specifies the command line parameters to start a silent installation.

Silent Installation Log Files (page 3-22)

Running a silent installation creates several log files in the /oraInventory/logs directory.

Security Tips for Silent Installation (page 3-22)

Specifies security tips for silent installation permissions on response files and information about removing response files.

Error Handling for Silent Installation (page 3-22)

Specifies details on error handling while running the installer silently.

3.4.1 Selecting a Response File

Before performing a silent installation you must provide information specific to your installation in a response file.

The installer fails if you attempt to perform a silent installation using a response file that is not configured correctly. Response files are text files that you can create or edit in a text editor. The response file `cdm.rsp` is located in the `/response` directory (located in the directory that contains the Oracle Communications Data Model installation files). Edit the response file according to your requirements for silent installation. To use a response file, first copy it to your system.

Note:

You must install Oracle Communications Data Model on the localhost where the database server is located. You can determine the value of your localhost by issuing the following command where `db_name` is the name of your Oracle database.

```
tnsname db_name
```

3.4.2 Editing the Response File

Use any text editor to edit the response file to include information specific to your system.

You must specify values for variables in your response file. Each variable listed in the response file is associated with a comment, which identifies the variable type. For example:

```
string = "Sample Value"  
Boolean = True or False  
Number = 1000  
StringList = {"StringValue 1", "StringValue 2"}
```

The values that are given as *<Value Required>* must be specified for silent installation. Remove the comment from the variable values in the response file before starting the Oracle Communications Data Model installation.

3.4.3 Specifying a Response File and Starting the Installation

Specifies the command line parameters to start a silent installation.

Before you specify a response file, ensure that all values in the response file are correct. To make Oracle Universal Installer use the response file at installation time, specify the location of the response file as a parameter when starting Oracle Universal Installer. To perform a silent installation, use the `-silent` parameter as follows:

```
./runInstaller -silent -responseFile absolute_path_and_filename
```

Caution:

During installation, response files may be copied to subdirectories in the Oracle home. If you have provided passwords or other sensitive information in your response files, then for security purposes you should delete them after completing and verifying the installation.

3.4.4 Silent Installation Log Files

Running a silent installation creates several log files in the `/oraInventory/logs` directory.

The success or failure of silent installations is logged in the `installActions.log` file. Additionally, the silent installation creates the `silentInstall.log` file. The log files are created in the `/oraInventory/logs` directory. The `silentInstallDate_Time.log` file contains the following line if the installation was successful:

```
The installation of Oracle Communications Data Model was successful.
```

The corresponding `installActionsDate_Time.log` file contains specific information regarding installation.

3.4.5 Security Tips for Silent Installation

Specifies security tips for silent installation permissions on response files and information about removing response files.

The response file contains the installation password in clear text. To minimize security issues, follow these guidelines:

- Set the permissions on the response files so that they are readable only by the operating system user performing the silent installation.
- If possible, remove the response files from the system after the silent installation is completed.

3.4.6 Error Handling for Silent Installation

Specifies details on error handling while running the installer silently.

Values for variables that are of the wrong context, format, or type are treated as if no value were specified. Variables that are outside any section are ignored. If you attempt

a silent installation with an incorrect or incomplete response file, or if Oracle Universal Installer encounters an error, such as insufficient disk space, then the installation will fail.

Installation of Additional Components

Describes how to install Oracle components that you did not need to install before you installed the Oracle Communications Data Model component or sample reports, but that you will use when you create an Oracle Communications Data Model data warehouse:

Additional Oracle components for Oracle Communications Data Model.

[Install Oracle Business Intelligence Suite Enterprise Edition Catalog](#) (page 4-1)
Provides details on Oracle Communications Data Model usage of the Oracle Business Intelligence Suite Enterprise Edition for modifying reports.

[Install Analytic Workspace Manager](#) (page 4-2)
Although not required before you install Oracle Communications Data Model, you need to install the Analytic Workspace Manager to view and modify Oracle Communications Data Model OLAP cubes.

4.1 Install Oracle Business Intelligence Suite Enterprise Edition Catalog

Provides details on Oracle Communications Data Model usage of the Oracle Business Intelligence Suite Enterprise Edition for modifying reports.

The sample reports provided with Oracle Communications Data Model are created using the Oracle Business Intelligence Suite Enterprise Edition. In order to modify these reports or to use them as the basis for creating new reports you must have installed Oracle Business Intelligence Suite Enterprise Edition and have created an Oracle Business Intelligence Suite Enterprise Edition catalog for Oracle Communications Data Model.

Installing Oracle Business Intelligence Suite Enterprise Edition

If you installed Oracle Communications Data Model sample reports, you installed Oracle Business Intelligence Suite Enterprise Edition as a preinstallation step before you ran the installer. If you installed the Oracle Communications Data Model component rather than the sample reports, then install Oracle Business Intelligence Suite Enterprise Edition by following the instructions given in "[Oracle Business Intelligence Suite Enterprise Edition](#) (page 1-3)".

You also need to add the catalog.

Tip:

To check that Oracle Business Intelligence Suite Enterprise Edition is installed, follow the instructions in "[Confirming that Oracle Business Intelligence Suite Enterprise Edition is Installed](#) (page 3-3)".

See Also

[“Installing RPD and Web Catalog for Oracle Business Intelligence Suite Enterprise Edition \(page 3-13\)”](#).

4.2 Install Analytic Workspace Manager

Although not required before you install Oracle Communications Data Model, you need to install the Analytic Workspace Manager to view and modify Oracle Communications Data Model OLAP cubes.

Analytic Workspace Manager 11g is installed as a standalone product.

The latest version of Analytic Workspace Manager is available at the Oracle OLAP home page at

<http://www.oracle.com/technetwork/database/options/olap/index.html>

Installation instructions are included in the documentation.

Backup, Recovery, and Deinstallation of Oracle Communications Data Model

Describes the deinstallation steps for Oracle Communications Data Model.

Includes information on backing up and recovering Oracle Communications Data Model and steps for deinstalling.

[Backing Up and Recovering Oracle Communications Data Model](#) (page 5-1)

[Overview: Deinstalling Oracle Communications Data Model](#) (page 5-2)

[Performing Preinstallation Tasks](#) (page 5-2)

[Running the Deinstallation Script](#) (page 5-2)

Describes the steps to run the Oracle Communications Data Model deinstallation script.

[Performing Post-Deinstallation Tasks](#) (page 5-3)

5.1 Backing Up and Recovering Oracle Communications Data Model

Backing up and recovering Oracle Communications Data Model involves:

[Exporting Oracle Communications Data Model](#) (page 5-1)

[Importing Oracle Communications Data Model](#) (page 5-1)

5.1.1 Exporting Oracle Communications Data Model

Do the following to backup Oracle Communications Data Model:

- Backup the `OCDM_SYS` schema by executing the `expdp` utility.

This utility exports all physical tables containing the data, any OLAP analytical workspaces, and trained mining models. For more information, see *Oracle Database Utilities*.

5.1.2 Importing Oracle Communications Data Model

Do the following to restore Oracle Communications Data Model from the backup files:

- Restore the `OCDM_SYS` schema by executing the `impdp` utility.

This utility imports all physical tables containing the data, OLAP analytical workspaces, and trained mining models. For more information, see *Oracle Database Utilities*.

5.2 Overview: Deinstalling Oracle Communications Data Model

To deinstall Oracle Communications Data Model, you do *not* simply run Oracle Universal Installer in deinstall mode. Instead, you perform the following tasks:

1. Backup Oracle Communications Data Model, as described in “[Exporting Oracle Communications Data Model](#) (page 5-1)”.
2. Stop any sessions that use the Oracle Communications Data Model schemas, as described in “[Performing Preinstallation Tasks](#) (page 5-2)”.
3. Execute the deinstallation script, as described in “[Executing the Deinstallation Script](#) (page 5-2)”.
4. If you are deinstalling the sample reports, perform the tasks described in “[Performing Post-Deinstallation Tasks](#) (page 5-3)”.

Note:

To deinstall Oracle Communications Data Model, you do *not* simply run the Oracle Universal Installer in deinstall mode.

5.3 Performing Preinstallation Tasks

The deinstallation script removes the `ocdm_sys` schema. Consequently, before you run the deinstallation script, ensure that there are no active sessions that connect to the `ocdm_sys` schema.

Identifying if the `ocdm_sys` schema is active

To identify if there are active sessions connecting to the schema take the following steps:

1. Sign in as DBA.
2. Execute the following SQL statements:

```
select SID,SERIAL# from v$session where USERNAME='OCDM_SYS';
```

If this query returns a session ID, then there is an active session.

Example 5-1 *Ending an active `ocdm_sys` schema session*

To end an active session execute the following statement in which you replace *sid* and *serial* that are the session ID and serial number returned by the earlier queries.

```
alter system kill session 'sid,serial' ;
```

5.4 Running the Deinstallation Script

Describes the steps to run the Oracle Communications Data Model deinstallation script.

1. Set the `ORACLE_HOME` to the location of the database on which to deinstall Oracle Communications Data Model.

For example, suppose that Oracle Home is in the directory `/loc/app/oracle/product/dbhome`

In a Bourne, Bash, or Korn shell, use these commands to set `ORACLE_HOME`:

```
$ ORACLE_HOME=/loc/app/oracle/product/dbhome
$ export ORACLE_HOME
```

In a C shell, use this command to set `ORACLE_HOME`

```
% setenv ORACLE_HOME /loc/app/oracle/product/dbhome
```

2. Execute the Oracle Communications Data Model deinstallation script:

```
$ORACLE_HOME/ocdm/ocdm_deinstall.sh
```

3. When prompted, enter the `SYSTEM` password.

The script deconfigures Oracle Communications Data Model and executes the Oracle Universal Installer in deinstall silent mode.

If you are deinstalling the sample reports, after the deinstallation script runs, perform the tasks described in [“Performing Post-Deinstallation Tasks \(page 5-3\)”](#).

5.5 Performing Post-Deinstallation Tasks

If you are deinstalling the Oracle Communications Data Model sample reports, follow these steps to perform additional cleanup:

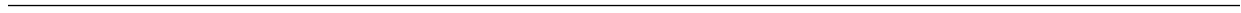
1. Delete `ocdm.rpd` in the directory `BIHome/instances/instance1/bifoundation/OracleBIServerComponent/coreapplication_obis1/repository`.
2. Delete the `ocdmwebcat` folder in `BIHome/instances/instance1/bifoundation/OracleBIPresentationServicesComponent/coreapplication_obips1/catalog`.
3. Delete the following line from `BIHome/instances/instance1/config/OracleBIServerComponent/coreapplication_obis1/NQSConfig.INI`:

```
Star      =      ocdm.rpd, DEFAULT
```

License Information

Table A-1 License Information

Product	Subproduct	Licensing Description
Oracle Communications Data Model	Oracle Communications Data Model	<p>Oracle Communications Data Model is a standards-based, pre-built approach to communications data warehousing enabling a communications company to realize the power of insight more quickly.</p> <p>Oracle Communications Data Model includes the following:</p> <ul style="list-style-type: none"> • Communications industry specific data model conformance certified with TM Forum's Information Framework (SID). • Physical implementation of the data model consisting of a foundation layer in third-normal-form schema, as well as dimensional models leveraging star schemas and OLAP cubes. • Automatic data movement (intra-ETL) to populate the dimensional models based on data from the foundation layer. • Pre-defined data mining models for churn prediction, churn factors, customer segmentation, customer sentiment, and others. • Pre-built sample reports and dashboards. <p>Prerequisites: Oracle Communications Data Model requires the use of other Oracle software, which must be licensed separately. Please contact your Oracle sales representative for additional information.</p>



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