

**Oracle® Communications
Pricing Design Center**

Installation and System Administration Guide

Release 11.2

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Preface

This guide provides instructions for installing and administering Oracle Communications Pricing Design Center (PDC) 11.2 and 11.2 patch sets.

- If PDC is not already installed, install the complete PDC software. See "[Installing Pricing Design Center Complete Software](#)".
- If PDC 11.1 is already installed, upgrade the existing PDC installation to PDC 11.2 or the PDC 11.2 patch set. See "[Upgrading Pricing Design Center Software](#)".
- If PDC 11.2 is already installed, install the PDC 11.2 patch set on the existing PDC 11.2 installation. See "[Upgrading Pricing Design Center Software](#)".

Audience

This document is intended for system administrators, database administrators, and developers who install and configure PDC.

Before reading this guide, you should have familiarity with PDC. See *PDC User's Guide* for more information.

PDC requires Oracle Database and Oracle WebLogic Server. See the documentation for those products for installation and configuration instructions.

Downloading Oracle Communications Documentation

Product documentation is located on Oracle Help Center:

<http://docs.oracle.com>

Additional Oracle Communications documentation is available from the Oracle software delivery Web site:

<https://edelivery.oracle.com>

Related Documents

For step-by-step instructions for tasks that you perform in PDC, log in to PDC and see the PDC Online Help.

Documentation Accessibility

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Document Revision History

The following table lists the revision history for this guide:

Version	Date	Description
E97175-02	November 2018	The following chapters are updated: <ul style="list-style-type: none">■ Pricing Design Center System Requirements■ Pricing Design Center Pre-Installation Tasks■ Installing Pricing Design Center Complete Software■ Upgrading Pricing Design Center Software■ Pricing Design Center Post-Installation Tasks

Pricing Design Center Installation Overview

This chapter provides an overview of the installation procedure for Oracle Communications Pricing Design Center (PDC) 11.2 or PDC 11.2 patch sets.

Overview of PDC 11.2 Installation

You can install PDC 11.2 or PDC 11.2 patch sets either as a complete installation or on a previous PDC installation.

Overview of the PDC Complete Software Installation Procedure

The following is an outline of the installation procedure for the PDC complete software:

1. Plan your installation. Planning your installation involves:
 - Determining the scale of your implementation (for example, is it a small test system or a large production system?)
 - Assessing how many physical computers you need and which software components to install on which computers
 - Planning the system topology
2. Review system requirements.
3. Perform the following pre-installation tasks:
 - Install and configure Oracle Database
 - Install and configure Oracle WebLogic Server
 - Install and configure Oracle Communications Billing and Revenue Management (BRM)

See "[Pricing Design Center System Requirements](#)" for the compatible version of BRM and the corresponding *BRM 7.5 Patch Set Installation Guide* for installing BRM.
 - Install Java Runtime Environment (JRE)/Java Development Kit (JDK)
 - If you are using Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating, install ECE.

See "[Pricing Design Center System Requirements](#)" for the compatible version of ECE and *ECE Installation Guide* for installing ECE.
4. Install the complete PDC software. For instructions, see "[Installing Pricing Design Center Complete Software](#)".

5. Perform the post-installation configuration tasks.
6. Verify the installation.

Overview of the PDC Upgrade Procedure

The following is an outline of the installation procedure for the PDC upgrade:

1. Plan your installation.
2. Review system requirements.
3. Perform the following pre-installation tasks:
 - Shut down the current instance.
 - Back up your existing PDC installation.
 - If you are using Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating, install the compatible version of ECE.

See ["Pricing Design Center System Requirements"](#) for the compatible version of ECE and *ECE Installation Guide* for installing ECE.
 - Install the compatible version of BRM.

See ["Pricing Design Center System Requirements"](#) for the compatible version of BRM and the corresponding *BRM 7.5 Patch Set Installation Guide* for installing BRM.
 - Install the recommended version of JRE/JDK.
 - Upgrade WebLogic Server to the recommended version.
 - Enable the SSL Port for the WebLogic Server domain.
 - Upgrade Oracle Application Development Runtime to the recommended version.
4. Install PDC 11.2 or the PDC 11.2 patch set on the existing installation. For instructions, see ["Upgrading Pricing Design Center Software"](#).
5. Perform the post-installation configuration tasks.
6. Verify the installation.

Overview of the PDC Patch Set Installation

The following is an outline of the installation procedure for the PDC upgrade:

1. Plan your installation.
2. Review system requirements.
3. Perform the following pre-installation tasks:
 - Shut down the current instance.
 - Back up your existing PDC installation.
 - If you are using Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating, install the compatible version of ECE.

See ["Pricing Design Center System Requirements"](#) for the compatible version of ECE and *ECE Installation Guide* for installing ECE.

- Install the compatible version of BRM.
See ["Pricing Design Center System Requirements"](#) for the compatible version of BRM and the corresponding *BRM 7.5 Patch Set Installation Guide* for installing BRM.
- 4. Install the PDC 11.2 patch set on the existing installation.
You can use the upgrade instructions to install the PDC 11.2 patch set on the existing PDC 11.2 installation. For instructions, see ["Upgrading Pricing Design Center Software"](#).
- 5. Perform the post-installation configuration tasks.
- 6. Verify the installation.

Ensuring a Successful PDC Installation

Oracle recommends that the installation and configuration of the Oracle database be performed by an experienced database administrator.

To ensure that the PDC installation is successful, follow these guidelines:

- As you install each component (for example, the Oracle Database and WebLogic Server), verify that the component installed successfully before continuing the installation process.
- Pay close attention to the system requirements. Before you begin installing the application, ensure that your system has the required base software. In addition, ensure that you know all the required configuration values, such as host names and port numbers.
- Make a note of any new configuration values as you create them. You will be required to enter configuration values later in the procedure.

Pricing Design Center System Requirements

This chapter describes the software and hardware requirements for installing Oracle Communications Pricing Design Center (PDC) 11.2.

Software Requirements

PDC is an application that is deployed in an Oracle WebLogic Server domain. You must install and connect all required software for optimal performance.

Supported Operating Systems

Table 2–1 lists operating systems supported for PDC.

Note: PDC 11.2 patch set server components do not support any 32-bit server operating systems.

Table 2–1 PDC Operating Systems Requirements

Product	Version
Oracle Linux, x86-64 (64bit) Important: To protect from security vulnerabilities, ensure you apply the latest Critical Patch Updates. See PDC is certified on OL 5 and 6 and you should regularly apply the latest patch set for OL 5 and 6 to ensure that your running OL has the latest security fixes.	6 UL6+ 7 UL2+
Red Hat Enterprise Linux, x86-64 (64bit) Important: To protect from security vulnerabilities, ensure you apply the latest Critical Patch Updates. See PDC is certified on RHEL 5 and 6 and you should regularly apply the latest patch set for RHEL 5 and 6 to ensure that your running RHEL has the latest security fixes.	6 UL6+ 7 UL2+
Oracle Solaris for SPARC (64bit)	10 Update 4+ 11 Update 3+

Additional Software Requirements

Table 2–2 lists software required for running PDC.

Table 2–2 PDC Software Requirements

Product	Version	Disk Space
Oracle WebLogic Server 12c Standard Edition or Enterprise Edition	12.2.1.3.0 with the following patches: <ul style="list-style-type: none"> 26626168 27010571 	1 GB
Oracle Fusion Middleware 12c Application Development Framework	12.2.1.3.0	1 GB
Oracle Database 12c Enterprise Edition	12c Release 1 (12.1.0.2.0) 12c Release 2 (12.2.0.1.0)	1.2 GB
Oracle Communications Billing and Revenue Management (BRM) on Linux x86 or x86-64 or Solaris SPARC (64bit)	For PDC 11.2: <ul style="list-style-type: none"> 7.5 with Patch Set 21 (27603295) For PDC 11.2 Patch Set 1: <ul style="list-style-type: none"> 7.5 with Patch Set 22 (28377280) 	BRM server: 300 MB BRM database: 2 to 5 GB per 10,000 customers per year. This requirement varies greatly with the number of accounts and the amount of activity.
BRM Elastic Charging Engine (ECE)	For PDC 11.2: <ul style="list-style-type: none"> 11.3 with Patch Set 8 (28133198) For PDC 11.2 Patch Set 1: <ul style="list-style-type: none"> 11.3 with Patch Set 9 (28738541) 	N/A
Internet Browser	<ul style="list-style-type: none"> Microsoft Internet Explorer 11 on Windows 10 Mozilla Firefox 38 or 52 	N/A
Java Important: To protect from security vulnerabilities, ensure that you apply the latest critical patch updates. See "About Critical Patch Updates" . PDC is certified on JDK8 and you should regularly apply the latest patch set for JDK8 to ensure that JDK contains the latest security fixes.	JDK 1.8.0_172 (with heap size of minimum 500 MB)	N/A

The PDC Installer checks for all required software and displays errors if it detects any missing or unavailable components.

Note: For details on how to download a required software component, see the appropriate section of this guide.

About Critical Patch Updates

You should install all Critical Patch Updates as soon as possible. To download Critical Patch Updates, find out about security alerts, and enable email notifications about Critical Patch Updates, see the Security topic on Oracle Help Center:

<http://www.oracle.com/technetwork/topics/security/whatsnew/index.html>

Hardware Requirements

The number and configuration of the computers that you employ for your PDC installation depend on the scale and the kind of deployment you have planned according to your networks.

Table 2–3 provides the minimal hardware requirement for PDC installed on a single managed server in a WebLogic Server domain.

Table 2–3 PDC Minimum Hardware Requirements

Component	Requirement
Hard disk	1.5 GB of free disk space Note: A minimum of 1.5 GB should be free in the Oracle WebLogic Server domain home.
Processor	Oracle recommends using twin cores, each running at 1.5 GHz CPU.
Memory	A minimum of 4 GB physical memory and 4 GB swap. If you plan to have the database installed on the same server as PDC, the minimum memory requirements increase to 6 GB physical memory and 6 GB swap.

Information Requirements

This section describes the information that you will be required to provide during the PDC installation procedure. You define some of these configuration values when you install and configure Oracle Database and WebLogic Server.

Important: Oracle recommends that you print the tables and record the values for future reference.

If you are installing PDC 11.2 on an existing PDC installation, use the values that you provided during the PDC 11.1 installation.

PDC Installation Details

Table 2–4 lists the PDC installation details that are required if you are installing PDC 11.2 on an existing PDC installation.

Table 2–4 PDC Installation Details

Field	Description	Value
Name	The name of the PDC 11.1 installation.	-
Path	The path to the PDC 11.1 installation directory.	-

Pricing Design Center WebLogic Server Connection Information

Table 2–5 lists the details for the WebLogic Server domain (the domain on which you deploy PDC) that are required during the PDC software installation.

Table 2–5 Pricing Design Center WebLogic Server Connection Information

Field	Description	Value
Host Name	The IP address or the host name of the machine on which the WebLogic Server domain is configured.	-
Port Number	The port number assigned to the WebLogic Server domain administration server.	-
User Name	The WebLogic Server domain administrator user name.	-
Password	The WebLogic Server domain administrator user password.	-
WebLogic Home	The path of the directory in which the WebLogic Server software is installed. For example, <i>MW_home/wlserver</i> , where <i>MW_home</i> is the directory in which the Oracle Middleware components are installed.	-
KeyStore Location	(For upgrade only) The path to the client-side keystore file generated from the exported public certificate using the keytool utility.	-

PDC Database Connection Information

Table 2–6 lists PDC database details that are required if you want to create the PDC user during the PDC software installation.

Table 2–6 PDC Database Connection Information

Field	Description	Value
Host Name	The IP address or the host name of the machine on which the PDC database is configured.	-
Port Number	The port number assigned to the PDC database service.	-
User Name	The PDC database user name. This user should be the SYSDBA user or should have the following capabilities on the PDC database: grant create user, grant any role, grant any privilege, select any table to <i>username</i> , and grant dba to <i>username</i> .	-
Password	The database user password.	-
Service Name	The name of the PDC database service.	-

PDC Schema Information

Table 2–7 lists the tablespace details that are required if you want to create the PDC schema user during the PDC software installation.

Table 2–7 PDC Schema Information for New User

Field	Description	Value
User Name	The name of the PDC schema user.	-
Password	The password of the PDC schema user.	-
PDC Tablespace	The name of the tablespace for the PDC schema. This field is case-sensitive.	-

Table 2–7 (Cont.) PDC Schema Information for New User

Field	Description	Value
Temp Tablespace	The name of the temporary tablespace for the PDC schema. This field is case-sensitive.	-

Table 2–8 lists the tablespace details that are required if you want to use the existing PDC schema user for the PDC software installation.

Table 2–8 PDC Schema Information for Existing User

Field	Description	Value
Host Name	The IP address or the host name of the machine on which the PDC database is configured.	-
Port Number	The port number assigned to the PDC database service.	-
Service Name	The name of the PDC database service.	-
User Name	The name of the PDC schema user.	-
Password	The password of the PDC schema user.	-

PDC User Information

Table 2–9 lists the PDC user details that are required.

Table 2–9 PDC User Information

Field	Description	Value
User Name	The name of the PDC user.	-
Password	The password of the PDC user.	-

Keystore Credentials Information

Table 2–10 lists keystore credentials details that are required if you are installing PDC 11.2 on an existing PDC installation.

Table 2–10 Keystore Credentials Information

Field	Description	Value
Key Password	The password PDC uses for accessing the PDC alias key in the keystores (<i>PDC_home/apps/conf/pdc.jks</i> , where <i>PDC_home</i> is the directory in which PDC is installed, and <i>BRM_Integration_Pack_home/apps/conf/pdc.jks</i> , <i>BRM_Integration_Pack_home</i> is the directory in which BRM Integration Pack is installed).	-
Keystore Password	The password used for accessing the keystore.	-

BRM Integration Pack Installation Details

Table 2–11 lists the BRM Integration Pack installation details that are required if you are installing PDC 11.2 on an existing PDC installation.

Table 2–11 BRM Integration Pack Installation Details

Field	Description	Value
Name	The name of the PDC 11.1 BRM Integration Pack installation.	-
Path	The path to the PDC 11.1 BRM Integration Pack directory.	-

BRM Server Information

Table 2–12 lists the BRM server details that are required during the PDC BRM Integration Pack installation.

Table 2–12 BRM Server Information

Field	Description	Value
BRM	The path to the directory in which BRM is installed. The path is defined in the \$PIN_HOME environment variable.	-
BRM Pipeline	The path to the directory in which Pipeline Manager is installed. The path is defined in the \$IFW_HOME environment variable.	-
Perl Home	The path to the directory in which the Perl libraries for BRM are installed.	-

BRM Pipeline Manager Database Information

Table 2–13 lists the Pipeline Manager database details that are required during the PDC BRM Integration Pack installation.

Table 2–13 BRM Pipeline Database Information

Field	Description	Value
Host Name	The IP address or the host name of the machine on which the BRM pipeline database is configured.	-
Port Number	The port number assigned to the BRM pipeline database service.	-
User Name	The BRM pipeline database schema user name.	-
Password	The BRM pipeline database schema user password.	-
Service Name	The name of the BRM pipeline database service.	-

Transformation Cross-Reference Database Information

Table 2–14 lists transformation cross-reference database details that are required if you want to create the transformation cross-reference schema user during the PDC BRM Integration Pack installation.

Table 2–14 Transformation Cross-Reference Database Information

Field	Description	Value
Hostname	The IP address or the host name of the machine on which the transformation cross-reference database is configured.	-
Port number	The port number assigned to the transformation cross-reference database service.	-
User name	The transformation cross-reference database user name. This user should be the SYSDBA user or should have the following capabilities on the PDC database: grant create user, grant any role, grant any privilege, select any table to <i>username</i> , and grant dba to <i>username</i> .	-
Password	The transformation cross-reference database user password.	-
Service Name	The name of the transformation cross-reference database service.	-

Transformation Cross-Reference Schema Information

[Table 2–15](#) lists the tablespace details that are required if you want to create the transformation cross-reference schema user during the PDC BRM Integration Pack installation.

Table 2–15 Transformation Cross-Reference Schema Information for New User

Field	Description	Value
User Name	The name of the transformation cross-reference schema user.	-
Password	The password of the transformation cross-reference schema user.	-
PDC Tablespace	The name of the PDC tablespace for the transformation cross-reference schema. This field is case-sensitive.	-
Temp Tablespace	The name of the temporary tablespace for the transformation cross-reference schema. This field is case-sensitive.	-

[Table 2–16](#) lists the tablespace details that are required if you want to use the existing transformation cross-reference schema user during the PDC BRM Integration Pack installation.

Table 2–16 Transformation Cross-Reference Schema Information for Existing User

Field	Description	Value
Hostname	The IP address or the host name of the machine on which the transformation cross-reference database is configured.	-
Port number	The port number assigned to the transformation cross-reference database service.	-
Service Name	The name of the transformation cross-reference database service.	-

Table 2–16 (Cont.) Transformation Cross-Reference Schema Information for Existing

Field	Description	Value
User Name	The name of the transformation cross-reference schema user.	-
Password	The password of the transformation cross-reference schema user.	-

Migration Cross-Reference Database Information

Table 2–17 lists the migration cross-reference database details that are required if you want to create the migration cross-reference schema user during the PDC BRM Integration Pack installation.

Note: The migration cross-reference database details are required only if you want to migrate pricing and setup components from the BRM database to the PDC database.

Table 2–17 Migration Cross-Reference Database Information

Field	Description	Value
Host Name	The IP address or the host name of the machine on which the migration cross-reference database is configured.	-
Port Number	The port number assigned to the migration cross-reference database service.	-
User Name	The migration cross-reference database user name.	-
Password	The migration cross-reference database user password.	-
Service Name	The name of the migration cross-reference database service.	-

Migration Cross-Reference Schema Information

Table 2–18 lists the tablespace details that are required if you want to create the migration cross-reference schema user during PDC BRM Integration Pack installation.

Note: The migration cross-reference schema details are required only if you want to migrate price lists from the BRM database to the PDC database.

Table 2–18 Migration Cross-Reference Schema Information for New User

Field	Description	Value
User Name	The name of the migration cross-reference schema user.	-
Password	The password of the migration cross-reference schema user.	-
PDC Tablespace	The name of the PDC tablespace for the migration cross-reference schema. This field is case-sensitive.	-

Table 2–18 (Cont.) Migration Cross-Reference Schema Information for New User

Field	Description	Value
Temp Tablespace	The name of the temporary tablespace for the migration cross-reference schema. This field is case-sensitive.	-

[Table 2–19](#) lists the tablespace details that are required if you want to use the existing migration cross-reference schema user during PDC BRM Integration Pack installation.

Note: The migration cross-reference schema details are required only if you want to migrate price lists from the BRM database to the PDC database.

Table 2–19 Migration Cross-Reference Schema Information for Existing User

Field	Description	Value
Host Name	The IP address or the host name of the machine on which the migration cross-reference database is configured.	-
Port Number	The port number assigned to the migration cross-reference database service.	-
Service Name	The name of the migration cross-reference database service.	-
User Name	The name of the migration cross-reference schema user.	-
Password	The password of the migration cross-reference schema user.	-

Migration User Information

[Table 2–20](#) lists the migration user details that are required if you are installing PDC 11.2 on an existing PDC installation.

Table 2–20 Migration User Information

Field	Description	Value
User Name	The name of the migration user.	-
Password	The password of the migration user.	-

Pricing Design Center Pre-Installation Tasks

This chapter describes the tasks that you perform before installing Oracle Communications Pricing Design Center (PDC) 11.2 or 11.2 patch sets.

- If you are installing PDC for the first time, see ["Pre-Installation Tasks for the Complete PDC Software Installation"](#).
- If you are installing PDC 11.2 on an existing PDC 11.1 installation, see ["Pre-Installation Tasks for the PDC Software Upgrade"](#).
- If you are installing PDC 11.2 Patch Set 1 on an existing PDC 11.2 installation, see ["Pre-Installation Tasks for the PDC Patch Set Installation"](#).

Pre-Installation Tasks for the Complete PDC Software Installation

Before installing the complete PDC software, do the following:

- Install and configure Oracle Database. See ["Installing and Configuring Oracle Database"](#) for more information.
- Configure the PDC database. See ["Configuring the PDC Database"](#) for more information.
- Install Java Runtime Environment (JRE)/Java Development Kit (JDK). See ["Installing JRE/JDK"](#) for more information.
- Install and configure Oracle WebLogic Server. See ["Installing and Configuring Oracle WebLogic Server"](#) for more information.
- Set the JAVA_HOME environment variable. See ["Setting the JAVA_HOME Environment Variable"](#) for more information.
- Enable JRE permissions. See ["Enabling JRE Permissions"](#) for more information.
- Enable compatibility view for PDC in Internet Explorer 11. See ["Enabling Compatibility View in Internet Explorer 11"](#) for more information.
- Install and configure Oracle Communications Billing and Revenue Management (BRM). See ["Installing and Configuring BRM"](#) for more information.
- Obtain the PDC software. See ["Obtaining the PDC Software"](#) for more information.

Installing and Configuring Oracle Database

Oracle recommends that the installation and configuration of Oracle Database be performed by an experienced database administrator. To install and configure Oracle Database, see the Oracle Database installation documentation.

Important: *Do not* use compression options (such as COMPRESS ADVANCED LOW) for creating the PDC database.

When you install the software, do the following:

- Install Oracle Database Enterprise Edition.
- Create the PDC database.
- Create a database to store the transformation cross-reference tables, or use the PDC database to store the transformation cross-reference tables.
- Create a database to store the migration cross-reference tables, or use the PDC database or the transformation cross-reference database to store the migration cross-reference tables.
- (Optional) Create PDC tablespaces and temporary tablespaces for the following:
 - The PDC schema, to store the pricing and setup components.
 - The transformation cross-reference schema, to store tables that map pricing and setup components in PDC to the corresponding component in a target rating engine.
 - The migration cross-reference schema, to store tables that map the pricing and setup components that are migrated from the BRM database to the corresponding component in a target rating engine.

Oracle recommends that you create separate PDC tablespaces and temporary tablespaces for each schema. However, you can use a single PDC tablespace and temporary tablespace to create all the schemas.

Configuring the PDC Database

This section describes procedures relating to configuring the PDC database.

Setting the Database Time Zone

The PDC database must have the appropriate local time zone setting.

For more information on setting the time zone, see the *Oracle Database Globalization Support Guide*.

Note: Ensure that the BRM database and the PDC database are in the same time zone.

After PDC has been installed, the database time zone cannot be changed. Ensure the time zone is correctly set before installing PDC.

Tuning the Database

[Table 3–1](#) and [Table 3–2](#) provide recommended database parameters for tuning your database for the PDC installation. These are the minimum requirements for PDC.

Table 3–1 Database Creation Parameters

Parameter	Recommended Value
SGA+PGA	At least 4 GB in total. Oracle recommends that you use as much memory as you have available in the machine, and also use Automatic Memory Management.
Processes	2000
Connection mode	Dedicated server
Redo log file size	1024 MB minimum

Table 3–2 Database Initialization Parameters

Parameter	Recommended Value
db_file_multiblock_read_count	16
distributed_lock_timeout	7200
dml_locks	9700
job_queue_processes	10
log_buffer	31457280
open_cursors	5000
parallel_max_servers	640
plsql_code_type	NATIVE

Installing JRE/JDK

Install the recommended version of JRE/JDK on the machine on which you want to deploy PDC. See ["Additional Software Requirements"](#) for the recommended version of JRE/JDK.

To verify the JRE/JDK version:

1. Go to the command prompt on the machine on which you want to deploy PDC.
2. Enter the following command:

```
java -version
```

The Java version is displayed. For example:

```
java version "1.8.0_172"
```

If the version displayed does not start with **1.8.0_**, JRE/JDK 1.8 is not installed.

For information about installing JRE/JDK, see the Oracle Java documentation.

Installing and Configuring Oracle WebLogic Server

This section describes procedures relating to installing Oracle WebLogic Server and configuring the WebLogic Server domain in which you will deploy PDC.

Downloading and Installing Oracle WebLogic Server

WebLogic Server is a component of the Oracle Fusion Middleware 12c media pack. Oracle Fusion Middleware 12c includes Oracle WebLogic Server 12.2.1.3.0.

1. Download WebLogic Server 12.2.1.3.0 from the Oracle Software Delivery Web site:
<http://edelivery.oracle.com>
2. Download the WebLogic Server 12.2.1.3.0 patches 26626168 and 27010571 from the My Oracle Support Web site:
<http://support.oracle.com>

For information on installing Oracle WebLogic Server 12.2.1.3.0 and the patches, see the Oracle WebLogic Server documentation on the Oracle Help Center:

<http://docs.oracle.com>

Installing Oracle Application Development Runtime

Oracle Application Development Runtime 12c (12.2.1.3.0) must be installed on the machine on which you will install PDC.

Download Oracle Application Development Runtime 12c from the Oracle Software Delivery Web site:

<http://edelivery.oracle.com>

For information on installing Oracle Application Development Runtime 12c, see *Oracle Fusion Middleware Installation Guide for Application Developer 12c Release*.

Note: The Oracle Fusion Middleware 12c Application Developer Installer installs Oracle Application Development Runtime and Oracle Enterprise Manager.

Creating the Oracle WebLogic Server Domain

To create a WebLogic Server domain in which to deploy PDC, see the description of using the Configuration Wizard in the Oracle WebLogic Server documentation. You can use the Configuration Wizard in graphical mode or console mode.

Important: If you are migrating the PDC pricing data from a source PDC system to a target PDC system that supports ECE, ensure that you create the WebLogic Server domain for the target PDC system on the same machine on which the WebLogic Server domain for the source PDC system exists.

Table 3–3 shows the values to choose when creating the WebLogic Server domain for PDC.

Create the WebLogic Server domain with at least one managed server configured along with the administration server because Oracle recommends that you deploy PDC on a managed server in the production environment.

Table 3–3 Oracle WebLogic Server Domain Configuration Values

Configuration Value	Description
Domain source	Select Generate a domain configured automatically to support the following products . From the list, select Oracle JRF - 12.2.1.3.0 [oracle_common] .
Domain Mode Configuration	Select Production Mode .

Table 3–3 (Cont.) Oracle WebLogic Server Domain Configuration Values

Configuration Value	Description
JDK Selection	From the Available JDKs list, select the JDK version required for installing PDC. See Table 2–2, "PDC Software Requirements" for the recommended JDK version.
Optional Configuration	<p>Select the following:</p> <ul style="list-style-type: none"> ■ Administration Server. Select this option to configure the Oracle WebLogic Server domain administration server. ■ (Optional) Managed Servers, Clusters and Machines. Select this option if you want to configure only WebLogic Server domain managed servers or machines that host WebLogic servers. <p>Note: PDC does not support WebLogic cluster deployment.</p> <ul style="list-style-type: none"> ■ (Optional) Deployments and Services. Select this option if you want to target your deployments to servers.
Administration Server Listen Address	Use a listen address that is equal to a resolvable DNS host or IP address.
Administration Server Listen Port	Enter a free port number.
Managed Server Listen Address	(Optional) Enter a listen address that is equal to a resolvable DNS host or IP address.
Managed Server Listen Port	(Optional) Enter a free port number.
Target Deployments to Clusters or Servers	(Optional) Add all libraries to the managed server target and to the administration server.
Target Services to Clusters or Servers	(Optional) Add all services to the managed server target.
SSL Listen Port Enabled	Select the SSL Listen Port Enabled check box.
SSL Listen Port	Enter a free port number.

See *Oracle Fusion Middleware Installation Guide for Oracle Enterprise Content Management Suite 12c Release* for more information on WebLogic Server domains.

You can now start the administration server manually and log in to WebLogic Administration Console.

Configuring SSL for the WebLogic Server Domain

If you want to enable secure communication for PDC, you must configure secure sockets layer (SSL) for the WebLogic Server domain in which you deploy PDC.

To configure SSL for the WebLogic Server domain:

1. Generate the server-side keystore file by using the recommended version of the JRE/JDK **keytool** utility. See *Key and Certificate Management Tool* for more information.
2. Export the public certificate from the server-side keystore file by using the recommended version of the JRE/JDK **keytool** utility. See *Key and Certificate Management Tool* for more information.
3. Generate the client-side keystore file from the exported public certificate by using the recommended version of the JRE/JDK **keytool** utility. See *Key and Certificate Management Tool* for more information.

Note: Note the path of the client-side keystore file. You need to provide this path during the PDC installation if you choose to use SSL.

4. Configure SSL for the server on which you want to deploy PDC in WebLogic Server Administration Console. See the Oracle WebLogic Administration Console Help for more information.
5. Enable Java Secure Socket Extension-based SSL for the server on which you want to deploy PDC in WebLogic Server Administration Console. See the Oracle WebLogic Server Administration Console Help for more information.

Configuring the SSL Protocol Version

In a production environment, Oracle recommends the TLSv1 protocol for sending and receiving messages in an SSL connection.

Important: You need to set the same protocol version for managed servers and the administration server. Ensure that all the managed servers are down when making changes to the administration server for setting up the protocol. Oracle recommends to set the properties in the administration server and then the managed server.

To set the minimum protocol version to **TLS V1**, specify the following as a command-line option in the WebLogic Server startup parameters:

-Dweblogic.security.SSL.minimumProtocolVersion=TLSv1.0

Note: When you set a minimum protocol version, the TLS protocol that is enabled depend on the protocols that are configured in the SSL implementation.

See the discussion about specifying the version of the SSL protocol in the Oracle WebLogic Server documentation for more information.

Setting the JAVA_HOME Environment Variable

Set the JAVA_HOME environment variable to the recommended version of JRE/JDK before running any PDC processes.

To set the JAVA_HOME environment variable on the machine on which you want to deploy PDC:

1. Open the **.cshrc** file in a text editor.
2. Add or modify the following entries:

```
setenv JAVA_HOME jre/jdk_path
```

where *jre/jdk_path* is the absolute path to the directory in which JRE/JDK is installed.

For example:

```
setenv JAVA_HOME /pinhome/pin136/opt/portal/7.5/ThirdPartyApps/jre/1.8.0
```

3. Save and close the file.
4. Update the environment by running the following command:

```
source .cshrc
```

5. Verify the Java version by running the following command:

```
$JAVA_HOME/bin/java -version
```

The Java version is displayed. For example:

```
java version "1.8.0_172"
Java(TM) SE Runtime Environment (build 1.8.0_172-b07)
Java HotSpot(TM) 64-Bit Server VM (build 20.60-b01, mixed mode)
```

To set the JAVA_HOME environment variable for the WebLogic Server domain:

1. Go to the *MW_home/user_projects/domains/bin* directory, where *MW_home* is the directory in which the Oracle Middleware components are installed.
2. Open the **setDomain.sh** file in a text editor.
3. Add or modify the following entries before the **EXTRA_JAVA_PROPERTIES** entry:

```
JAVA_HOME="{JAVA_HOME}"
export JAVA_HOME
```

4. Save and close the file.

Enabling JRE Permissions

To enable JRE permissions:

1. Go to the *jre/jdk_path/lib/security* directory.
2. Open the **java.policy** file in a text editor.
3. Add the following entries to the file:

```
grant {
// JMX Java Management eXtensions
permission javax.management.MBeanTrustPermission "register";
};
```

4. Save and close the file.

Enabling Compatibility View in Internet Explorer 11

To enable compatibility view in Internet Explorer 11:

1. In Windows 10, open Internet Explorer 11.
2. Press Alt.
3. From the **Tools** menu, select **Compatibility View settings**.
The Compatibility View Settings dialog box appears.
4. In the **Add this website** field, enter **oracle.com**.
5. Click **Add**.
6. Click **Close**.

Installing and Configuring BRM

Note: You cannot use PDC 11.2 with BRM 7.4.

Install the following on the machine on which you will install PDC BRM Integration Pack:

- BRM 7.5 and the supported BRM 7.5 patch set.
See "[Pricing Design Center System Requirements](#)" for the compatible version of BRM.

To install BRM 7.5 and the BRM 7.5 patch set:

1. Download BRM 7.5 from the Oracle Software Delivery Web site:
<http://edelivery.oracle.com>
2. Install BRM and Pipeline Manager. For more information, see *BRM Installation Guide*.
3. Download the BRM 7.5 patch set from the My Oracle Support Web site.
<http://support.oracle.com>
4. Install the BRM 7.5 patch set. For more information, see the corresponding *BRM 7.5 Patch Set Installation Guide*.

Enabling BRM-PDC Integration

After installing BRM, enable the BRM-PDC integration in BRM. This enables PDC to transform and transfer pricing components configured in PDC to BRM. See the discussion about the PDC and BRM integration process flow in *PDC User's Guide* for more information.

To enable the BRM-PDC integration:

1. Go to *BRM_home/sys/data/config* and run the following command, which creates an editable XML file from the pricing instance of the */config/business_params* object, where *BRM_home* is the directory in which BRM is installed.

```
BRM_home/bin/pin_bus_params -r BusParamsPricing bus_params_pricing.xml
```

This directory includes the support files used by the *pin_bus_params* utility. To run it from a different directory, see the discussion about the *pin_bus_params* utility in the BRM documentation.

This command creates the XML file named *bus_params_pricing.xml.out* in your working directory. If you do not want this file in your working directory, specify the path as part of the file name.

2. Search the *bus_params_pricing.xml.out* file for the following line:

```
<PriceDesignCenterInst>disabled</PriceDesignCenterInst>
```

3. Change **disabled** to **enabled**.
4. Save the file as *bus_params_pricing.xml*.
5. Run the following command, which loads the updated file into the */config/business_params* object:

```
BRM_home/bin/pin_bus_params bus_params_pricing.xml
```

6. Read the object with the **testnap** utility or Object Browser to verify that all fields are correct. See the discussion about reading an object and fields in *BRM Developer's Guide*.
7. Stop and restart the Connection Manager (CM).
For more information, see the discussion about starting and stopping the BRM system in *BRM System Administrator's Guide*.

Obtaining the PDC Software

You can obtain and install the PDC 11.2 or PDC 11.2 Patch Set 1 complete software.

Obtaining the PDC 11.2 Software

To obtain the PDC 11.2 software:

1. On the machine hosting the Oracle WebLogic Server domain, create a temporary directory (*temp_dir*).
2. Go to the Oracle software delivery Web site:
<http://edelivery.oracle.com>
3. Sign in with your user name and password.
4. Search for the PDC software pack and select the PDC 11.2 software pack from the search results.
5. From the **Platform** list, select the platform.
6. Download the PDC server software pack to *temp_dir*.
7. Unzip the PDC server software pack and extract the contents to *temp_dir*.

Obtaining the PDC 11.2 Patch Set 1 Software

To obtain the PDC 11.2 Patch Set 1 software:

1. Create a temporary directory (*temp_dir*).
2. Go to the My Oracle Support Web site:
<https://support.oracle.com>
3. Sign in with your user name and password.
4. Click the **Patches & Updates** tab.
5. From the list, select **Patch Name or Number**.
6. In the text field, enter **28738471** and click **Search**.
The Patch Search Results page appears.
7. Click the **Patch Name or Number**.
The patch details appear.
8. From the **Platform** list, select the platform and click **Download**.
The File Download dialog box appears.
9. Download the appropriate **p28738471_112010_platform.zip** file to *temp_dir*, where *platform* is **linux** or **solaris**.
The File Download dialog box appears.
10. Unzip the **p28738471_112010_Generic.zip** file.

Pre-Installation Tasks for the PDC Software Upgrade

Before upgrading to PDC 11.2 or 11.2 Patch Set 1, do the following:

Important: When upgrading from PDC 11.1 to PDC 11.2 or 11.2 patch sets, note the following:

A direct upgrade from the PDC 11.1 Patch Set 7 release or an earlier patch set release is not supported.

If you want to upgrade from 11.1 to 11.2, you must have PDC 11.1 Patch Set 8 or later releases through PDC 11.1 Patch Set 12 installed.

If you want to upgrade from 11.1 to the 11.2 patch set, you must have PDC 11.1 Patch Set 11 or PDC 11.1 Patch Set 12 installed.

- Shut down the current PDC instance. See ["Shutting Down the Current Instance"](#) for more information.
- Make a complete offline backup of your existing PDC installation. See ["Backing Up the Current Installation"](#) for more information.
- If you are using Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating, install the recommended version of the ECE 11.3 patch set on the machine on which ECE 11.3 is installed. See ["Installing the ECE Patch Set"](#) for more information.
- Install the recommended version of the BRM 7.5 patch set on the machine on which BRM 7.5 is installed. See ["Installing the BRM Patch Set"](#) for more information.
- Install the recommended version of JRE/JDK on the machine on which PDC 11.1 is installed. See ["Installing JRE/JDK"](#) for more information.
- Upgrade the PDC database. If you have created separate database for migration and transformation, upgrade the migration cross-reference database and the transformation cross-reference database. For instructions to upgrade the database, see the *Oracle Database upgrade* documentation.
- If you have installed PDC and BRM Integration Pack on different machines, copy the client-side keystore (client.jks) file that you generated to the machine on which BRM Integration Pack is installed.
- Undeploy the existing PDC installation deployed on the WebLogic Server domain. For instructions, see the discussion about undeploying applications in the Oracle WebLogic Server Administration Console Help.
- Install the recommended version of WebLogic Server (on the machine on which PDC 11.1 is installed). See ["Downloading and Installing Oracle WebLogic Server"](#) for more information.
- Set the JAVA_HOME environment variable. See ["Setting the JAVA_HOME Environment Variable"](#) for more information.
- Enable JRE permissions. See ["Enabling JRE Permissions"](#) for more information.
- Enable compatibility view for PDC in Internet Explorer 11. See ["Enabling Compatibility View in Internet Explorer 11"](#) for more information.
- Upgrade Oracle Application Development Runtime (on the machine on which PDC 11.1 is installed) to the recommended version. See ["Installing Oracle Application Development Runtime"](#) for more information.

- Enable the SSL port for the WebLogic Server domain in which the existing PDC 11.1 patch set is deployed, if it is not enabled during the WebLogic Server domain creation. See ["Enabling the SSL Port for the WebLogic Server Domain"](#) for more information.
- Configure the minimum SSL protocol version that is enabled for SSL connection, if it is not configured during the WebLogic Server domain creation. See ["Configuring the SSL Protocol Version"](#) for more information.
- Obtain the PDC software. See ["Obtaining the PDC Software"](#) for more information.

Shutting Down the Current Instance

To shut down the current PDC instance:

1. Ensure that no users are logged in.
Users include customers, client applications, customer service representatives (CSRs), and so on.
2. Stop all PDC processes.
Only the PDC database instance should be running during the PDC patch installation.

Backing Up the Current Installation

To prevent any data loss and minimize the impact of software or hardware failure during the patch installation, back up your existing installation.

Before installing the patch set, make a complete offline backup of the following:

- The WebLogic server **domains** directory; by default, *MW_home/user_projects/domains*.
- The Oracle Inventory (**oraInventory**) directory. Open the */etc/oraInst.loc* (Linux) file or the */var/opt/oracle/OraInst.loc* (Solaris) file to find the default location of the **oraInventory** directory.
- The PDC database schema. See your database documentation for more information on performing full database backups.
- The transformation cross-reference database schema. See your database documentation for more information on performing full database backups.

Important: Store this backup in a safe location. The data in these files will become necessary if you encounter any issues in the installation process.

- The migration cross-reference database schema, if you installed the migration utility during the PDC 11.1 Patch Set 4 or PDC 11.1 Patch Set 5 installation. See your database documentation for more information on performing full database backups.

Installing the ECE Patch Set

You must install the recommended version of the ECE 11.3 patch set on the machine on which ECE is installed.

To install the ECE 11.3 patch set:

1. Stop Pricing Updater.
2. Download the ECE 11.3 patch set from the My Oracle Support Web site.
<http://support.oracle.com>
3. Install the ECE 11.3 patch set. For more information, see *ECE Installation Guide*.

Installing the BRM Patch Set

You must install the recommended version of the BRM 7.5 patch set on the machine on which BRM is installed.

Note: The BRM 7.5 patch set installation must be performed as the UNIX user who installed BRM Integration Pack; for example, **pin_user**.

To install the BRM 7.5 patch set:

1. Download the BRM 7.5 patch set from the My Oracle Support Web site.
<http://support.oracle.com>
2. Install the BRM 7.5 patch set. For more information, see the corresponding *BRM 7.5 Patch Set Installation Guide*.

Installing JRE/JDK

Install the recommended version of JRE/JDK on the machine on which you deployed PDC. See "[Additional Software Requirements](#)" for the recommended version of JRE/JDK.

To verify the JRE/JDK version:

1. Go to the command prompt on the machine on which you want to deploy PDC.
2. Enter the following command:

```
java -version
```

The Java version is displayed. For example:

```
java version "1.8.0_172"
```

If the version displayed does not start with **1.8.0_**, JRE/JDK 1.8 is not installed.

For information about installing JRE/JDK, see the Oracle Java documentation.

Enabling the SSL Port for the WebLogic Server Domain

Before installing PDC 11.2, enable the SSL port for the WebLogic Server domain in which you deployed PDC if it is not enabled. You must enable the SSL port even if you are not configuring SSL for the WebLogic Server domain.

To enable the SSL port for the WebLogic Server domain:

1. Start the WebLogic Server domain.
2. Log in to WebLogic Server Administration Console.
3. In the **Environment** tree, click **Servers**.

The Summary of Servers pane appears.

4. Select the server in which you want to deploy PDC.
5. Click the **Configuration** tab.
6. Click the **General** subtab.
7. Select the **SSL Listen Port Enabled** check box.
8. In the **SSL Listen Port** field, enter a free port number.
9. Click **Save**.
10. Log out of WebLogic Server Administration Console.
11. Restart the WebLogic Server domain.

See the discussion about enabling the SSL port in the Oracle WebLogic Server Administration Console Help for more information.

Pre-Installation Tasks for the PDC Patch Set Installation

Before installing PDC 11.2 Patch Set 1 on an existing PDC 11.2 installation, do the following:

- Shut down the current PDC instance. See ["Shutting Down the Current Instance"](#) for more information.
- Make a complete offline backup of your existing PDC installation. See ["Backing Up the Current Installation"](#) for more information.
- If you are using Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating, install ECE 11.3 Patch Set 9 on the machine on which ECE is installed. See ["Installing the ECE Patch Set"](#) for more information.
- Install BRM 7.5 Patch Set on the machine on which BRM is installed. See ["Installing the BRM Patch Set"](#) for more information.
- Configure the minimum SSL protocol version that is enabled for SSL connection, if it is not configured during the WebLogic Server domain creation. See ["Configuring the SSL Protocol Version"](#) for more information.
- Grant permissions for required files. See ["Granting Permissions for Required Files"](#) for more information.
- Obtain the PDC software. See ["Obtaining the PDC Software"](#) for more information.

Granting Permissions for Required Files

To grant permissions for required files:

1. Go to the `PDC_home/oui/bin` directory, where `PDC_home` is the directory in which you installed PDC.
2. Run the following commands:


```
chmod 755 README_deinstall.md
chmod 755 cleanup_weblogic_domain.py
```

Installing Pricing Design Center Complete Software

This chapter describes how to install Oracle Communications Pricing Design Center (PDC) 11.2 or 11.2 patch sets. Before installing PDC, read the following:

- [Overview of the PDC Complete Software Installation Procedure](#)
- [Pricing Design Center System Requirements](#)
- [Pre-Installation Tasks for the Complete PDC Software Installation](#)

About Installing PDC

You can install PDC by using GUI or in the silent mode. Installing PDC in the silent mode lets you perform a noninteractive install of PDC. You can use the silent mode to install PDC quickly.

PDC install must be performed by a user who has permissions to write to the **oraInventory** directory and the *MW_home/user_projects/domains* directory, where *MW_home* is the directory in which the Oracle Middleware components are installed.

For installation instructions, see the following sections:

- [Installing PDC by Using GUI](#)
- [Installing PDC in Silent Mode](#)

Installing PDC by Using GUI

The steps for installing PDC by using GUI depend on the PDC components you choose to install:

- To install both PDC and BRM Integration Pack, select the **Complete** installation option.
See ["Installing PDC and BRM Integration Pack"](#) for more information.
- To install only PDC, select the **Pricing Design Center** installation option.
This option installs only PDC. See ["Installing PDC"](#) for more information.
- To install only BRM Integration Pack, select the **BRM Integration Pack** installation option.

This option installs only BRM Integration Pack. See ["Installing BRM Integration Pack"](#) for more information.

Installing PDC and BRM Integration Pack

To install both the PDC software and BRM Integration Pack on the same machine:

1. Obtain the PDC software. See ["Obtaining the PDC Software"](#).
2. Start the Oracle WebLogic Server domain administration server or the WebLogic Server domain managed server on which you want to deploy PDC, if it is not already started.
3. Ensure that the PDC database is running.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

4. Go to the *temp_dir* directory, and run one of the following commands:

- To start the GUI installer:

```
Java_home/bin/java -jar jarfile
```

where:

- *Java_home* is the directory in which you installed the latest supported Java version.
- *jarfile* is the **pdcserver-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.

- To start the GUI installer and install PDC using the **oraInventory** directory in a different location:

```
Java_home/bin/java -jar jarfile -invPtrLoc FilePath/oraInst.loc
```

where *FilePath* is the path to the directory in which the **oraInst.loc** file is located.

- To start the GUI installer and create a silent installer response file during the installation:

```
Java_home/bin/java -jar jarfile -record -destinationFile path
```

where *path* is the response file location and name.

The Welcome screen appears.

5. Click **Next**.

The Specify Inventory Directory and Credentials screen appears if the **oraInst.loc** file is corrupt or not present. The default location of the **oraInventory** directory is in the **/etc/oraInst.loc** (Linux) file or the **/var/opt/oracle/oraInst.loc** (Solaris) file.

This screen displays the path to the default inventory directory and the default operating system group name.

6. (Optional) To change the default inventory directory details, do the following:
 - a. Enter the full path of the inventory directory.
 - b. Specify the name of the operating system group that has write permission to the inventory directory.

7. Click **Next**.

The Installation Location screen appears.

8. Enter the full path or browse to the directory in which to install PDC.

9. Click **Next**.

The Select Installation Type screen appears.

10. Select **Complete** and click **Next**.

The WebLogic Administration Server Connection screen appears.

11. Enter the following details for the WebLogic Server domain in which you want to deploy PDC:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain is configured.
- b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.
- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator user password.
- e. In the **WebLogic Home** field, enter the path to the directory in which the WebLogic Server software is installed. For example, *MW_home\wlserver*.
- f. Do one of the following:

If you do not want to enable secure communication for PDC, deselect the **Enable SSL? (Recommended)** check box.

To enable secure communication for PDC, leave the **Enable SSL? (Recommended)** check box selected, and in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see "[Configuring SSL for the WebLogic Server Domain](#)".

12. Click **Next**.

The WebLogic Server screen appears.

13. Do one of the following:

- To deploy PDC on a WebLogic Server domain administration server, select a WebLogic Server domain administration server from the list.
- To deploy PDC on a WebLogic Server domain managed server, select a WebLogic Server domain managed server from the list.

Note: Oracle recommends that you deploy PDC on a WebLogic Server managed server. If you select a WebLogic Server managed server, ensure that the WebLogic Server managed server and the node manager are running.

14. Click **Next**.

The Pricing Design Center Schema User screen appears.

15. Do one of the following:

- If you want to create a PDC schema user during installation, select **Yes**.
- If you want to use an existing PDC schema user, select **No** and proceed to step 20.

16. Click **Next**.

The Pricing Design Center System Database Connection screen appears.

17. Enter the following information required to connect to the PDC database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the PDC database is configured.
- b. In the **Port Number** field, enter the port number assigned to the PDC database service.
- c. In the **User Name** field, enter the PDC database user name. This user should be the SYSDBA user or should have the following capabilities on the PDC database: grant create user, grant any role, grant any privilege, select any table to *username*, and grant dba to *username*.
- d. In the **Password** field, enter the PDC database user password.
- e. In the **Service Name** field, enter the name of the PDC database service.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

18. Click **Next**.

The Pricing Design Center Schema screen appears.

19. Enter the following information required to create the PDC schema in the PDC database and proceed to step 22:

- a. In the **User Name** field, enter a PDC schema user name.
- b. In the **Password** field, enter a PDC schema user password.
- c. In the **Confirm Password** field, enter the PDC schema user password again.
- d. In the **PDC Tablespace** field, enter the name of the tablespace for the PDC schema.
- e. In the **Temp Tablespace** field, enter the name of the temporary tablespace for the PDC schema.
- f. If you want to use the existing schema data for installing PDC on the secondary instances, select the **Use the existing schema data** check box. This is deselected by default.

20. Click **Next**.

The Pricing Design Center Schema screen appears.

21. Enter the following information required to connect to the PDC schema:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the PDC database is configured.

- b. In the **Port Number** field, enter the port number assigned to the PDC database service.
- c. In the **Service Name** field, enter the name of the PDC database service.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

- d. In the **User Name** field, enter the PDC schema user name.
- e. In the **Password** field, enter the PDC schema user password.
- f. If you want to use the existing schema data for installing PDC on the secondary instances, select **Use the existing schema data**.

This option is deselected by default.

22. Click Next.

The Pricing Design Center System User screen appears.

23. Enter the following information to create a PDC user to access the PDC GUI:

- a. In the **User Name** field, enter a PDC user name.
- b. In the **Password** field, enter a PDC user password.

Note: The PDC user password can be a minimum of 8 characters and maximum of 12 characters long and should contain at least one non-alphabetic character. For example, Weblogic123.

The user name must not be a part of the password.

- c. In the **Confirm Password** field, enter the PDC user password again.

24. Click Next.

The Select Charging Engine for Usage Rating appears.

25. Do one of the following:

- To use Oracle Communications Billing and Revenue Management (BRM) Elastic Charging Engine (ECE) for usage rating, select **Elastic Charging Engine**.
- To use BRM real-time rating and batch rating engines for usage rating, select **Realtime Rating and Batch Rating Engines**.

26. Click Next.

The PDC Keystore Credentials screen appears.

27. Enter the following information required to encrypt the passwords:

- a. In the **Key Password** field, enter the password PDC uses for accessing the PDC alias key in the keystore.
- b. In the **Confirm Key Password** field, enter the key password again.
- c. In the **Keystore Password** field, enter the password used for accessing the keystore.
- d. In the **Confirm Keystore Password** field, enter the keystore password again.

For more information about keystores, see the discussion about managing passwords in PDC in *PDC Security Guide*.

28. Click Next.

The Migration Option screen appears.

29. Do one of the following:

- If you do not want to migrate data, select **Do not install Migration Utility** and proceed to step 34.
- To migrate the BRM real-time and batch rating engines pricing data to a PDC system that supports BRM real-time and batch rating engines, select **Migrate RRE and BRE Pricing Data to PDC** and proceed to step 34.
- To migrate the BRM real-time and batch rating engines pricing data to a PDC system that supports ECE, select **Migrate RRE and BRE Pricing Data to PDC with ECE** and proceed to step 34.
- To migrate the PDC pricing data to a PDC system that supports ECE, select **Migrate PDC Pricing Data to PDC with ECE** and proceed to step 30.

30. Click Next.

The Source Pricing Design Center WebLogic Server Connection screen appears.

31. If you are migrating the PDC pricing data to a PDC system that supports ECE, enter the following details for the WebLogic Server domain in which you deployed the source PDC system:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain for the source PDC system is configured.
- b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.

Note: If you selected a WebLogic Server domain managed server in step 13, enter the port number to the managed server.

- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator user password.
- e. Do one of the following.

If you do not want to enable secure communication for PDC, deselect the **Enable SSL?** check box.

To enable secure communication for PDC, leave the **Enable SSL?** check box selected, and in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).

32. Click Next.

The Target Pricing Design Center WebLogic Server Connection screen appears.

33. If you are migrating the PDC pricing data to a PDC system that supports ECE, enter the following details for the WebLogic Server domain in which you deployed the target PDC system and proceed to step 36:
- In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain for the target PDC system is configured.
 - In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.
 - In the **User Name** field, enter the WebLogic Server domain administrator user name.
 - In the **Password** field, enter the WebLogic Server domain administrator user password.
 - Do one of the following.

If you do not want to enable secure communication for PDC, deselect the **Enable SSL?** check box.

To enable secure communication for PDC, leave the **Enable SSL?** check box selected, and in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).
34. Click **Next**.
- The Pricing Design Center WebLogic Server Connection screen appears.
35. Enter the following details for the WebLogic Server domain in which you deployed PDC:
- In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain is configured.
 - In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.
 - In the **User Name** field, enter the WebLogic Server domain administrator user name.
 - In the **Password** field, enter the WebLogic Server domain administrator user password.
 - Do one of the following.

If you do not want to enable secure communication for PDC, deselect the **Enable SSL?** check box.

To enable secure communication for PDC, leave the **Enable SSL?** check box selected, and in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).
36. Click **Next**.
- The BRM Server Location screen appears.
37. Enter the BRM batch and real-time rating engine details:

- a. In the **BRM** field, enter the full path or browse to the directory in which BRM is installed.
- b. In the **BRM Pipeline** field, enter the full path or browse to the directory in which Pipeline Manager is installed.
- c. In the **Perl Home** field, enter the full path or browse to the directory in which the Perl libraries for BRM are installed.

38. Click Next.

The BRM Pipeline Manager Database Connection Screen appears.

39. Enter the following information required to connect to the BRM database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the Pipeline Manager database is configured.
- b. In the **Port Number** field, enter the port number assigned to the Pipeline Manager database service.
- c. In the **User Name** field, enter the Pipeline Manager database schema user name.
- d. In the **Password** field, enter the Pipeline Manager database schema user password.
- e. In the **Service Name** field, enter the name of the Pipeline Manager database service.

40. Do one of the following:

- If you want to create a transformation cross-reference schema user during installation, select **Yes** and proceed to step 41.
- If you want to use an existing transformation cross-reference schema user, select **No** and proceed to step 45.

41. Click Next.

The Transformation Cross-Reference Database Connection screen appears.

42. Enter the following information required to connect to the transformation cross-reference database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the transformation cross-reference database is configured.
- b. In the **Port Number** field, enter the port number assigned to the transformation cross-reference database service.
- c. In the **User Name** field, enter the transformation cross-reference database user name. This user should be the SYSDBA user or should have the following capabilities on the transformation cross-reference database: grant create user, grant any role, grant any privilege, select any table to *username*, and grant dba to *username*.
- d. In the **Password** field, enter the transformation cross-reference database user password.
- e. In the **Service Name** field, enter the name of the transformation cross-reference database service.

43. Click Next.

The Transformation Cross-Reference Schema screen appears.

44. Enter the following information required to create the transformation cross-reference schema in the transformation cross-reference database and proceed to step 47:

Note: If you are migrating the pricing data from a source PDC system to a target PDC system that supports ECE, provide the details of the transformation cross-reference schema that you created for the source PDC system.

- a. In the **User Name** field, enter a transformation cross-reference schema user name.
 - b. In the **Password** field, enter a transformation cross-reference schema user password.
 - c. In the **Confirm Password** field, enter the transformation cross-reference schema user password again.
 - d. In the **PDC Tablespace** field, enter the name of the tablespace for the transformation cross-reference schema.
 - e. In the **Temp Tablespace** field, enter the name of the temporary tablespace for the transformation cross-reference schema.
45. Click **Next**.

The Transformation Cross-Reference Schema screen appears.

46. Enter the following information required to connect to the transformation cross-reference database:

Note: If you are migrating the pricing data from a source PDC system to a target PDC system that supports ECE, provide the details of the transformation cross-reference schema that you created for the source PDC system.

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the transformation cross-reference database is configured.
 - b. In the **Port Number** field, enter the port number assigned to the transformation cross-reference database service.
 - c. In the **Service Name** field, enter the name of the transformation cross-reference database service.
 - d. In the **User Name** field, enter the transformation cross-reference schema user name.
 - e. In the **Password** field, enter the transformation cross-reference schema user password.
47. Click **Next**.

The PDC User screen appears.

48. Enter the PDC user information.

- a. In the **User Name** field, enter the PDC user name.
- b. In the **Password** field, enter the PDC user password.

49. Do one of the following:

- Click **Next**.

The Migration Cross-Reference Schema User screen appears.

- If you selected **Do not install Migration utility** in step 29, proceed to step 63.

50. Do one of the following:

- If you want to create a migration cross-reference schema user during installation, select **Yes** and proceed to step 56.
- If you want to use an existing migration cross-reference schema user, select **No** and proceed to step 55.

51. Click **Next**.

The Migration Cross-Reference Database Connection screen appears.

52. Enter the following information required to connect to the migration cross-reference database:

- In the **Host Name** field, enter the IP address or the host name of the machine on which the migration cross-reference database is configured.
- In the **Port Number** field, enter the port number assigned to the migration cross-reference database service.
- In the **User Name** field, enter the migration cross-reference database user name. This user should be the SYSDBA user or should have the following capabilities on the transformation cross-reference database: create user, grant any role, grant any privileges, select any table for Enterprise edition, and DBA for XE.
- In the **Password** field, enter the migration cross-reference database user password.
- In the **Service Name** field, enter the name of the migration cross-reference database service.

53. Click **Next**.

The Migration Cross-Reference Schema screen appears.

54. Enter the following information required to create the migration cross-reference schema in the migration cross-reference database:

- In the **User Name** field, enter a migration cross-reference schema user name.
- In the **Password** field, enter a migration cross-reference schema user password.
- In the **Confirm Password** field, enter the migration cross-reference schema user password again.
- In the **PDC Tablespace** field, enter the name of the PDC tablespace for the migration cross-reference schema.
- In the **Temp Tablespace** field, enter the name of the temporary tablespace for the migration cross-reference schema.

55. Click **Next**.

The Migration Cross-Reference Schema screen appears.

56. Enter the following information required to connect to the migration cross-reference database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the migration cross-reference database is configured.
 - b. In the **Port Number** field, enter the port number assigned to the migration cross-reference database service.
 - c. In the **Service Name** field, enter the name of the migration cross-reference database service.
 - d. In the **User Name** field, enter the migration cross-reference schema user name.
 - e. In the **Password** field, enter the migration cross-reference schema user password.
57. Do one of the following:
 - Click **Next**.

The Migration User screen appears.
 - If you are migrating the PDC pricing data to a PDC system that supports ECE, proceed to 59.
58. Enter the migration user details and proceed to 63.
 - a. In the **User Name** field, enter a migration user name.
 - b. In the **Password** field, enter a migration user password.
 - c. In the **Confirm Password** field, enter the migration user password again.
59. Click **Next**.

The Source Migration User screen appears.
60. If you are migrating the PDC pricing data to a PDC system that supports ECE, enter the migration user details that you use to run the migration utility in the source PDC system:
 - a. In the **User Name** field, enter the migration user name.
 - b. In the **Password** field, enter the migration user password.
 - c. In the **Confirm Password** field, enter the migration user password again.
61. Click **Next**.

The Target Migration User screen appears.
62. If you are migrating the PDC pricing data to a PDC system that supports ECE, enter the migration user details that you want to use to run the migration utility in the target PDC system:
 - a. In the **User Name** field, enter the migration user name.
 - b. In the **Password** field, enter the migration user password.
 - c. In the **Confirm Password** field, enter the migration user password again.
63. Click **Next**.

The Keystore Credentials screen appears.
64. Enter the following information required to encrypt the passwords:
 - a. In the **Key Password** field, enter the password PDC uses for accessing the PDC alias key in the keystore.
 - b. In the **Confirm Key Password** field, enter the key password again.

- c. In the **Keystore Password** field, enter the password used for accessing the keystore.
- d. In the **Confirm Keystore Password** field, enter the keystore password again.

For more information about keystores, see the discussion about managing passwords in PDC in *PDC Security Guide*.

65. Click **Next**.

The Installation Summary screen appears.

66. Review the selections you have made in the preceding screens, and click **Install**.

The Installation Progress screen appears.

Note: After the installation begins, clicking **Stop installation** stops the installation process, but the files that are already copied are not removed.

67. When the installation is done, click **Next**, the Installation Complete screen appears.

Note down the provided URL. You use this URL to access PDC.

68. Click **Finish** to complete and exit.

See "[Verifying the Pricing Design Center Installation](#)" for information on verifying the successful installation of PDC.

See "[About Installation Logs](#)" for information on PDC Installer logs.

Installing PDC

PDC installation must be performed by a user who has permissions to write to the **oraInventory** directory and the **MW_home/user_projects/domains** directory.

To install the complete PDC software:

1. Obtain the PDC software. See "[Obtaining the PDC Software](#)".
2. Start the Oracle WebLogic Server domain administration server or the WebLogic Server domain managed server on which you PDC 11.1 was deployed, if it is not already started.
3. Ensure that the PDC database is running.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

4. Go to the *temp_dir* directory, and run one of the following commands:

- To start the GUI installer:

`Java_home/bin/java -jar jarfile`

where:

- *Java_home* is the directory in which you installed the latest supported Java version.

- *jarfile* is the **pdcserver-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.

- To start the GUI installer and install PDC using the **oraInventory** directory in a different location:

```
Java_home/bin/java -jar jarfile -invPtrLoc FilePath/oraInst.loc
```

where *FilePath* is the path to the directory in which the **oraInst.loc** file is located.

- To start the GUI installer and create a silent installer response file during the installation:

```
Java_home/bin/java -jar jarfile -record -destinationFile path
```

where *path* is the response file location and name.

The Welcome screen appears.

5. Click **Next**.

The Specify Inventory Directory and Credentials screen appears if the **oraInst.loc** file is corrupt or not present. The default location of the **oraInventory** directory is in the **/etc/oraInst.loc** (Linux) file or the **/var/opt/oracle/oraInst.loc** (Solaris) file.

This screen displays the path to the default inventory directory and the default operating system group name.

6. (Optional) To change the default inventory directory details, do the following:

- a. Enter the full path of the inventory directory.
- b. Specify the name of the operating system group that has write permission to the inventory directory.

7. Click **Next**.

The Select Installation Type screen appears.

8. Select **Pricing Design Center** and click **Next**.

The Specify Home Details screen appears.

This screen displays the default PDC installation name and the path to the default PDC installation directory.

9. (Optional) To change the default PDC installation details, do the following:

- a. In the **Name** field, select the name for the installation from the list of names or enter a new installation name.
- b. In the **Path** field, enter the path to the directory where you want to install PDC. Optionally, click **Browse** to navigate to the directory where you want to install PDC.

10. Click **Next**.

The Pricing Design Center WebLogic Server Connection screen appears.

11. Enter the following details for the WebLogic Server domain in which you want to deploy PDC:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain is configured.

- b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.
- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator user password.
- e. In the **WebLogic Home** field, enter the path to the directory in which the WebLogic Server software is installed. For example, *MW_home\wlserver*, where *MW_home* is the directory in which the Oracle Middleware components are installed.

- f. Do one of the following:

If you do not want to enable secure communication for PDC, deselect the **Enable SSL?** check box.

To enable secure communication for PDC, leave the **Enable SSL?** check box selected, and in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).

- 12. Click **Next**.

The WebLogic Server screen appears.

- 13. Do one of the following:

- To deploy PDC on a WebLogic Server domain administration server, select a WebLogic Server domain administration server from the list.
- To deploy PDC on a WebLogic Server domain managed server, select a WebLogic Server domain managed server from the list.

Note: Oracle recommends that you deploy PDC on a WebLogic Server managed server. If you select a WebLogic Server managed server, ensure that the WebLogic Server managed server and the node manager are running.

- 14. Click **Next**.

The Pricing Design Center Schema User screen appears.

- 15. Do one of the following:

- If you want to create a PDC schema user during installation, select **Yes** and proceed to step 16.
- If you want to use an existing PDC schema user, select **No** and proceed to step 20.

- 16. Click **Next**.

The Pricing Design Center System Database Connection screen appears.

- 17. Enter the following information required to connect to the PDC database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the PDC database is configured.

- b. In the **Port Number** field, enter the port number assigned to the PDC database service.
- c. In the **User Name** field, enter the PDC database user name. This user should be the SYSDBA user or should have the following capabilities on the PDC database: grant create user, grant any role, grant any privilege, select any table to *username*, and grant dba to *username*.
- d. In the **Password** field, enter the PDC database user password.
- e. In the **Service Name** field, enter the name of the PDC database service.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

18. Click Next.

The Pricing Design Center Schema screen appears.

- 19.** Enter the following information required to create the PDC schema in the PDC database and proceed to step 22:
- a. In the **User Name** field, enter a PDC schema user name.
 - b. In the **Password** field, enter a PDC schema user password.
 - c. In the **Confirm Password** field, enter the PDC schema user password again.
 - d. In the **PDC Tablespace** field, enter the name of the tablespace for the PDC schema.
 - e. In the **Temp Tablespace** field, enter the name of the temporary tablespace for the PDC schema.
 - f. If you want to use the existing schema data for installing PDC on the secondary instances, select the **Use the existing schema data** check box. This is deselected by default.

20. Click Next.

The Pricing Design Center Schema screen appears.

- 21.** Enter the following information required to connect to the PDC schema:
- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the PDC database is configured.
 - b. In the **Port Number** field, enter the port number assigned to the PDC database service.
 - c. In the **Service Name** field, enter the name of the PDC database service.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

- d. In the **User Name** field, enter the PDC schema user name.
- e. In the **Password** field, enter the PDC schema user password.

- f. If you want to use the existing schema data for installing PDC on the secondary instances, select **Use the existing schema data**.

This option is deselected by default.

22. Click Next.

The Pricing Design Center System User screen appears.

23. Enter the following information to create a PDC user to access the PDC GUI:

- a. In the **User Name** field, enter a PDC user name.
- b. In the **Password** field, enter a PDC user password.

Note: The PDC user password can be a minimum of 8 characters and maximum of 12 characters long and should contain at least one non-alphabetic character. For example, Weblogic123.

The user name must not be a part of the password.

24. Click Next.

The Select charging Engine for Usage Rating appears.

25. Do one of the following:

- To use Oracle Communications Billing and Revenue Management (BRM) real-time rating and batch rating engines for usage rating, select **Realtime Rating and Batch Rating Engines**.
- To use BRM Elastic Charging Engine (ECE) for usage rating, select **Elastic Charging Engine**.

26. Click Next.

The Keystore Credentials screen appears.

27. Enter the following information required to encrypt the passwords:

- a. In the **Key Password** field, enter the password PDC uses for accessing the PDC alias key in the keystore.
- b. In the **Confirm Key Password** field, enter the key password again.
- c. In the **Keystore Password** field, enter the password used for accessing the keystore.
- d. In the **Confirm Keystore Password** field, enter the keystore password again.

For more information about keystores, see the discussion about managing passwords in PDC in *PDC Security Guide*.

28. Click Next.

The Installation Summary screen appears.

29. Review the selections you have made in the preceding screens, and click **Install.**

The Installation Progress screen appears.

Note: After the installation begins, clicking **Stop installation** stops the installation process, but the files that are already copied are not removed.

30. When the installation is done, click **Next**, the Installation Complete screen appears.

Note down the provided URL. You use this URL to access PDC.

31. Click **Finish** to complete and exit.

See ["Verifying the Pricing Design Center Installation"](#) for information on verifying the successful installation of PDC.

See ["About Installation Logs"](#) for information on PDC Installer logs.

Installing BRM Integration Pack

BRM Integration Pack is a set of utilities that transform and transfer pricing components configured in PDC to the BRM system. If BRM and Pipeline Manager are installed on different machines, you must also install Pipeline Configuration Manager. For instructions on how to install Pipeline Configuration Manager, see *BRM Installation Guide*.

Note: BRM Integration Pack installation must be performed as the UNIX user who installed BRM; for example, **pin_user**.

To install BRM Integration Pack:

1. Obtain the PDC software. See ["Obtaining the PDC Software"](#).
2. Start the Oracle WebLogic Server domain administration server or the WebLogic Server domain managed server on which you PDC 11.1 was deployed, if it is not already started.
3. Ensure that the PDC database is running.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

4. Go to the *temp_dir* directory, and run one of the following commands:

- To start the GUI installer:

```
Java_home/bin/java -jar jarfile
```

where:

- *Java_home* is the directory in which you installed the latest supported Java version.
- *jarfile* is the **pdcservice-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.

- To start the GUI installer and install PDC using the **oraInventory** directory in a different location:

```
Java_home/bin/java -jar jarfile -invPtrLoc FilePath/oraInst.loc
```

where *FilePath* is the path to the directory in which the **oraInst.loc** file is located.

- To start the GUI installer and create a silent installer response file during the installation:

```
Java_home/bin/java -jar jarfile -record -destinationFile path
```

where *path* is the response file location and name.

The Welcome screen appears.

5. Click **Next**.

The Specify Inventory Directory and Credentials screen appears if the **oraInst.loc** file is corrupt or not present. The default location of the **oraInventory** directory is in the **/etc/oraInst.loc** (Linux) file or the **/var/opt/oracle/oraInst.loc** (Solaris) file.

This screen displays the path to the default inventory directory and the default operating system group name.

6. (Optional) To change the default inventory directory details, do the following:
- a. Enter the full path of the inventory directory.
 - b. Specify the name of the operating system group that has write permission to the inventory directory.

7. Click **Next**.

The Select Installation Type screen appears.

8. Select **BRM Integration Pack** and click **Next**.

The Specify Home Details screen appears.

This screen displays the default installation name and the path to the default installation directory.

9. (Optional) To change the default BRM Integration Pack installation details, do the following:

Note: If you are installing BRM Integration Pack on the machine on which PDC is installed, then you must provide a different name and path for the BRM Integration Pack installation.

- a. In the **Name** field, select the name for the installation from the list of names or enter a new installation name.
- b. In the **Path** field, enter the path to the directory where you want to install BRM Integration Pack. Optionally, click **Browse** to navigate to the directory where you want to install BRM Integration Pack.

10. Click **Next**.

The Migration Option screen appears.

11. Do one of the following:

- If you do not want to migrate data, select **Do not install Migration Utility** and proceed to step 16.
- To migrate the BRM real-time and batch rating engines pricing data to a PDC system that supports BRM real-time and batch rating engines, select **Migrate RRE and BRE Pricing Data to PDC** and proceed to step 16.
- To migrate the BRM real-time and batch rating engines pricing data to a PDC system that supports ECE, select **Migrate RRE and BRE Pricing Data to PDC**

with ECE and proceed to step 16.

- To migrate the PDC pricing data to a PDC system that supports ECE, select **Migrate PDC Pricing Data to PDC with ECE** and proceed to step 12.

12. Click Next.

The Source Pricing Design Center WebLogic Server Connection screen appears.

- 13.** If you are migrating the PDC pricing data to a PDC system that supports ECE, enter the following details for the WebLogic Server domain in which you deployed the source PDC system:
- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain for the source PDC system is configured.
 - b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.

Note: If you selected a WebLogic Server domain managed server in step 13, enter the port number to the managed server.

- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator user password.
- e. Do one of the following.

If you do not want to enable secure communication for PDC, deselect the **Enable SSL?** check box.

To enable secure communication for PDC, leave the **Enable SSL?** check box selected, and in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see "[Configuring SSL for the WebLogic Server Domain](#)".

14. Click Next.

The Target Pricing Design Center WebLogic Server Connection screen appears.

- 15.** If you are migrating the PDC pricing data to a PDC system that supports ECE, enter the following details for the WebLogic Server domain in which you deployed the target PDC system and proceed to step 18:
- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain for the target PDC system is configured.
 - b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.
 - c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
 - d. In the **Password** field, enter the WebLogic Server domain administrator user password.
 - e. Do one of the following.

If you do not want to enable secure communication for PDC, deselect the **Enable SSL?** check box.

To enable secure communication for PDC, leave the **Enable SSL?** check box selected, and in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).

16. Click Next.

The Pricing Design Center WebLogic Server Connection screen appears.

17. Enter the following details for the WebLogic Server domain in which you deployed PDC:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain is configured.
- b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.
- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator user password.
- e. Do one of the following.

If you do not want to enable secure communication for PDC, deselect the **Enable SSL?** check box.

To enable secure communication for PDC, leave the **Enable SSL?** check box selected, and in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).

18. Click Next.

The BRM Server Location screen appears.

19. Enter the BRM batch and real-time rating engine details:

- a. In the **BRM** field, enter the full path or browse to the directory in which BRM is installed.
- b. In the **BRM Pipeline** field, enter the full path or browse to the directory in which Pipeline Manager is installed.
- c. In the **Perl Home** field, enter the full path or browse to the directory in which the Perl libraries for BRM are installed.

20. Click Next.

The BRM Pipeline Manager Database Connection Screen appears.

21. Enter the following information required to connect to the BRM database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the Pipeline Manager database is configured.
- b. In the **Port Number** field, enter the port number assigned to the Pipeline Manager database service.

- c. In the **User Name** field, enter the Pipeline Manager database schema user name.
 - d. In the **Password** field, enter the Pipeline Manager database schema user password.
 - e. In the **Service Name** field, enter the name of the Pipeline Manager database service.
22. Do one of the following:
- If you want to create a transformation cross-reference schema user during installation, select **Yes** and proceed to step 23.
 - If you want to use an existing transformation cross-reference schema user, select **No** and proceed to step 27.
23. Click **Next**.
- The Transformation Cross-Reference Database Connection screen appears.
24. Enter the following information required to connect to the transformation cross-reference database:
- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the transformation cross-reference database is configured.
 - b. In the **Port Number** field, enter the port number assigned to the transformation cross-reference database service.
 - c. In the **User Name** field, enter the transformation cross-reference database user name. This user should be the SYSDBA user or should have the following capabilities on the transformation cross-reference database: grant create user, grant any role, grant any privilege, select any table to *username*, and grant dba to *username*.
 - d. In the **Password** field, enter the transformation cross-reference database user password.
 - e. In the **Service Name** field, enter the name of the transformation cross-reference database service.
25. Click **Next**.
- The Transformation Cross-Reference Schema screen appears.
26. Enter the following information required to create the transformation cross-reference schema in the transformation cross-reference database and proceed to step 29:

Note: If you are migrating the pricing data from a source PDC system to a target PDC system that supports ECE, provide the details of the transformation cross-reference schema that you created for the source PDC system.

- a. In the **User Name** field, enter a transformation cross-reference schema user name.
- b. In the **Password** field, enter a transformation cross-reference schema user password.
- c. In the **Confirm Password** field, enter the transformation cross-reference schema user password again.

- d. In the **PDC Tablespace** field, enter the name of the tablespace for the transformation cross-reference schema.
- e. In the **Temp Tablespace** field, enter the name of the temporary tablespace for the transformation cross-reference schema.

27. Click Next.

The Transformation Cross-Reference Schema screen appears.

28. Enter the following information required to connect to the transformation cross-reference database:

Note: If you are migrating the pricing data from a source PDC system to a target PDC system that supports ECE, provide the details of the transformation cross-reference schema that you created for the source PDC system.

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the transformation cross-reference database is configured.
- b. In the **Port Number** field, enter the port number assigned to the transformation cross-reference database service.
- c. In the **Service Name** field, enter the name of the transformation cross-reference database service.
- d. In the **User Name** field, enter the transformation cross-reference schema user name.
- e. In the **Password** field, enter the transformation cross-reference schema user password.

29. Click Next.

The PDC User screen appears.

30. Enter the PDC user information.

- a. In the **User Name** field, enter the PDC user name.
- b. In the **Password** field, enter the PDC user password.
- c. In the **Confirm Password** field, enter the PDC user password again.

31. Do one of the following:

- Click **Next**.
The Migration Cross-Reference Schema User screen appears.
- If you selected **Do not install Migration utility** in step 11, proceed to step 45.

32. Do one of the following:

- If you want to create a migration cross-reference schema user during installation, select **Yes** and proceed to step 33.
- If you want to use an existing migration cross-reference schema user, select **No** and proceed to step 37.

33. Click Next.

The Migration Cross-Reference Database Connection screen appears.

34. Enter the following information required to connect to the migration cross-reference database:
- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the migration cross-reference database is configured.
 - b. In the **Port Number** field, enter the port number assigned to the migration cross-reference database service.
 - c. In the **User Name** field, enter the migration cross-reference database user name. This user should be the SYSDBA user or should have the following capabilities on the transformation cross-reference database: create user, grant any role, grant any privileges, select any table for Enterprise edition, and DBA for XE.
 - d. In the **Password** field, enter the migration cross-reference database user password.
 - e. In the **Service Name** field, enter the name of the migration cross-reference database service.

35. Click **Next**.

The Migration Cross-Reference Schema screen appears.

36. Enter the following information required to create the migration cross-reference schema in the migration cross-reference database:
- a. In the **User Name** field, enter a migration cross-reference schema user name.
 - b. In the **Password** field, enter a migration cross-reference schema user password.
 - c. In the **Confirm Password** field, enter the migration cross-reference schema user password again.
 - d. In the **PDC Tablespace** field, enter the name of the PDC tablespace for the migration cross-reference schema.
 - e. In the **Temp Tablespace** field, enter the name of the temporary tablespace for the migration cross-reference schema.

37. Click **Next**.

The Migration Cross-Reference Schema screen appears.

38. Enter the following information required to connect to the migration cross-reference database:
- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the migration cross-reference database is configured.
 - b. In the **Port Number** field, enter the port number assigned to the migration cross-reference database service.
 - c. In the **Service Name** field, enter the name of the migration cross-reference database service.
 - d. In the **User Name** field, enter the migration cross-reference schema user name.
 - e. In the **Password** field, enter the migration cross-reference schema user password.
39. Do one of the following:
- Click **Next**.

The Migration User screen appears.

- If you are migrating the PDC pricing data to a PDC system that supports ECE, proceed to 41.

40. Enter the migration user details and proceed to 45.

- a. In the **User Name** field, enter a migration user name.
- b. In the **Password** field, enter a migration user password.
- c. In the **Confirm Password** field, enter the migration user password again.

41. Click **Next**.

The Source Migration User screen appears.

42. If you are migrating the PDC pricing data to a PDC system that supports ECE, enter the migration user details that you use to run the migration utility in the source PDC system:

- a. In the **User Name** field, enter the migration user name.
- b. In the **Password** field, enter the migration user password.
- c. In the **Confirm Password** field, enter the migration user password again.

43. Click **Next**.

The Target Migration User screen appears.

44. If you are migrating the PDC pricing data to a PDC system that supports ECE, enter the migration user details that you want to use to run the migration utility in the target PDC system:

- a. In the **User Name** field, enter the migration user name.
- b. In the **Password** field, enter the migration user password.
- c. In the **Confirm Password** field, enter the migration user password again.

45. Click **Next**.

The Keystore Credentials screen appears.

46. Enter the following information required to encrypt the passwords:

- a. In the **Key Password** field, enter the password PDC uses for accessing the PDC alias key in the keystore.
- b. In the **Confirm Key Password** field, enter the key password again.
- c. In the **Keystore Password** field, enter the password used for accessing the keystore.
- d. In the **Confirm Keystore Password** field, enter the keystore password again.

47. Click **Next**.

The Installation Summary screen appears.

48. Review the selections you have made in the preceding screens, and click **Install**.

The Installation Progress screen appears.

Note: After the installation begins, clicking **Stop installation** stops the installation process, but the files that are already copied are not removed.

49. When the installation is done, click **Next**, the Installation Complete screen appears.

50. Click **Finish** to complete and exit.

See ["Verifying the Pricing Design Center Installation"](#) for information on verifying the successful installation of BRM Integration Pack.

See ["About Installation Logs"](#) for information on PDC Installer logs.

Installing PDC in Silent Mode

Use silent install mode when you are installing PDC using the same configuration repeatedly. Silent install mode does not use the GUI and it runs in the background.

In this mode, you use a response file template that contains a predefined set of values to install PDC and BRM Integration Pack. You can generate a response file that contains the parameters and values during the PDC GUI installation.

Creating a Response File

To create a response file:

1. Create the response file by doing one of the following:

- Create a copy of the response file that was generated during the GUI installation. See ["Installing PDC and BRM Integration Pack"](#) for more information.

Note: The GUI Installer does not store passwords provided during installation in the response file. You must manually add the passwords after creating a copy of the response file.

- Create a response file using the template by running the following command:

```
Java_home/bin/java -jar jarfile -getResponseFileTemplates
```

where:

- *Java_home* is the directory in which you installed the latest supported Java version.
- *jarfile* is the **pdcserver-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.

The following response file is created with the default values.

- **oracle.communications.pdc.PricingDesignCenter.rsp**

Use this file template if you are installing PDC.

You can create as many response files as needed.

2. Open the file in a text editor.

3. Modify the response file you copied by specifying the key-value information for the parameters you want in your installation.

Note:

- The response file template contains guidelines and examples on how to enter the values in the parameters.
- The Installer treats incorrect context, format, and type values in a response file as if no value were specified.

4. Save and close the response file.

Installing PDC and BRM Integration Pack in Silent Mode

To install PDC in silent mode:

1. Create the response file. See ["Creating a Response File"](#).
2. Copy the response file you created for PDC to the machine on which you run the silent installation.
3. On the machine on which you run the silent installation, go to the *temp_dir* directory to which you have downloaded the PDC server software pack, and run the following command:

```
Java_home/bin/java -jar jarfile -debug -invPtrLoc Inventory_
home/oraInventory/oraInst.loc [parameter=value] -responseFile path -silent
```

where:

- *path* is the absolute path to the response file.
- *jarfile* is the **pdcservice-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.
- *parameter* is the name of an installation parameter.
- *value* is the value of the installation parameter.

For example:

```
Java_home/bin/java -jar pdcservice-11.2.0.0.0_generic.jar -debug -invPtrLoc
Inventory_home/oraInventory/oraInst.loc INSTALL_TYPE=Complete -responseFile
/tmp/oracle.communications.pdc.PricingDesignCenter.rsp -silent
```

The installation runs silently in the background.

To install BRM Integration Pack in the silent mode:

1. Create the response file. See ["Creating a Response File"](#).
2. Copy the response file you created for BRM Integration Pack to the machine on which you run the silent installation.
3. On the machine on which you run the silent installation, go to the *temp_dir* directory to which you have downloaded the BRM Integration Pack, and run the following command:

```
Java_home/bin/java -jar jarfile -debug -invPtrLoc Inventory_
home/oraInventory/oraInst.loc [parameter=value] -responseFile path -silent
```

where:

- *Java_home* is the directory in which you installed the latest supported Java version.
- *jarfile* is the **pdcservice-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.
- *parameter* is the name of an installation parameter.
- *value* is the value of the installation parameter.
- *path* is the absolute path to the response file.

For example:

```
Java_home/bin/java -jar pdcservice-11.2.0.0.0_generic.jar -debug -invPtrLoc
Inventory_home/oraInventory/oraInst.loc INSTALL_TYPE=Complete -responseFile
/tmp/oracle.communications.pdc.PricingDesignCenter.rsp -silent
```

The installation runs silently in the background.

See ["Verifying the Pricing Design Center Installation"](#) for information on verifying the successful installation of BRM Integration Pack.

See ["About Installation Logs"](#) for information on PDC Installer logs.

About Installation Logs

The installation logs are used for debugging purposes. You can check the log files in the **oraInventory/logs** directory. The default location of the **oraInventory** directory is in the **/etc/oraInst.loc** (Linux) file or the **/var/opt/oracle/oraInst.loc** (Solaris) file.

You use the following log files to monitor installation and post-installations:

- **installActionTimeStamp.log**
- **oraInstallTimeStamp.err**
- **oraInstallTimeStamp.out**
- **dbScriptsgTimeStamp.log** (for the scripts executed using SQL*Plus and JDBC)
- **silentInstallTimeStamp.log** (for silent mode installation)

where *TimeStamp* is the date and time the log file was created.

Upgrading Pricing Design Center Software

This chapter describes how to upgrade your existing Oracle Communications Pricing Design Center (PDC) installation and install 11.2 patch sets on PDC 11.2. Before upgrading PDC, read the following:

Note: You can upgrade to PDC 11.2 or directly upgrade to the PDC 11.2 patch set.

- [Overview of the PDC Upgrade Procedure](#)
- [Pricing Design Center System Requirements](#)
- [Pre-Installation Tasks for the PDC Software Upgrade](#)
- [Pre-Installation Tasks for the PDC Patch Set Installation](#)

About Upgrading PDC

You can upgrade PDC or install PDC 11.2 patch sets by using GUI or in the silent mode. Upgrading or installing PDC in the silent mode lets you perform a noninteractive upgrade of PDC. You can use the silent mode to upgrade or install PDC quickly.

Important: When upgrading from PDC 11.1 to PDC 11.2 or 11.2 patch sets, note the following:

A direct upgrade from the PDC 11.1 Patch Set 7 release or an earlier patch set release is not supported.

If you want to upgrade from 11.1 to 11.2, you must have PDC 11.1 Patch Set 8 or later releases through PDC 11.1 Patch Set 12 installed.

If you want to upgrade from 11.1 to the 11.2 patch set, you must have PDC 11.1 Patch Set 11 or PDC 11.1 Patch Set 12 installed.

PDC upgrade must be performed by a user who has permissions to write to the `oraInventory` directory and the `MW_home/user_projects/domains` directory, where `MW_home` is the directory in which the Oracle Middleware components are installed.

For upgrade instructions, see the following sections:

- [Upgrading PDC by Using GUI](#)
- [Upgrading PDC in Silent Mode](#)

Upgrading PDC by Using GUI

The steps for upgrading PDC or installing the PDC patch sets by using GUI depend on the PDC components you choose to upgrade:

- To upgrade the existing PDC and BRM Integration Pack installed on the same machine, select the **Upgrade-Complete** installation option.
See ["Upgrading PDC and BRM Integration Pack"](#) for more information.
- To upgrade or install only PDC or PDC patch sets, select the **Pricing Design Center Upgrade** installation option.
See ["Upgrading PDC to 11.2"](#) for more information.
- To upgrade or install only BRM Integration Pack or BRM Integration Pack patch sets, select the **BRM Integration Pack Upgrade** installation option.
See ["Upgrading BRM Integration Pack"](#) for more information.

Upgrading PDC and BRM Integration Pack

To upgrade an existing PDC and BRM Integration Pack installation to PDC 11.2 or PDC 11.2 patch sets:

1. Obtain the PDC software. See ["Obtaining the PDC Software"](#).
2. Start the Oracle WebLogic Server domain administration server or the WebLogic Server domain managed server on which you want to deploy PDC, if it is not already started.
3. Ensure that the PDC database is running.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

4. Go to the *temp_dir* directory, and run one of the following commands:

- To start the GUI installer:

```
Java_home/bin/java -jar jarfile
```

where:

Java_home is the directory in which you installed the latest supported Java version.

jarfile is the **pdcservice-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.

- To start the GUI installer and install PDC using the **oraInventory** directory in a different location:

```
Java_home/bin/java -jar jarfile -invPtrLoc FilePath/oraInst.loc
```

where *FilePath* is the path to the directory in which the **oraInst.loc** file is located.

- To start the GUI installer and create a silent installer response file during the installation:

```
Java_home/bin/java -jar jarfile -record -destinationFile path
```

where *path* is the response file location and name.

The Welcome screen appears.

5. Click **Next**.

The Installation Location screen appears.

6. Enter the full path or browse to the directory in which you want to install PDC 11.2 and BRM Integration Pack for PDC 11.2.

Note: Ensure that you do not enter the path to the directory in which PDC 11.1 is installed.

7. Click **Next**.

The Select Installation Type screen appears.

8. Select **Upgrade Complete** and click **Next**.

The WebLogic Administration Server Connection screen appears.

9. Click **Next**.

10. Enter the WebLogic Server domain (the domain on which you deployed the existing PDC installation) information:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain is configured.
- b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.
- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator user password.
- e. In the **WebLogic Home** field, enter the path to the directory in which the WebLogic Server software is installed. For example, *MW_home\wlserver*.
- f. Do one of the following.

If you do not want to enable secure communication for PDC, deselect the **Enable SSL** check box.

To enable secure communication for PDC, leave the **Enable SSL** check box selected, and, in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).

11. Click **Next**.

The WebLogic Server screen appears.

12. Do one of the following:

- If the existing PDC installation is deployed on the WebLogic Server domain administration server, select a WebLogic Server domain administration server from the list.

- If the existing PDC installation is deployed on the WebLogic Server domain managed server, select a WebLogic Server domain managed server from the list.

13. Click Next.

The Pricing Design Center Schema screen appears.

14. Enter the following information required to connect to the existing PDC database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the PDC database is configured.
- b. In the **Port Number** field, enter the port number assigned to the PDC database service.
- c. In the **Service Name** field, enter the name of the PDC database service.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify that the information you entered is valid.

- d. In the **User Name** field, enter the name of the PDC schema user that you created during the PDC 11.1 installation.
- e. In the **Password** field, enter the PDC schema user password.
- f. To use the existing schema user details, select **Use the existing schema data**.

15. Click Next.

The Pricing Design Center System User screen appears.

16. Enter the existing PDC user information:

- a. In the **User Name** field, enter the name of the PDC user that you created during the PDC 11.1 installation.
- b. In the **Password** field, enter the password of the PDC user that you created during the PDC 11.1 installation.

17. Click Next.

The Select Charging Engine for Usage Rating screen appears.

18. Do one of the following:

- If you selected Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating during the PDC 11.1 installation, select **Elastic Charging Engine**.
- If you selected BRM real-time rating and batch rating engines for usage rating during the PDC 11.1 installation, select **Realtime Rating and Batch Rating Engines**.

Important: If you are using real-time and batch rating engines for usage rating, and you want to use ECE for usage rating, after the PDC upgrade, install PDC with ECE and then migrate the pricing data from the source PDC database into the target PDC database.

See the discussion about migrating PDC pricing data to PDC With ECE in *BRM Upgrade Guide*.

19. Click Next.

The PDC Keystore Credentials screen appears.

20. Enter the following information required to encrypt the passwords:

- a. In the **Key Password** field, enter the password PDC uses for accessing the PDC alias key in the keystore.
- b. In the **Confirm Key Password** field, enter the key password again.
- c. In the **Keystore Password** field, enter the password used for accessing the keystore.
- d. In the **Confirm Keystore Password** field, enter the keystore password again.

For more information about keystores, see the discussion about managing passwords in PDC in *PDC Security Guide*.

21. Click Next.

The Migration Option screen appears.

22. Do one of the following:

Important: Ensure that you select the same option that you selected during the PDC 11.1 installation.

- If you do not want to install the migration utility, select **Do not install Migration Utility**.
- To migrate the BRM real-time and batch rating engines pricing data to a PDC system that supports BRM real-time and batch rating engines, select **Migrate RRE and BRE Pricing Data to PDC**.
- To migrate the BRM real-time and batch rating engines pricing data to a PDC system that supports ECE, select **Migrate RRE and BRE Pricing Data to PDC with ECE**.
- To migrate the PDC pricing data to a PDC system that supports ECE, select **Migrate PDC Pricing Data to PDC with ECE**.

23. Click Next.

The Select Charging Engine for Usage Rating screen appears.

24. Do one of the following:

Important: Ensure that you select the same option that you selected in step 18.

- If you selected Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating during the PDC 11.1 installation, select **Elastic Charging Engine**.
- If you selected BRM real-time rating and batch rating engines for usage rating during the PDC 11.1 installation, select **Realtime Rating and Batch Rating Engines**.

25. Click Next.

The Pricing Design Center WebLogic Server Connection screen appears.

26. Enter the WebLogic Server domain (the domain on which you deployed the existing PDC installation) information:
- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain is configured.
 - b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.

Note: If you selected a WebLogic Server domain managed server in step 12, enter the port number to the managed server.

- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator password.
- e. Do one of the following:

If you do not want to enable secure communication for PDC, deselect the **Enable SSL** check box.

To enable secure communication for PDC, leave the **Enable SSL** check box selected, and, in the **Keystore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).

27. Click **Next**.

The BRM Server Location screen appears.

28. Enter the existing BRM batch and real-time rating engine details:

- a. In the **BRM** field, enter the path to the directory in which BRM is installed.
- b. In the **BRM Pipeline** field, enter the path to the directory in which Pipeline Manager is installed.
- c. In the **Perl Home** field, enter the path to the directory in which the Perl libraries are installed.

29. Click **Next**.

The BRM Pipeline Manager Database Connection Screen appears.

30. Enter the following information required to connect to the existing Pipeline Manager database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the Pipeline Manager database is configured.
- b. In the **Port Number** field, enter the port number assigned to the Pipeline Manager database service.
- c. In the **User Name** field, enter the Pipeline Manager database schema user name.
- d. In the **Password** field, enter the Pipeline Manager database schema password.
- e. In the **Service Name** field, enter the name of the Pipeline Manager database service.

31. Click Next.

The Transformation Cross-Reference Schema screen appears.

32. Enter the following information required to connect to the existing transformation cross-reference schema:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the transformation cross-reference database is configured.
- b. In the **Port Number** field, enter the port number assigned to the transformation cross-reference database service.
- c. In the **Service Name** field, enter the name of the transformation cross-reference database service.
- d. In the **User Name** field, enter the name of the transformation cross-reference schema user that you created during the PDC 11.1 installation.
- e. In the **Password** field, enter the password of the transformation cross-reference schema user that you created during the PDC 11.1 installation.

33. Click Next.

The Pricing Design Center System User screen appears.

34. Enter the existing PDC user information:

- a. In the **User Name** field, enter the name of the PDC user that you created during the PDC 11.1 installation.
- b. In the **Password** field, enter the password of the PDC user that you created during the PDC 11.1 installation.

35. Click Next.

The Migration Cross-Reference Schema screen appears. If you selected **Do not install Migration Utility** in step 22, proceed to step 39.

36. Enter the following information required to connect to the migration cross-reference schema:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the migration cross-reference database is configured.
- b. In the **Port Number** field, enter the port number assigned to the migration cross-reference database service.
- c. In the **Service Name** field, enter the name of the migration cross-reference database service.
- d. In the **User Name** field, enter the name of the migration cross-reference schema user that you created during the PDC 11.1 installation.
- e. In the **Password** field, enter the password of the migration cross-reference schema user that you created during the PDC 11.1 installation.

37. Click Next.

The Migration User screen appears.

38. Enter the migration user information:

- a. In the **User Name** field, enter the migration user name.
- b. In the **Password** field, enter the migration user password.

39. Click Next.

The Keystore Credentials screen appears.

40. Enter the following information required to encrypt the passwords:
 - a. In the **Key Password** field, enter the password PDC uses for accessing the PDC alias key in the keystore.
 - b. In the **Confirm Key Password** field, enter the key password again.
 - c. In the **Keystore Password** field, enter the password used for accessing the keystore.
 - d. In the **Confirm Keystore Password** field, enter the keystore password again.
41. Click **Next**.

The Installation Summary screen appears.

42. Review the selections you have made in the preceding screens, and click **Install**.

The Installation Progress screen appears.

Note: After the installation begins, clicking **Stop installation** stops the installation process, but the files that are already copied are not removed.

43. When the installation is done, click **Next**, the Installation Complete screen appears.

Note down the provided URL. You use this URL to access PDC.

44. Click **Finish** to complete and exit.

See "[Verifying the Pricing Design Center Installation](#)" for information on verifying the successful installation of PDC and BRM Integration Pack.

See "[About Installation Logs](#)" for information on the PDC Installer logs.

Upgrading PDC to 11.2

To upgrade an existing PDC 11.1 installation to PDC 11.2 or PDC 11.2 patch sets:

1. Obtain the PDC software. See "[Obtaining the PDC Software](#)".
2. Start the Oracle WebLogic Server domain administration server or the WebLogic Server domain managed server on which you want to deploy PDC, if it is not already started.
3. Ensure that the PDC database is running.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

4. Go to the *temp_dir* directory, and run one of the following commands:

- To start the GUI installer:

```
Java_home/bin/java -jar jarfile
```

where:

Java_home is the directory in which you installed the latest supported Java version.

jarfile is the **pdcserver-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.

- To start the GUI installer and install PDC using the **oraInventory** directory in a different location:

```
Java_home/bin/java -jar jarfile -invPtrLoc FilePath/oraInst.loc
```

where *FilePath* is the path to the directory in which the **oraInst.loc** file is located.

- To start the GUI installer and create a silent installer response file during the installation:

```
Java_home/bin/java -jar jarfile -record -destinationFile path
```

where *path* is the response file location and name.

The Welcome screen appears.

5. Click **Next**.

The Installation Location screen appears.

6. Enter the full path or browse to the directory in which you want to install PDC 11.2.

Note: Ensure that you do not enter the path to the directory in which PDC 11.1 is installed.

7. Click **Next**.

The Select Installation Type screen appears.

8. Select **Pricing Design Center Upgrade** and click **Next**.

The WebLogic Administration Server Connection screen appears.

9. Click **Next**.

10. Enter the WebLogic Server domain (the domain on which you deployed the existing PDC installation) information:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain is configured.
- b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.
- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator user password.
- e. In the **WebLogic Home** field, enter the path to the directory in which the WebLogic Server software is installed. For example, *MW_home/wlserver*.
- f. Do one of the following.

If you do not want to enable secure communication for PDC, deselect the **Enable SSL** check box.

To enable secure communication for PDC, leave the **Enable SSL** check box selected, and, in the **KeyStore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).

11. Click Next.

The WebLogic Server screen appears.

12. Do one of the following:

- If the existing PDC installation is deployed on the WebLogic Server domain administration server, select a WebLogic Server domain administration server from the list.
- If the existing PDC installation is deployed on the WebLogic Server domain managed server, select a WebLogic Server domain managed server from the list.

13. Click Next.

The Pricing Design Center Database Schema screen appears.

14. Enter the following information required to connect to the existing PDC schema:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the PDC database is configured.
- b. In the **Port Number** field, enter the port number assigned to the PDC database service.
- c. In the **Service Name** field, enter the name of the PDC database service.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify that the information you entered is valid.

- d. In the **User Name** field, enter the name of the PDC schema user that you created during the PDC 11.1 installation.
- e. In the **Password** field, enter the PDC schema user password.

15. Click Next.

The Pricing Design Center System User screen appears.

16. Enter the existing PDC user information:

- a. In the **User Name** field, enter the name of the PDC user that you created during the PDC 11.1 installation.
- b. In the **Password** field, enter the password of the PDC user that you created during the PDC 11.1 installation.

17. Do one of the following:

- If you selected Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating during the PDC 11.1 installation, select **Elastic Charging Engine**.

- If you selected BRM real-time rating and batch rating engines for usage rating during the PDC 11.1 installation, select **Realtime Rating and Batch Rating Engines**.

Important: If you are using real-time and batch rating engines for usage rating, and you want to use ECE for usage rating, after the PDC upgrade, install PDC with ECE and then migrate the pricing data from the source PDC database into the target PDC database.

See the discussion about migrating PDC pricing data to PDC With ECE in *BRM Upgrade Guide*.

18. Click Next.

The Keystore Credentials screen appears.

19. Enter the following information required to encrypt the passwords:

- In the **Key Password** field, enter the password PDC uses for accessing the PDC alias key in the keystore.
- In the **Confirm Key Password** field, enter the key password again.
- In the **Keystore Password** field, enter the password used for accessing the keystore.
- In the **Confirm Keystore Password** field, enter the keystore password again.

20. Click Next.

The Installation Summary screen appears.

21. Review the selections you have made in the preceding screens, and click **Install.**

The Installation Progress screen appears.

Note: After the installation begins, clicking **Stop installation** stops the installation process, but the files that are already copied are not removed.

22. When the installation is done, click **Next, the Installation Complete screen appears.**

Note down the provided URL. You use this URL to access PDC.

23. Click **Finish to complete and exit.**

See "[Verifying the Pricing Design Center Installation](#)" for information on verifying the successful installation of BRM Integration Pack.

See "[About Installation Logs](#)" for information on the BRM Integration Pack Installer logs.

Upgrading BRM Integration Pack

Note: The BRM Integration Pack installation must be performed as the UNIX user who installed BRM; for example, **pin_user**.

To upgrade BRM Integration Pack:

1. Obtain the PDC software. See ["Obtaining the PDC Software"](#).
2. Start the Oracle WebLogic Server domain administration server or the WebLogic Server domain managed server on which you PDC 11.1 was deployed, if it is not already started.
3. Ensure that the PDC database is running.

Note: Ensure that the Oracle Database server is in Running state. The Installer connects to the Oracle Database server to verify the information you entered is valid.

4. Go to the *temp_dir* directory, and run one of the following commands:

- To start the GUI installer:

```
Java_home/bin/java -jar jarfile
```

where:

Java_home is the directory in which you installed the latest supported Java version.

jarfile is the **pdcserver-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.

- To start the GUI installer and install PDC using the **oraInventory** directory in a different location:

```
Java_home/bin/java -jar jarfile -invPtrLoc FilePath/oraInst.loc
```

where *FilePath* is the path to the directory in which the **oraInst.loc** file is located.

- To start the GUI installer and create a silent installer response file during the installation:

```
Java_home/bin/java -jar jarfile -record -destinationFile path
```

where *path* is the response file location and name.

The Welcome screen appears.

5. Click **Next**.

The Installation Location screen appears.

6. Enter the full path or browse to the directory in which you want to install BRM Integration Pack for the PDC 11.2 installation.

Note: Ensure that you do not enter the path to the directory in which BRM Integration Pack for PDC 11.1 is installed.

7. Click **Next**.

The Select Installation Type screen appears.

8. Select **BRM Integration Pack Upgrade** and click **Next**.

The Migration Option screen appears.

9. Do one of the following:

Important: Ensure that you select the same option that you selected during the PDC 11.1 installation.

- If you do not want to migrate data, select **Do not install Migration Utility**.
- To migrate the BRM real-time and batch rating engines pricing data to a PDC system that supports BRM real-time and batch rating engines, select **Migrate RRE and BRE Pricing Data to PDC**.
- To migrate the BRM real-time and batch rating engines pricing data to a PDC system that supports ECE, select **Migrate RRE and BRE Pricing Data to PDC with ECE**.
- To migrate the PDC pricing data to a PDC system that supports ECE, select **Migrate PDC Pricing Data to PDC with ECE**.

10. Click **Next**.

The Select Charging Engine for Usage Rating screen appears.

11. Do one of the following:

Important: Ensure that you select the same option that you selected during the PDC 11.2 upgrade.

- If you selected Oracle Communications Billing and Revenue Management Elastic Charging Engine (ECE) for usage rating during the PDC 11.1 installation, select **Elastic Charging Engine**.
- If you selected BRM real-time rating and batch rating engines for usage rating during the PDC 11.1 installation, select **Realtime Rating and Batch Rating Engines**.

12. Click **Next**.

The Pricing Design Center WebLogic Server Connection screen appears.

13. Enter the WebLogic Server domain (the domain on which you deployed the existing PDC installation) information:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the WebLogic Server domain is configured.
- b. In the **Port Number** field, enter the port number assigned to the WebLogic Server domain administration server.

Note: If you selected a WebLogic Server domain managed server during the PDC installation, enter the port number to the managed server.

- c. In the **User Name** field, enter the WebLogic Server domain administrator user name.
- d. In the **Password** field, enter the WebLogic Server domain administrator password.

- e. Do one of the following:

If you do not want to enable secure communication for PDC, deselect the **Enable SSL** check box.

To enable secure communication for PDC, leave the **Enable SSL** check box selected, and, in the **Keystore Location** field, enter the path of the client-side keystore file generated from the exported public certificate using the **keytool** utility.

For more information, see ["Configuring SSL for the WebLogic Server Domain"](#).

14. Click **Next**.

The BRM Server Location screen appears.

15. Enter the existing BRM batch and real-time rating engine details:

- a. In the **BRM** field, enter the path to the directory in which BRM is installed.
- b. In the **BRM Pipeline** field, enter the path to the directory in which Pipeline Manager is installed.
- c. In the **Perl Home** field, enter the path to the directory in which the Perl libraries are installed.

16. Click **Next**.

The BRM Pipeline Manager Database Connection Screen appears.

17. Enter the following information required to connect to the existing Pipeline Manager database:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the Pipeline Manager database is configured.
- b. In the **Port Number** field, enter the port number assigned to the Pipeline Manager database service.
- c. In the **User Name** field, enter the Pipeline Manager database schema user name.
- d. In the **Password** field, enter the Pipeline Manager database schema password.
- e. In the **Service Name** field, enter the name of the Pipeline Manager database service.

18. Click **Next**.

The Transformation Cross-Reference Schema screen appears.

19. Enter the following information required to connect to the existing transformation cross-reference schema:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the transformation cross-reference database is configured.
- b. In the **Port Number** field, enter the port number assigned to the transformation cross-reference database service.
- c. In the **Service Name** field, enter the name of the transformation cross-reference database service.
- d. In the **User Name** field, enter the name of the transformation cross-reference schema user that you created during the PDC 11.1 installation.
- e. In the **Password** field, enter the password of the transformation cross-reference schema user that you created during the PDC 11.1 installation.

20. Click Next.

The Pricing Design Center System User screen appears.

21. Enter the existing PDC user information:

- a. In the **User Name** field, enter the name of the PDC user that you created during the PDC 11.1 installation.
- b. In the **Password** field, enter the password of the PDC user that you created during the PDC 11.1 installation.

22. Click Next.

The Migration Cross-Reference Schema screen appears. If you selected **Do not install Migration Utility** in 9, proceed to step 26.

23. Enter the following information required to connect to the migration cross-reference schema:

- a. In the **Host Name** field, enter the IP address or the host name of the machine on which the migration cross-reference database is configured.
- b. In the **Port Number** field, enter the port number assigned to the migration cross-reference database service.
- c. In the **Service Name** field, enter the name of the migration cross-reference database service.
- d. In the **User Name** field, enter the name of the migration cross-reference schema user that you created during the PDC 11.1 installation.
- e. In the **Password** field, enter the password of the migration cross-reference schema user that you created during the PDC 11.1 installation.

24. Click Next.

The Migration User screen appears.

25. Enter the existing migration user information:

- a. In the **User Name** field, enter the name of the migration user that you created during the PDC 11.1 installation.
- b. In the **Password** field, enter the password of the migration user that you created during the PDC 11.1 installation.

26. Click Next.

The Keystore Credentials screen appears.

27. Enter the following information required to encrypt the passwords:

- a. In the **Key Password** field, enter the password PDC uses for accessing the PDC alias key in the keystore.
- b. In the **Confirm Key Password** field, enter the key password again.
- c. In the **Keystore Password** field, enter the password used for accessing the keystore.
- d. In the **Confirm Keystore Password** field, enter the keystore password again.

28. Click Next.

The Installation Summary screen appears.

29. Review the selections you have made in the preceding screens, and click **Install.**

The Installation Progress screen appears.

Note: After the installation begins, clicking **Stop installation** stops the installation process, but the files that are already copied are not removed.

30. When the installation is done, click **Next**, the Installation Complete screen appears.

Note down the provided URL. You use this URL to access PDC.

31. Click **Finish** to complete and exit.

See "[Verifying the Pricing Design Center Installation](#)" for information on verifying the successful installation of BRM Integration Pack.

See "[About Installation Logs](#)" for information on the BRM Integration Pack Installer logs.

Upgrading PDC in Silent Mode

Use silent install mode when you are upgrading PDC using the same configuration repeatedly. Silent install mode does not use the GUI and it runs in the background.

In this mode, you use a response file template that contains a predefined set of values to upgrade PDC and BRM Integration Pack. You can generate a response file that contains the parameters and values during the PDC GUI installation.

Creating a Response File

To create a response file:

1. Create the response file by doing one of the following:
 - Create a copy of the response file that was generated during the GUI upgrade. See "[Upgrading PDC and BRM Integration Pack](#)" for more information.

Note: The GUI Installer does not store passwords provided during installation in the response file. You must manually add the passwords after creating a copy of the response file.

- Create a response file using the template by running the following command:

```
Java_home/bin/java -jar jarfile -getResponseFileTemplates
```

where:

- *Java_home* is the directory in which you installed the latest supported Java version.
- *jarfile* is the **pdcservice-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.

The following response file is created with the default values.

- **oracle.communications.pdc.PricingDesignCenter.rsp**

Use this file template if you are installing PDC.

You can create as many response files as needed.

2. Open the file in a text editor.
3. Modify the response file you copied by specifying the key-value information for the parameters you want in your installation.

Note:

- The response file template contains guidelines and examples on how to enter the values in the parameters.
 - The Installer treats incorrect context, format, and type values in a response file as if no value were specified.
-

4. Save and close the response file.

Upgrading PDC and BRM Integration Pack in Silent Mode

To upgrade PDC or install PDC patch sets in silent mode:

1. Create the response file. See ["Creating a Response File"](#).
2. Copy the response file you created for PDC to the machine on which you run the silent installation.
3. On the machine on which you run the silent installation, go to the *temp_dir* directory to which you have downloaded the PDC server software pack, and run the following command:

```
Java_home/bin/java -jar jarfile -debug -invPtrLoc Inventory_
home/oraInventory/oraInst.loc [parameter=value] -responseFile path -silent
```

where:

- *Java_home* is the directory in which you installed the latest supported Java version.
- *jarfile* is the **pdcservice-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.
- *parameter* is the name of an installation parameter.
- *value* is the value of the installation parameter.
- *path* is the absolute path to the response file.

For example:

```
Java_home/bin/java -jar pdcservice-11.2.0.0.0_generic.jar -debug -invPtrLoc
Inventory_home/oraInventory/oraInst.loc INSTALL_TYPE=Complete -responseFile
/tmp/oracle.communications.pdc.PricingDesignCenter.rsp -silent
```

The upgrade runs silently in the background.

To upgrade BRM Integration Pack in silent mode:

1. Create the response file. See ["Creating a Response File"](#).
2. Copy the response file you created for BRM Integration Pack to the machine on which you run the silent installation.
3. On the machine on which you run the silent installation, go to the *temp_dir* directory to which you have downloaded the BRM Integration Pack, and run the following command:

```
Java_home/bin/java -jar jarfile -debug -invPtrLoc Inventory_  
home/oraInventory/oraInst.loc [parameter=value] -responseFile path -silent
```

where:

- *Java_home* is the directory in which you installed the latest supported Java version.
- *jarfile* is the **pdcservice-11.2.0.x.0_generic.jar**, *x* is the PDC 11.2 version that you are installing. For example, for PDC 11.2, the version is 0 and for PDC 11.2 Patch Set 1, the version is 1.
- *parameter* is the name of an installation parameter.
- *value* is the value of the installation parameter.
- *path* is the absolute path to the response file.

For example:

```
Java_home/bin/java -jar pdcservice-11.2.0.0.0_generic.jar -debug -invPtrLoc  
Inventory_home/oraInventory/oraInst.loc INSTALL_TYPE=Complete -responseFile  
/tmp/oracle.communications.pdc.BRMIntegrationPack.rsp -silent
```

The upgrade runs silently in the background.

See ["Verifying the Pricing Design Center Installation"](#) for information on verifying the successful installation of PDC and BRM Integration Pack.

See ["About Installation Logs"](#) for information on the PDC Installer logs.

Restoring the Previous Installation

If your upgrade is not successful, you must restore your system to the previous installation.

To restore the previous PDC 11.1 patch set installation:

1. Restore the WebLogic server **domains** directory. Use the **domains** directory that you backed up before the patch installation to replace the following directory:
MW_home/user_projects/domains
2. Restore the PDC installation directory. Use the *PDC_home* directory that you backed up before you installed PDC 11.2 to replace the *PDC_home* directory.
3. Restore the **oraInventory** directory. Use the **oraInventory** directory that you backed up before you installed PDC 11.2 to replace the **oraInventory** directory.
4. Restore the PDC database schema.
5. Restore the transformation cross-reference database schema.
6. Restore the migration cross-reference database schema.

Pricing Design Center Post-Installation Tasks

This chapter provides instructions for Oracle Communications Pricing Design Center (PDC) 11.2 post-installation tasks.

- If you installed PDC for the first time, see ["Post-Installation Tasks for the Complete PDC Software Install"](#).
- If you installed PDC 11.2 or the 11.2 patch set on an existing PDC 11.1 installation, see ["Post-Installation Tasks for the PDC Upgrade"](#).
- If you installed PDC 11.2 Patch Set 1 on your existing PDC 11.2 installation, see ["Post-Installation Tasks for the PDC Patch Set Installation"](#).

Post-Installation Tasks for the Complete PDC Software Install

After installing the complete PDC software, do the following:

Important: Ensure that the BRM-PDC integration is enabled. See ["Enabling BRM-PDC Integration"](#) for more information.

- (Optional) Create a PDC user. You can create additional PDC users through Oracle WebLogic Server Administration Console. See ["Creating a PDC User"](#) for more information.
- Add the PDC user to a group. See ["Adding the PDC User to a Group"](#) for more information.
- Start the transformation engines. See ["Starting the Transformation Engines"](#) for more information.
- (Optional) Restrict the quota limit for a schema user in a tablespace. See ["Restricting Tablespace Quota for a Schema User"](#) for more information.

Additionally, do the following if you are not migrating the existing BRM pricing data to the PDC database:

- Clean up sample Oracle Communications Billing and Revenue Management (BRM) data. See ["Cleaning up Sample BRM Data"](#) for more information.
- Run the **SyncPDC** utility. Run **SyncPDC** to synchronize the setup components defined in other BRM components with PDC. See ["Running SyncPDC"](#) for more information.
- (Optional) Create prerequisite setup components such as balance elements. See *PDC User's Guide* for more information. For a quick start, load sample balance element IDs and ratable usage metrics (RUMs) provided with PDC. See ["Loading](#)

[Sample Data](#)" for more information.

- Create a service-event map in the PDC UI. See "[Creating Service-Event Maps](#)" for more information.

Creating a PDC User

If you want to create additional PDC users, you must create the PDC users after the installation is complete.

To create a PDC user:

1. Log in to WebLogic Server Administration Console.
2. In the **Domain Structure** section, click the **Security Realms** link.
The Summary of Security Realms page appears.
3. Click the **myrealm** link.
The Settings for myrealm page appears.
4. Click the **Users and Groups** tab.
5. Click the **Users** subtab.
6. Click **New**.
The Create a New User page appears.
7. Do the following:
 - a. In the **Name** field, enter a name for the PDC user.
 - b. (Optional) In the **Description** field, enter a brief description for the PDC user.
 - c. In the **Password** field, enter a password for the PDC user.

Note: The PDC user password can be a minimum of 8 characters and maximum of 12 characters and should contain at least one non-alphabetic character. For example, Weblogic123.

The user name must not be a part of the password.

- d. In the **Confirm Password** field, enter the password again, to confirm it.
8. Click **OK**.
The user name appears in the User table.
 9. Click **Save**.

To access PDC, add the PDC user to a group based on the role of the user in the organization. See "[Adding the PDC User to a Group](#)" for more information.

Adding the PDC User to a Group

PDC is a role-based application that authenticates and authorizes users based on the group to which the user belongs. The role-based functionality of PDC is supported by the following WebLogic Server groups:

- **Pricing Design Admin:** The users belonging to this group have read and write access to the setup and pricing components.

- **Pricing Analyst:** The users belonging to this group have read access to the setup components and read and write access to the pricing components.
- **Pricing Reviewer:** The users belonging to this group have only read access to the setup and pricing components.
- **Migration Admin:** The users belonging to this group can migrate pricing data from the BRM database to the PDC database.

These groups are created by the PDC Installer during the PDC installation process. To access PDC, add the PDC user you created during the installation or after the installation is complete to a group based on the role of the user in the organization.

To add the user to the group:

1. Log in to WebLogic Server Administration Console.
2. In the **Domain Structure** section, click the **Security Realms** link.
The Summary of Security Realms page appears.
3. Click the **myrealm** link.
The Settings for myrealm page appears.
4. Click the **Users and Groups** tab.
5. Click the **Users** subtab.
6. Click the *username* link, where *username* is the name of the PDC user.
The Settings screen for *username* page appears.
7. Click the **Groups** tab.
8. In the **Parent Groups** section, from the **Available** list, select the group to which you want to assign the user.
9. Move the selected item to the **Chosen** list.
10. Click **Save**.

Starting the Transformation Engines

The transformation engines do not automatically start when you start the PDC server, you must start them manually. See ["Starting the Transformation Engines"](#) for more information.

Restricting Tablespace Quota for a Schema User

PDC grants unlimited tablespace quota to the following schema users:

- PDC schema
- Transformation cross-reference schema
- Migration cross-reference schema

You can restrict the quota limit for a schema user in a tablespace by using SQL*Plus.

To restrict the tablespace quota for a schema user:

1. Connect to your database using SQL*Plus:

```
sqlplus user_name/password@database_name
```

where:

- *user_name* is the PDC database user name.
 - *password* is the PDC database user password.
 - *database_name* is the service name or database alias of the PDC database.
2. At the SQL*Plus prompt, enter the following command:
- ```
alter user schema_user_name quota size on tablespace_name;
```
- where:
- *schema\_user\_name* is the PDC schema user name.
  - *size* is the tablespace quota size.
  - *tablespace\_name* is the name of the tablespace for the PDC schema user.
- For example:
- ```
alter user pdcUser quota 500k on data_ts;
```
3. Enter the following command, which exits SQL*Plus:
- ```
exit
```

## Cleaning up Sample BRM Data

When you install BRM, its installation scripts populate sample data, including setup and pricing components. When using PDC, this data should not be initiated in BRM, but it should be defined in PDC and published to the BRM database. To ensure that PDC and BRM are integrated properly, you must clean up the BRM sample data before you start using PDC.

To clean up sample BRM data:

1. Go to the *BRM\_Integration\_Pack\_home/apps/syncpdc/scripts* directory, where *BRM\_Integration\_Pack\_home* is the directory in which BRM Integration Pack is installed.
2. Enter the following command, which opens SQL\*Plus:  

```
sqlplus user_name/password@database_Name
```

where:

  - *user\_name* is the BRM database user name.
  - *password* is the BRM database user password.
  - *database\_Name* is the service name or database alias of the BRM database.
3. Enter the following commands, which clean up BRM data:
  - To clean up real-time data:  

```
update_pin_tables.sql
```
  - To clean up batch-rating data:  

```
update_ifw_tables.sql
```

---

**Note:** If PDC is integrated with ECE, do not run the `update_ifw_tables.sql` command.

---

The sample BRM data is cleaned up.

4. Enter the following command, which exits SQL\*Plus:

```
exit
```

## Running SyncPDC

You must run the **SyncPDC** utility to synchronize the setup components defined outside of PDC.

See the discussion about running **SyncPDC** in *PDC User's Guide* for more information.

## Loading Sample Data

PDC provides sample XML files to create setup components. The sample files are located in the *PDC\_home/apps/Samples/Examples* directory, where *PDC\_home* is the directory in which PDC is installed.

The **Examples** directory contains the following sample files:

- **PDCSampleBE.xml**. Contains all currency balance elements and some frequently used non-currency balance elements. You can load this file to quickly create balance elements to use when configuring pricing.
- **PDCSampleRum.xml**. Contains commonly used ratable usage metrics (RUMs). You can load this file to quickly create RUMs to use when creating a service-event map and when configuring pricing.
- **OOB\_ProfileSpecifications.xml**. Contains the profile attribute specifications referenced in the following custom rules: **Friends&Family**, **SpecialDay**, and **ClosedUserGroup**. This XML file references the names used in the provisioning tags provided by default with the BRM installation. See the discussion about configuring closed user groups in *PDC User's Guide* for more information.
- **OOB\_CRs.xml**. Contains the custom rules: **Friends&Family**, **SpecialDay**, and **ClosedUserGroup**. You can use these custom rules in generic and charge selectors when configuring a charge based on a subscriber's Friends & Family, Special Day, or Closed User Group profile. You must load the **OOB\_ProfileSpecifications.xml** file before loading this file. See the discussion about configuring closed user groups in *PDC User's Guide* for more information.
- **OOB\_ItemTypeSelector.xml**. You must load this file if you are using ECE. This file provides the default billing item assignments that are supported by BRM without any additional configuration. See the discussion about loading the **OOB\_ItemTypeSelector.xml** file in *PDC User's Guide* for more information.

---

**Important:** Before loading this file into the PDC database, make a backup copy of the customized **config\_item\_tags.xml** and **config\_item\_types.xml** files in BRM if you have created custom bill items in BRM. When you load the **OOB\_ItemTypeSelector.xml** file into the PDC database, it overwrites the existing item tag-to-item type mapping in the BRM database.

---

You can load the sample files by using the **ImportExportPricing** utility. See *PDC User's Guide* for more information.

---

**Note:** The **Examples** directory also contains sample alias files and sample pricing profile files that are provided only for reference and for use as templates for creating custom alias events or pricing profiles. You should not load the sample alias files and sample pricing profile files after installing PDC.

---

## Creating Service-Event Maps

A service-event map defines which events can be used for a service and which RUMs can be used for each service-event combination.

For example, you map the GSM Session event to the GSM service and the RUMs, Duration and Volume, to the GSM Session event.

You can create a service-event map in the PDC UI. See the PDC Help for more information.

## Post-Installation Tasks for the PDC Upgrade

After installing PDC 11.2 or 11.2 patch sets on an existing PDC 11.1 installation, do the following:

- Upgrade the PDC database schema to the PDC 11.2 schema. See ["Upgrading the PDC Database Schema"](#) for more information.
- Start the transformation engines. See ["Starting the Transformation Engines"](#) for more information.
- (Optional) Restrict the quota limit for a schema user in a tablespace. See ["Restricting Tablespace Quota for a Schema User"](#) for more information.
- Ensure that you migrate offer profiles from BRM into PDC. See ["Migrating Offer Profiles from BRM into PDC"](#) for more information.
- If you are upgrading from PDC 11.1 to PDC 11.2 Patch Set 1, run **SyncPDC** utility. The **SyncPDC** utility synchronizes the setup components defined in other BRM components with PDC. See ["Running SyncPDC"](#) for more information.

## Upgrading the PDC Database Schema

To upgrade the PDC database schema:

1. Go to the in the *PDC\_home/servers/upgrade/schema/pdc* directory.
2. Enter the following command, which opens SQL\*Plus:

```
sqlplus user_name/password@database_Name
```

where:

- *user\_name* is the PDC database user name.
  - *password* is the PDC database user password.
  - *database\_Name* is the service name or database alias of the PDC database.
3. Run the following command, which upgrades the PDC database schema:  

```
PricingDesignCenter.sql
```
  4. Enter the following command, which exits SQL\*Plus:

**exit**

## Migrating Offer Profiles from BRM into PDC

If you are using ECE for usage charging, ensure that you migrate the existing offer profile data from BRM into PDC and use only PDC for configuring policy specifications.

---

**Important:** After you migrate the offer profile data into PDC, delete the existing offer profiles in BRM and *do not* create any new offer profiles in BRM.

---

To migrate offer profiles from BRM into PDC:

1. Open the *PDC\_home/upgrade/PolicySpecificationDataUpgrade.sql* file in a text editor.
2. Specify the following parameters:

```
CREATE DATABASE LINK brmpdclink
CONNECT TO brm_dbhost_username
IDENTIFIED BY brm_dbhost_password
USING '(DESCRIPTION =
 (ADDRESS = (PROTOCOL = TCP)(HOST = brm_schema_hostname)(PORT = brm_
schema_port_number)))
 (CONNECT_DATA =
 (SID = brm_schema_sid)
)
)';
```

where:

- *brm\_dbhost\_username* is the BRM database user name.
- *brm\_dbhost\_password* is the BRM database user password.
- *brm\_schema\_hostname* is the BRM schema host name.
- *brm\_schema\_port\_number* is the port number assigned to the BRM schema.
- *brm\_schema\_sid* is the SID of the BRM schema.

3. Save and close the file.
4. Ensure that the BRM and PDC databases are running.
5. Connect to the PDC database using SQL\*Plus:

```
sqlplus user_name/password@database_Name
```

where:

- *user\_name* is the PDC database user name.
- *password* is the PDC database user password.
- *database\_Name* is the service name or database alias of the PDC database.

6. Migrate offer profiles into PDC by running the following command:

```
@PolicySpecificationDataUpgrade.sql
```

The offer profiles are migrated from BRM into PDC in the PDC format as policy specifications and policy labels.

7. Exit SQL\*Plus by running the following command:

```
exit
```

8. Restart WebLogic Server.

9. Export the policy specifications and policy labels to XML files by running the following command:

```
ImportExportPricing -export FileNamePrefix -config POLICY_SPECIFICATION
ImportExportPricing -export FileNamePrefix -config POLICY_LABEL
```

where *FileNamePrefix* is the prefix to append to the beginning of the generated XML file name.

The policy specifications and policy labels are exported to the respective XML files.

10. Verify the migrated data in the XML files and make any necessary changes if required.
11. If you make any changes in the XML files, import the policy specifications and policy labels into the PDC database by running the following command:

```
ImportExportPricing -import -config POLICY_LABEL filename
ImportExportPricing -import -config POLICY_SPECIFICATION filename
```

where *filename* is the name of the XML file.

The policy specifications and policy labels are imported into the PDC database.

12. Export the **ALTERATION\_RATE\_PLAN** and **CHARGE\_RATE\_PLAN** pricing components to XML files by running the following commands:

```
ImportExportPricing -export -pricing ALTERATION_RATE_PLAN
ImportExportPricing -export -pricing CHARGE_RATE_PLAN
```

13. Import the **ALTERATION\_RATE\_PLAN** and **CHARGE\_RATE\_PLAN** pricing components into the PDC database by running the following commands:

```
ImportExportPricing -import -pricing CHARGE_RATE_PLAN -ow filename
ImportExportPricing -import -pricing ALTERATION_RATE_PLAN -ow filename
```

14. Publish the required pricing and setup components to ECE by running the following command:

```
ImportExportPricing -publish POLICY_SPECIFICATION -target ece
ImportExportPricing -publish CHARGE_OFFERING -target ece
ImportExportPricing -publish ALTERATION_OFFERING -target ece
```

The policy specifications, charge offers, and discount offers are published to ECE.

---

**Note:** During PDC installation, the create database link privilege is granted to the PDC schema user. After migrating offer profiles from BRM into PDC, you can revoke the create database link privilege from the PDC schema user by running the following command as the SYS user:

```
sqlplus sys_username/sys_password@
revoke create database link from pdc_schema_hostname;
```

---

## Post-Installation Tasks for the PDC Patch Set Installation

After installing PDC 11.2 Patch Set 1 on the existing PDC 11.2 installation, do the following:

- Run the PDC and BRM Integration Pack upgrade scripts. See ["Running the PDC Upgrade Scripts"](#) for more information.
- Start the transformation engines. See ["Starting the Transformation Engines"](#) for more information.
- Run the **SyncPDC** utility. Run **SyncPDC** to synchronize the setup components defined in other BRM components with PDC. See ["Running SyncPDC"](#) for more information.

### Running the PDC Upgrade Scripts

To run the PDC upgrade scripts:

1. Go to the *PDC\_home/server/upgrade/schema/pdc* directory.
2. Run the following command, which opens SQL\*Plus

```
sqlplus user_name/password@database_Name
```

where:

- *user\_name* is the PDC database user name.
  - *password* is the PDC database user password.
  - *database\_name* is the service name or database alias of the PDC database.
3. Run the following commands:

```
PricingDesignCenter.sql
MigrateEventAddEventType.sql
```

4. Run the following command, which exits the SQL\*Plus:

```
exit
```



---

## Verifying the Pricing Design Center Installation

---

This chapter describes how to verify the Oracle Communications Pricing Design Center (PDC) installation.

### Verifying the PDC Installation

You can verify that PDC is installed by checking the state of all installed components or by logging in to PDC.

To check the state of all installed components:

1. Log in to the PDC domain administration server.
2. In the **Domain Structure** section, click **Deployments**.

The Summary of Deployments screen appears.

3. Ensure that all of the managed servers are running.
4. If PDC is installed successfully, the following deployments appear in **Active** state:
  - JobDispatcher
  - PricingDesignCenter

To log in to PDC:

1. Open a browser window.
2. Enter the URL provided by the Installer at the end of the installation.

---

**Note:** You can also get the URL to access PDC from the *PDC\_home/install/readme.txt* file, where *PDC\_home* is the directory in which you installed PDC.

---

3. Click **Go**.

The PDC login page appears.

4. Do the following:
  - a. In the **User Name** field, enter the user name.
  - b. In the **Password** field, enter the password.

The PDC home page appears, verifying that PDC is installed successfully.

## Verifying the BRM Integration Pack Installation

You can verify that BRM Integration Pack is installed by checking if the values entered during the PDC 11.2 BRM Integration Pack installation are stored in the following configuration files:

- *BRM\_Integration\_Pack\_home*/apps/syncpdc/SyncPDCConfiguration.xml
- *BRM\_Integration\_Pack\_home*/apps/transformation/TransformationConfiguration.xml
- *BRM\_Integration\_Pack\_home*/apps/migration/MigrationConfiguration.xml

where *BRM\_Integration\_Pack\_home* is the directory in which you installed BRM Integration Pack.

---

# Uninstalling Pricing Design Center

This chapter describes how to uninstall Oracle Communications Pricing Design Center (PDC).

## Uninstalling PDC

You use Oracle Universal Installer to uninstall PDC. You can also uninstall other components of the PDC product using Oracle Universal Installer.

---

**Note:** Oracle Universal Installer does not uninstall the PDC patch. Also, it does not clean the PDC database or remove the PDC users. You need to perform them manually.

You can restore the previous release installation by replacing the patch set directories using the backup copy of your previous release installation. See ["Restoring the Previous Installation"](#) for more information.

---

To uninstall PDC:

1. Go to the *PDC\_home/oui/bin* directory, where *PDC\_home* is the directory in which you installed PDC.
2. Clean up the WebLogic Server domain by running the following command:

```
java -cp Weblogic_home/wlserver/server/lib/weblogic.jar weblogic.WLST cleanup_
weblogic_domain.py weblogic_username weblogic_password weblogic_host weblogic_
port weblogic_use_ssl pdc_username
```

where:

- *weblogic\_home* is the directory in which WebLogic Server is installed.
- *weblogic\_username* is the WebLogic Server domain administrator user name.
- *weblogic\_password* is the WebLogic Server domain administrator user password.
- *weblogic\_host* is the IP address or the host name of the machine on which the WebLogic Server domain is configured.
- *weblogic\_port* is the port number assigned to the WebLogic Server domain administration server.
- *weblogic\_use\_ssl* is one of the following:
  - **true** if SSL is enabled for the WebLogic Server domain.

- **false** if SSL is disabled for the WebLogic Server domain.
- *pdcc\_username* is the name of the PDC user.

For example:

```
java -cp /home/usr/opt/Oracle/oracle_weblogic_12.2.1.3.0/wlserver/server/lib/weblogic.jar weblogic.WLST cleanup_weblogic_domain.py weblogic password123 your.host.name.com 1234 false pdccuser
```

3. Run the following command:

```
./deinstall.sh
```

The Distribution to Uninstall screen appears.

4. Select the components you want to uninstall.
5. Click **Uninstall**.

The Welcome screen appears.

6. Click **Next**.

The Uninstallation Summary screen appears.

7. Click **Uninstall**.

The Uninstallation Progress screen appears.

8. Click **Next**.

The Uninstallation Complete screen appears.

9. Click **Finish**.

The Installer removes all of the files except the log files. You must delete the log files manually.

You can check the log files in the **oraInventory/logs** directory. The default location of the **oraInventory** directory is in the **/etc/oraInst.loc** (Linux) file or the **/var/opt/oracle/oraInst.loc** (Solaris) file.

## Uninstalling BRM Integration PackPDC Installation and System Administration Guide

To uninstall Oracle Communications Billing and Revenue Management (BRM) Integration Pack:

---

---

**Note:** Oracle Universal Installer does not uninstall the BRM Integration Pack patch. Also, it does not clean the cross-reference database or remove the users. You need to perform them manually.

You can restore the previous release installation by replacing the patch set directories using the backup copy of your previous release installation. See ["Restoring the Previous Installation"](#) for more information.

---

---

1. Go to the *BRM\_Integration\_Pack\_home/oui/bin* directory, where *BRM\_Integration\_Pack\_home* is the directory in which you installed the BRM Integration Pack.
2. Run the following command:

```
./deinstall.sh
```

The Distribution to Uninstall screen appears.

3. Select the components you want to uninstall.

4. Click **Uninstall**.

The Welcome screen appears.

5. Click **Next**.

The Uninstallation Summary screen appears.

6. Click **Uninstall**.

The Uninstallation Progress screen appears.

7. Click **Next**.

The Uninstallation Complete screen appears.

8. Click **Finish**.

The Installer removes all of the files except the log files. You must delete the log files manually.

You can check the log files in the **oraInventory/logs** directory. The default location of the **oraInventory** directory is in the **/etc/oraInst.loc** (Linux) file or the **/var/opt/oracle/oraInst.loc** (Solaris) file.

## Uninstalling PDC Using the Silent Mode

To uninstall PDC using the silent mode:

1. Go to the *PDC\_home/oui/bin* directory.
2. Clean up the WebLogic Server domain by running the following command:

```
java -cp Weblogic_home/wlserver/server/lib/weblogic.jar weblogic.WLST cleanup_
weblogic_domain.py weblogic_username weblogic_password weblogic_host weblogic_
port weblogic_use_ssl pdc_username
```

where:

- *weblogic\_home* is the directory in which WebLogic Server is installed.
- *weblogic\_username* is the WebLogic Server domain administrator user name.
- *weblogic\_password* is the WebLogic Server domain administrator user password.
- *weblogic\_host* is the IP address or the host name of the machine on which the WebLogic Server domain is configured.
- *weblogic\_port* is the port number assigned to the WebLogic Server domain administration server.
- *weblogic\_use\_ssl* is one of the following:
  - **true** if SSL is enabled for the WebLogic Server domain.
  - **false** if SSL is disabled for the WebLogic Server domain.
- *pdc\_username* is the name of the PDC user.

For example:

```
java -cp /home/usr/opt/Oracle/oracle_weblogic_12.2.1.2.0/wlserver/server/lib/weblogic.jar weblogic.WLST cleanup_weblogic_domain.py weblogic password123 your.host.name.com 1234 false pdcuser
```

3. Run the following command:

```
./deinstall.sh -silent -responseFile path
```

where *path* is the location of the response file that you created during the GUI installation of PDC.

You receive a message indicating that PDC has been uninstalled successfully.

## Uninstalling BRM Integration Pack Using the Silent Mode

To uninstall BRM Integration Pack using the silent mode:

1. Go to the *BRM\_Integration\_Pack\_home/oui/bin* directory.
2. Run the following command:

```
./deinstall.sh -silent -responseFile path
```

where *path* is the location of the response file that you created during the GUI installation of BRM Integration Pack.

You receive a message indicating that BRM Integration Pack has been uninstalled successfully.

---

# Administering Pricing Design Center

This chapter provides an overview of basic Oracle Communications Pricing Design Center (PDC) administration tasks.

## PDC Administrator Tasks

A PDC administrator is responsible for the day-to-day tasks of maintaining and managing PDC and its users. You perform the following tasks as a PDC system administrator:

- [Managing PDC Security](#)
- [Monitoring PDC](#)
- [Managing PDC](#)
- [Managing the PDC Transformation Process](#)
- [Changing Encrypted Passwords in the Configuration Files](#)
- [Changing the SQL and EclipseLink Log Level for PDC](#)
- [Backing Up and Restoring PDC](#)

## Managing PDC Security

Oracle WebLogic Server includes a security architecture that provides a secure foundation for applications. PDC depends on the WebLogic Server security framework to secure its resources and servers. Managing PDC security involves the following:

- **Managing security realms:** Configuring new security realms, changing the default security realm, and deleting security realms.
- **Managing users and groups:** Defining users and assigning them to a group that can be authenticated in a security realm.
- **Managing security providers:** Managing security providers that provide security services to applications to protect WebLogic Server resources.
- **Managing security policies:** Managing security policies that specify who can access a WebLogic Server resource.

The **Wssp1.2-2007-Https-BasicAuth.xml** security policy secures the connection between the PDC Web service API and the client applications using one way secure sockets layer (SSL). You can also add custom security policies to secure the PDC Web service API using WebLogic Server Administration Console.

See the WebLogic Server Administration Console Help for more information on managing security realms, managing users and groups, managing security providers, and managing security policies.

## Monitoring PDC

Monitoring your system regularly ensures fast recognition and resolution of problems or issues. You can use WebLogic Server Administration Console to monitor the following:

- The PDC domain
- The PDC administration server and managed servers

See the WebLogic Server Administration Console Help for more information.

## Managing PDC

Managing PDC involves managing the following:

- The PDC database
- The WebLogic server on which PDC is installed

### Managing the PDC Database

To manage the PDC database and perform administrative tasks, see the Oracle Database Server documentation.

### Managing the PDC WebLogic Server

Managing the WebLogic server on which PDC is installed involves:

- Starting and stopping PDC
- Starting and stopping the PDC administration server and managed servers

See the WebLogic Server Administration Console Help for more information on managing the WebLogic server on which PDC is installed.

## Managing the PDC Transformation Process

Pricing and setup components configured in PDC must be published to Oracle Communications Billing and Revenue Management (BRM) subscription and rating engines, referred to as the target engines. During the publication process, the data is transformed into the format used by the BRM subscription and rating engines. The rating engines include BRM real-time rating engine (RRE), BRM batch-rating engine (BRE), and Oracle Communications Billing and Revenue Management (BRM) Elastic Charging Engine (ECE).

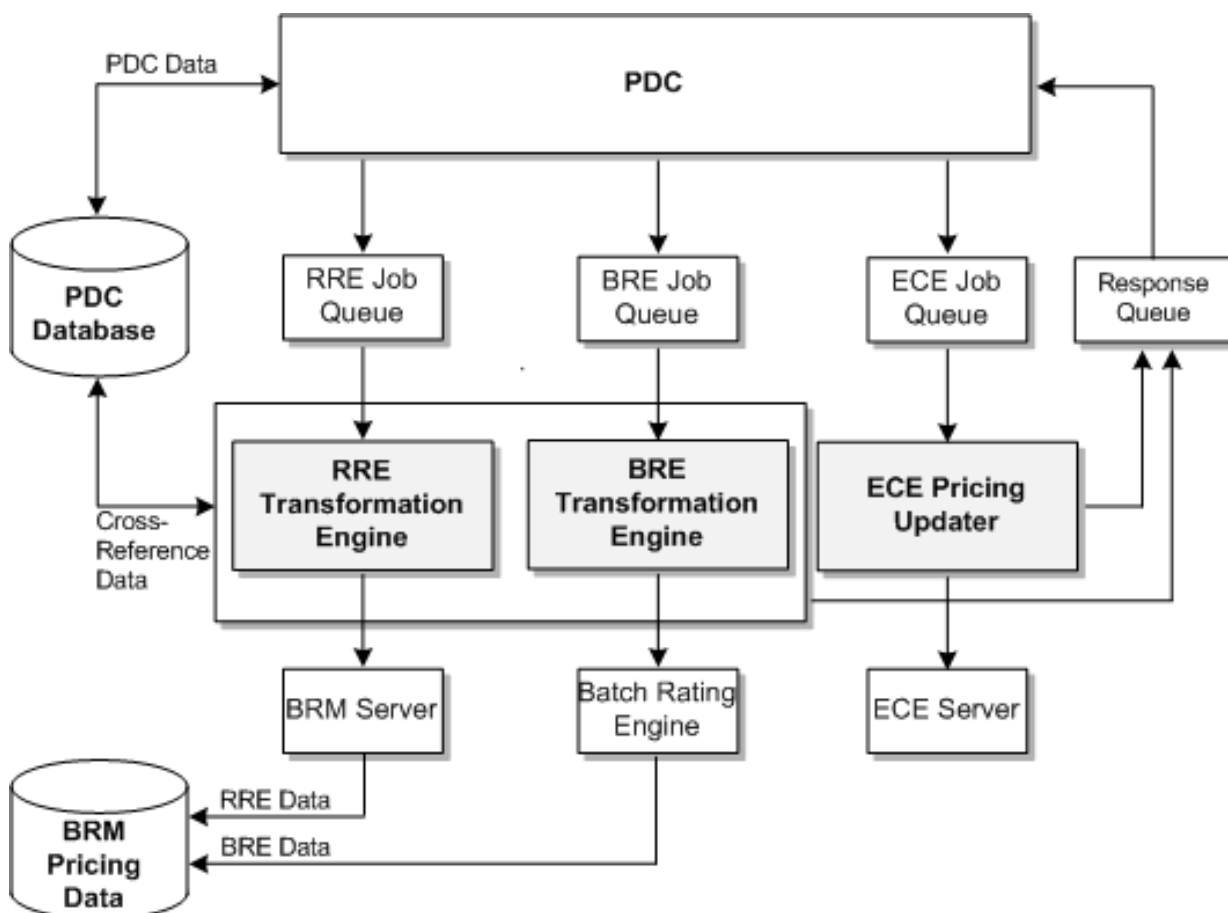
The PDC transformation process for pricing and setup components involves the following steps:

1. Using the PDC GUI application or the **ImportExportPricing** utility, you submit the pricing and setup components that you want to publish.
2. PDC validates the pricing and setup components.
3. PDC creates a transformation job for each target engine.
4. The job dispatcher puts the transformation job in the appropriate target engine work item queue.

5. The transformation engine or the ECE Pricing Updater associated with that queue retrieves the PDC components from the job dispatcher (see ["About the Transformation Engines"](#) and ["About the ECE Pricing Updater"](#)).
6. The transformation engine or the ECE Pricing Updater converts the PDC components into the format required by the target engine (see ["About the Target Engine Load Utilities"](#) and ["About the ECE Pricing Updater"](#)).
7. The transformation engine calls the load utility in the BRM server and Batch Rating Engine to load the PDC components into the respective databases, and ECE Pricing Updater loads the PDC components into ECE.
8. The transformation engine updates the tables in its cross-reference database.
9. The transformation engine or the ECE Pricing Updater sends the status to the job dispatcher, which notifies the PDC server.
10. The PDC server updates the status of the changeset.

Figure 9–1 illustrates the PDC transformation process for the ECE and BRM integration.

**Figure 9–1 PDC Transformation Process**



### About the Transformation Engines

PDC uses transformation engines to convert pricing and setup components into the XML format required by the target engines.

The following transformation engines are included with PDC and are installed when you install the BRM Integration Pack:

- **RRETransformationEngine:** This transformation engine supports the BRM real-time rating engine.
- **BRETransformationEngine:** This transformation engine supports the BRM batch rating engine.

The transformation engines use information in the *BRM\_Integration\_Pack\_home/apps/transformation/TransformationConfiguration.xml* file (where *BRM\_Integration\_Pack\_home* is the directory in which you installed BRM Integration Pack) to connect to their target engine, to the cross-reference database, to the PDC server, and to the log files of the target engine.

### About the Target Engine Load Utilities

After converting pricing and setup components into the appropriate XML format, the RRE and BRE transformation engines call their associated load utilities to load the components into the respective databases. The load utilities are as follows:

- **loadpricelist:** The RRE transformation engine uses this utility to load pricing and setup components into the target BRM database. To connect to the target database, this utility uses the **Infranet.properties** file. For more information, see the BRM documentation.
- **LoadIfwConfig:** The BRE transformation engine uses this utility to load pricing and setup components into the target BRM database. To connect to the target database, this utility uses the **LoadIfwConfig.reg** file. For more information, see the BRM documentation.

### About the ECE Pricing Updater

The ECE Pricing Updater loads pricing and setup components into ECE automatically when you publish pricing and setup components in PDC for its target engine. The ECE Pricing Updater is packaged with ECE. For more information, see the ECE documentation.

### Troubleshooting Transformation Errors

See "[Troubleshooting Pricing Design Center](#)" for information about troubleshooting transformation errors.

### Starting the Transformation Engines

The transformation engines do not automatically start when you start the PDC server. You must manually start them by running the following scripts:

- For real-time rating: *BRM\_Integration\_Pack\_home/Transformation/apps/bin/startRRETransformer*
- For batch rating: *BRM\_Integration\_Pack\_home/Transformation/apps/bin/startBRETransformer*. This script is optional if you are using ECE for usage rating.

When you run the scripts, at the command prompt, enter the key password to decrypt the encrypted passwords in the *BRM\_Integration\_Pack\_home/apps/transformation/TransformationConfiguration.xml* file and start the transformation engines.

### Status of the Transformation Engines

If you suspect that a transformation engine has stopped running, use standard system commands to check the status of the transformation engine process.

Following are the names of the BRM transformation engine processes:

- For real-time rating:  
**oracle.communications.brm.pdc.server.transformation.rre.RRETransformationEngine**
- For batch rating:  
**oracle.communications.brm.pdc.server.transformation.bre.BRETransformationEngine**

### Stopping the Transformation Engines

Use the following scripts to stop the transformation engines:

- For real-time rating: *BRM\_Integration\_Pack\_home/Transformation/apps/bin/stopRRETransformer*
- For batch rating: *BRM\_Integration\_Pack\_home/Transformation/apps/bin/stopBRETransformer*

## Changing Encrypted Passwords in the Configuration Files

The passwords for the WebLogic Server domain, PDC user, transformation cross-reference database, migration cross-reference database, and BRM database are stored in the following configuration files as encrypted text:

- **ImportExportConfiguration.xml:** This file is used to configure the **ImportExportPricing** utility. See the discussion about the **ImportExportPricing** utility in *PDC User's Guide*.
- **SyncPDCConfiguration.xml:** This file is used to configure the **SyncPDC** utility. See the discussion about configuring **SyncPDC** in *PDC User's Guide*.
- **TransformationConfiguration.xml:** This file is used by the transformation engines to connect to their target engine.
- **MigrationConfiguration.xml:** This file is used to configure the **MigrateBRMPricing** utility. See the discussion about configuring **MigrateBRMPricing** in *PDC Pricing Migration Guide*.

To change the encrypted passwords in the configuration files, see the following topics:

---

**Note:** You cannot change an encrypted password directly in the configuration file. You must encrypt the new password manually and update the entry in the appropriate configuration file.

---

- [Changing the Encrypted WebLogic Server Domain Password](#)
- [Changing the Encrypted Transformation Cross-Reference Database Password](#)
- [Changing the Encrypted Migration Cross-Reference Database Password](#)
- [Changing the Encrypted PDC User Password](#)
- [Changing the Encrypted BRM Database Password](#)

## Changing the Encrypted WebLogic Server Domain Password

To change the encrypted WebLogic Server domain password:

1. Go to the *PDC\_home/apps/bin* directory, where *PDC\_home* is the directory in which the PDC software is installed.

2. Run the following command:

```
encrypt
```

The **Enter Password** prompt appears.

3. Enter the new password for the WebLogic Sever domain.

The **Enter Key Password** prompt appears.

4. Enter the password PDC uses for accessing the PDC alias key in the keystore (*PDC\_home/apps/conf/pdc.jks*).

The **Enter Keystore Password** prompt appears.

5. Enter the password used for accessing the keystore.

The command window displays the new password for the WebLogic Server domain in encrypted form. For example:

```
FJwT2B1Hcws
```

6. Copy the encrypted password.

7. Open the *PDC\_home/apps/bin/ImportExportConfiguration.xml* file in a text editor.

8. Search the file for the following text:

```
<adminPassword>AdminPassword</adminPassword>
```

9. Replace *AdminPassword* with the copied encrypted password.

10. Save and close the file.

11. Go to the *BRM\_Integration\_Pack\_home/apps/bin* directory.

12. Run the following command:

```
encrypt
```

The **Enter Password** prompt appears.

13. Enter the new password for the WebLogic Sever domain.

The **Enter Key Password** prompt appears.

14. Enter the password PDC uses for accessing the PDC alias key in the keystore (*BRM\_Integration\_Pack\_home/apps/conf/pdc.jks*).

The **Enter Keystore Password** prompt appears.

15. Enter the password used for accessing the keystore.

The command window displays the new password for the WebLogic Server domain in encrypted form. For example:

```
FJwT2B1Hcws
```

16. Copy the encrypted password.

17. Open the *BRM\_Integration\_Pack\_home/apps/syncpdc/SyncPDCConfiguration.xml* file in a text editor.
18. Search the file for the following text:
 

```
<pricingServer>
<adminPassword>AdminPassword</adminPassword>
</pricingServer>
```
19. Replace *AdminPassword* with the copied encrypted password.
20. Save and close the file.
21. Open the *BRM\_Integration\_Pack\_home/apps/transformation/TransformationConfiguration.xml* file in a text editor.
22. Search the file for the following text:
 

```
<pricingServer>
<password>AdminPassword</password>
</pricingServer>
```
23. Replace *AdminPassword* with the copied encrypted password.
24. Save and close the file.
25. Open the *BRM\_Integration\_Pack\_home/apps/migration/MigrationConfiguration.xml* file in a text editor.
26. Search the file for the following text:
 

```
<pricingServer>
<adminpassword>AdminPassword</adminpassword>
</pricingServer>
```
27. Replace *AdminPassword* with the copied encrypted password.
28. Save and close the file.

### Changing the Encrypted Transformation Cross-Reference Database Password

To change the encrypted transformation cross-reference database password:

1. Go to the *BRM\_Integration\_Pack\_home/apps/bin* directory.
2. Run the following command:
 

```
encrypt
```

The **Enter Password** prompt appears.
3. Enter the new password for the transformation cross-reference database.
 

The **Enter Key Password** prompt appears.
4. Enter the password PDC uses for accessing the PDC alias key in the keystore (*BRM\_Integration\_Pack\_home/apps/conf/pdc.jks*).
 

The **Enter Keystore Password** prompt appears.
5. Enter the password used for accessing the keystore.
 

The command window displays the new password for the transformation cross-reference database in encrypted form. For example:

```
FJwT2B1Hcws
```

6. Copy the encrypted password.
7. Open the *BRM\_Integration\_Pack\_home/apps/syncpdc/SyncPDCConfiguration.xml* file in a text editor.
8. Search the file for the following text:

```
<xrefDatabase>
 <password>CrossRefPassword</password>
</xrefDatabase>
```

9. Replace *CrossRefPassword* with the copied encrypted password.
10. Save and close the file.
11. Open the *BRM\_Integration\_Pack\_home/apps/transformation/TransformationConfiguration.xml* file in a text editor.
12. Search the file for the following text:

```
<xrefDatabase>
 <password>CrossRefPassword</password>
</xrefDatabase>
```

13. Replace *CrossRefPassword* with the copied encrypted password.
14. Save and close the file.
15. Open the *BRM\_Integration\_Pack\_home/apps/migration/MigrationConfiguration.xml* file in a text editor.
16. Search the file for the following text:

```
<xrefDatabase>
 <password>CrossRefPassword</password>
</xrefDatabase>
```

17. Replace *CrossRefPassword* with the copied encrypted password.
18. Save and close the file.

### Changing the Encrypted Migration Cross-Reference Database Password

To change the encrypted migration cross-reference database password:

1. Go to the *BRM\_Integration\_Pack\_home/apps/bin* directory.
2. Run the following command:

```
encrypt
```

The **Enter Password** prompt appears.

3. Enter the new password for the migration cross-reference database.

The **Enter Key Password** prompt appears.

4. Enter the password PDC uses for accessing the PDC alias key in the keystore (*BRM\_Integration\_Pack\_home/apps/conf/pdc.jks*).

The **Enter Keystore Password** prompt appears.

5. Enter the password used for accessing the keystore.

The command window displays the new password for the migration cross-reference database in encrypted form. For example:

```
FJwT2B1Hcws
```

6. Copy the encrypted password.
7. Open the *BRM\_Integration\_Pack\_home/apps/migration/MigrateConfiguration.xml* file in a text editor.
8. Search the file for the following text:
 

```
<migrateDatabase>
 <password>MigrationCrossRefPassword</password>
</migrateDatabase>
```
9. Replace *MigrationCrossRefPassword* with the copied encrypted password.
10. Save and close the file.

### Changing the Encrypted PDC User Password

To change the encrypted PDC user password:

1. Go to the *PDC\_home/apps/bin* directory.
2. Run the following command:
 

```
encrypt
```

The **Enter Password** prompt appears.
3. Enter the new password for the PDC user that has to be encrypted.
 

The **Enter Key Password** prompt appears.
4. Enter the password PDC uses for accessing the PDC alias key in the keystore (*PDC\_home/apps/conf/pdc.jks*).
 

The **Enter Keystore Password** prompt appears.
5. Enter the password used for accessing the keystore.
 

The command window displays the new password for the PDC user in encrypted form. For example:

```
FJwT2B1Hcws
```
6. Copy the encrypted password.
7. Open the *PDC\_home/apps/bin/ImportExportConfiguration.xml* file in a text editor.
8. Search the file for the following text:
 

```
<pdcPassword>PDCUserPassword</pdcPassword>
```
9. Replace *PDCUserPassword* with the copied encrypted password.
10. Save and close the file.
11. Go to the *BRM\_Integration\_Pack\_home/apps/bin* directory.
12. Run the following command:
 

```
encrypt
```

The **Enter Password** prompt appears.
13. Enter the new password for the PDC user that has to be encrypted.
 

The **Enter Key Password** prompt appears.

14. Enter the password PDC uses for accessing the PDC alias key in the keystore (*BRM\_Integration\_Pack\_home/apps/conf/pdc.jks*).  
The **Enter Keystore Password** prompt appears.
15. Enter the password used for accessing the keystore.  
The command window displays the new password for the PDC user in encrypted form. For example:  

```
FJwT2B1Hcws
```
16. Copy the encrypted password.
17. Open the *BRM\_Integration\_Pack\_home/apps/syncpdc/SyncPDCConfiguration.xml* file in a text editor.
18. Search the file for the following text:  

```
<pdcPassword>PDCUserPassword</pdcPassword>
```
19. Replace *PDCUserPassword* with the copied encrypted password.
20. Save and close the file.
21. Open the *BRM\_Integration\_Pack\_home/apps/migration/MigrationConfiguration.xml* file in a text editor.
22. Search the file for the following text:  

```
<pdcPassword>PDCUserPassword</pdcPassword>
```
23. Replace *PDCUserPassword* with the copied encrypted password.
24. Save and close the file.

### Changing the Encrypted BRM Database Password

To change the encrypted BRM database password:

1. Go to the *BRM\_Integration\_Pack\_home/apps/bin* directory.
2. Run the following command:  

```
encrypt
```

  
The **Enter Password** prompt appears.
3. Enter the new password for the BRM database.  
The **Enter Key Password** prompt appears.
4. Enter the password PDC uses for accessing the PDC alias key in the keystore (*BRM\_Integration\_Pack\_home/apps/conf/pdc.jks*).  
The **Enter Keystore Password** prompt appears.
5. Enter the password used for accessing the keystore.  
The command window displays the new password for the BRM database in encrypted form. For example:  

```
FJwT2B1Hcws
```
6. Copy the encrypted password.
7. Open the *BRM\_Integration\_Pack\_home/apps/transformation/TransformationConfiguration.xml* file in a text editor.

8. Search the XML file for the following line:

```
<bredatabase>
<password>breDBPassword</password>
</bredatabase>
```

9. Replace *breDBPassword* with the copied encrypted password.
10. Save and close the file.

## Changing the SQL and EclipseLink Log Level for PDC

To change the EclipseLink log level for PDC:

1. Navigate to the *MW\_home/oracle\_common/common/bin* directory, where *MW\_home* is the directory in which the Oracle Middleware components are installed.
2. Start the WebLogic Scripting Tool (WLST) by running the following command:

```
./wlst.sh
```

3. Connect to the server on which you want to change the logging level by running the following command:

```
connect(Username, Password, 't3://hostname:port')
```

4. Go to the custom settings by running the following command:

```
custom()
```

---

**Note:** 'custom()' can take a few minutes to execute, approximately 5 minutes.

---

5. Go to TopLink by running the following command:

```
cd('TopLink')
```

6. List the sessions at this level by running the following command:

```
ls()
```

For example:

```
drw-TopLink:Name=Development-JobDispatcher#1.2.0.0file_
/scratch/ri-user-1/data/pdc_domain/servers/AdminServer/tmp/WL_
user/JobDispatcher_1.2.0.0/7qjzil/APP-INF/lib/jobdispatcher_entities.jar_
default,Type=Configuration
drw-TopLink:Name=Development-pricingui#V2.0file/scratch/ri-user-1/data/pdc_
domain/servers/AdminServer/tmp/_WL_
user/pricinguiV2.0/jztz5c/APP-INF/lib/pricing_entities.jar_
default,Type=Configuration
drw-TopLink:Name=Session(JobDispatcher#1.2.0.0file/scratch/ri-user-1/data/pdc_
domain/servers/AdminServer/tmp/_WL_
user/JobDispatcher1.2.0.0/7qjzil/APP-INF/lib/jobdispatcher_entities.jar_
default)
drw-TopLink:Name=Session(pricingui#V2.0file/_scratch/ri-user-1/data/pdc_
domain/ser vers/AdminServer/tmp/WL_
user/pricinguiV2.0/jztz5c/APP-INF/lib/pricing_entiti es.jar_default)
```

7. Go the session by running the following command:

```
cd('session')
```

For example:

```
cd('custom:/TopLink/TopLink:Name=Session(pricingui#V2.0file_
/scratch/ri-user-1/data/pdc_domain/servers/AdminServer/tmp/_WL_user/pricingui_
V2.0/jztz5c/APP-INF/lib/pricing_entities.jar_default)
```

8. Change the SQL and EclipseLink log level (as appropriate) by running the following command:

```
set('CurrentEclipseLinkLogLevel',newLevel)
```

Refer to [Table 9–1](#) for a list of the different log levels and a brief description for each level.

**Table 9–1 EclipseLink Log Levels**

Level	Description
OFF	This setting disables the generation of the log output. You may want to set logging to OFF during production to avoid the overhead of logging.
SEVERE	This level enables reporting of failure cases only. Usually, if the failure occurs, the application stops.
WARNING	This level enables logging of issues that have a potential to cause problems. For example, a setting that is picked by the application and not by the user.
INFO	This level enables the standard output. The contents of this output is very limited. It is the default logging level if a logging level is not set.
CONFIG	This level enables logging of such configuration details as your database login information and some metadata information. You may want to use the CONFIG log level at deployment time.
FINE	This level enables logging of the first level of the debugging information and SQL. You may want to use this log level during debugging and testing, but not at production.
FINER	This level enables logging of more debugging information than the FINE setting. For example, the transaction information is logged at this level. You may want to use this log level during debugging and testing, but not at production.
FINEST	This level enables logging of more debugging information than the FINER setting, such as a very detailed information about certain features (for example, sequencing). You may want to use this log level during debugging and testing, but not at production.
ALL	This level currently logs at the same level as FINEST.

## Backing Up and Restoring PDC

This section describes the tasks that you can perform to back up and restore your PDC system.

To prevent any data loss and minimize the impact of software or hardware failure, back up your system immediately after installing or updating the system. Repeat the backup process whenever you make any changes in the data or in the configuration files.

If you do not back up the PDC system regularly, you need to reinstall and reconfigure PDC if the system is corrupted due to operational or system errors. Reinstalling and reconfiguring eliminates any chance of recovering and reprocessing data processed by the PDC system at the time of the error.

To perform a complete backup of your PDC system, make a complete offline copy of the following:

- The WebLogic server **domains** directory; by default, *MW\_home/user\_projects/domains/PDC*. For instructions, see ["Backing Up a Directory"](#).
- The PDC installation directory and its content: *PDC\_home*. *PDC\_home* contains the PDC keystore. For instructions, see ["Backing Up a Directory"](#).
- The Oracle Inventory (**oraInventory**) directory. Open the */etc/oraInst.loc* (Linux) file or the */var/opt/oracle/OraInst.loc* (Solaris) file to find the default location of the **oraInventory** directory. For instructions, see ["Backing Up a Directory"](#).
- BRM Integration Pack and its content: *BRM\_Integration\_Pack\_home*. This pack includes the keystore for BRM Integration Pack. For instructions, see ["Backing Up a Directory"](#).
- The PDC directory and its content: *PDC\_BRM\_home*. For instructions, see ["Backing Up a Directory"](#).
- The PDC database schema. Make a complete offline backup of your PDC database schema using the appropriate backup tools for your schema version.

For example, on the machine on which the PDC users are created, run the Oracle database export (**exp**) utility to export the data in the PDC database to a file and then store it in a safe location. You can later run the import (**imp**) utility to import the data from the file into the PDC database when you restore PDC. See your database documentation for more information on performing full database backups.

- The transformation cross-reference database schema. Make a complete offline backup of your transformation cross-reference database schema using the appropriate backup tools for your schema version.

For example, on the machine on which the PDC users are created, run the Oracle database export (**exp**) utility to export the data in the transformation cross-reference database to a file and store it in a safe location. You can later run the import (**imp**) utility to import the data from the file into the transformation cross-reference database when you restore PDC. See your database documentation for more information on performing full database backups.

- The migration cross-reference database schema if you installed the migration utility. Make a complete offline backup of your migration cross-reference database schema using the appropriate backup tools for your schema version.

For example, on the machine on which the PDC users are created, run the Oracle database export (**exp**) utility to export the data in the migration cross-reference database to a file and store it in a safe location. You can later run the import (**imp**) utility to import the data from the file into the migration cross-reference database when you restore PDC. See your database documentation for more information on performing full database backups.

- The PDC database.

Make a complete offline backup of your PDC database using the appropriate backup tools for your database version and ensure that the backup is completely valid and usable. The backup must contain both the database definition and all the

database contents. See your database documentation for more information on performing full database backups.

---

**Important:** Store this backup in a safe location. The data in these files will become necessary if you encounter any issues or during system failure.

---

## Backing Up a Directory

To back up a directory:

1. Go to the directory for which you want to create a backup.
2. Copy the content of the directory to a new directory:

```
cp -R DirectoryName NewName
```

where *NewName* is the name for the new directory.

3. Create an archive of the entire directory:

```
tar cvf NewName.tar NewName
```

A compressed TAR file, of all copied files, is created with the extension **tar** (for example, *weblogic\_domain\_bkp.tar*).

4. Store the backup copy in a safe location (for example, in a different file system outside of PDC).

## Restoring a Complete System Backup

To restore a complete PDC system backup:

1. On the machine in which PDC is installed, delete or rename the damaged directories:

- To delete, run the following command:

```
rm -r Directory_Name
```

- To rename, run the following command:

```
mv Directory_Name
```

2. Retrieve the backup tar files.
3. Extract the backup copy of the directories from the tar files:

```
tar xvf DirectoryName.tar
```

The command recreates the directories in your restored installation directory.

4. Import the following schemas into a Oracle database or databases in the restored machine or in another machine:

- PDC database schema
- Transformation cross-reference database schema
- Migration cross-reference database schema (if applicable)

For example, if you have exported the data into a file by using the Oracle database export (**exp**) utility, run the Oracle database import (**imp**) utility to import the data

from the file into a Oracle database. See your database documentation for more information.

5. Ensure that PDC is connected to the database or databases in which the schemas that you imported in step 4 are available by updating the database connection details in the following files:
  - *BRM\_Integration\_Pack\_home***/apps/syncpdc/SyncPDCConfiguration.xml**
  - *PDC\_home***/apps/bin/ImportExportConfiguration.xml**
  - *BRM\_Integration\_Pack\_home***/apps/migration/MigrationConfiguration.xml**
  - *BRM\_Integration\_Pack\_home***/apps/transformation/TransformationConfiguration.xml**
6. Start all PDC processes.
7. Verify that the PDC configuration and the PDC data are recovered.



---

## Troubleshooting Pricing Design Center

This chapter provides guidelines to help you troubleshoot problems with Oracle Communications Pricing Design Center (PDC). It contains information about log files, diagnosing common problems, and contacting Oracle Global Support.

### Troubleshooting Checklist

When any problems occur, it is best to do some troubleshooting before you contact Oracle Global Support:

- You know your installation better than Oracle Global Support does. You know if anything in the system has been changed, so you are more likely to know where to look first.
- Troubleshooting skills are important. Relying on Oracle Global Support to research and solve all of your problems prevents you from being in full control of your system.

If you have a problem with your PDC system, ask yourself these questions first, because Oracle Global Support will ask them of you:

- What exactly is the problem? Can you isolate it?  
Oracle Global Support needs a clear and concise description of the problem, including when it began to occur.
- What do the log files say?  
This is the first thing that Oracle Global Support asks for. Check the error log for the PDC component you are having problems with.
- Has anything changed in the system? Did you install any new hardware or new software? Did the network change in any way? Does the problem resemble another one you had previously? Has your system usage recently jumped significantly?
- Is the system otherwise operating normally? Has response time or the level of system resources changed? Are users complaining about additional or different problems?

### Using Error Logs to Troubleshoot PDC

PDC error log files provide detailed information about system problems. If you are having a problem with PDC, look in the log files. PDC logs specific details about the PDC GUI and the transformation in separate sets of files.

## PDC GUI Logs

PDC logs specific details about actions performed in the PDC GUI in Oracle WebLogic Server log files. See the Oracle WebLogic Server Administration Console Help for more information.

## Transformation Engine Logs

PDC generates two types of transformation engine log files for each transformation engine:

- Master log file: This file logs the basic details of the transformation engine, such as the initialization details of the transformation engine, and so forth.
- Transaction log file: This file logs the details of the transactions performed by the transformation engine, such as work item details, details of calls to Oracle Communications Billing and Revenue Management (BRM) utilities, and so forth. A separate transaction log file is generated for every transaction.

The location of the transformation log files is specified in the *BRM\_Integration\_Pack\_home/apps/transformation/TransformationConfiguration.xml* file in the **<transformationLog>** elements, where *BRM\_Integration\_Pack\_home* is the directory in which you installed the BRM Integration Pack.

You can define the logging level of the transformation engine log files in the *BRM\_Integration\_Pack\_home/apps/transformation/log-config.properties* file. The default logging level set in the file is **INFO**.

## Diagnosing PDC Problems

PDC problems can be diagnosed using the Oracle WebLogic Server Diagnostic Framework. The Oracle WebLogic Server Diagnostic Framework allows you to collect, archive, and access diagnostic information about applications hosted on the WebLogic server. See the Oracle WebLogic Server Administration Console Help for more information.

[Table 10–1](#) lists some common problems with PDC and shows you how to diagnose the error messages and resolve the problems.

**Table 10–1 Common PDC Problems and Solutions**

Problem	Possible Causes	Solution
Importing pricing components by using the <b>ImportExportPricing</b> utility fails.	Validation error due to one of the following reasons: <ul style="list-style-type: none"> <li>■ Incorrect configuration of the pricing components in the input XML file.</li> <li>■ The input XML file does not conform to the format detailed in the XSD file for pricing components.</li> <li>■ A feature configured for the pricing component is not supported by the target engine.</li> </ul>	Check the <b>ImportExportPricing</b> utility log file for details of the error, correct the error, and import the pricing components again.

**Table 10–1 (Cont.) Common PDC Problems and Solutions**

Problem	Possible Causes	Solution
Changeset is successfully submitted through the PDC UI, but returns error.	There is invalid data that was not detected during validation.	<p>Check the transformation engine log files for details of the error:</p> <ul style="list-style-type: none"> <li>■ If the error message states that this is a "Configuration Missing" error, it is likely that a prerequisite setup component was not transformed successfully. Verify that all the referenced setup components are configured correctly. If required, update and resubmit the setup components and then use the <b>Fix</b> option to resubmit the changeset.</li> <li>■ If there is nothing wrong with your configuration, verify that the target engine mappings (supported configurations) for the service, event, account, and RUMs used in the pricing components are correct. Ensure that the changes made in BRM to these components have been synchronized with PDC.</li> </ul>
-	Error in the load utility of the target engine in BRM.	The error message will not provide the details of the error. Check the BRM <b>loadpricelist</b> and <b>LoadIFWConfig</b> utility log files for details of the error.
-	Transformation error	Transformation errors for pricing components submitted are returned in the PDC UI. Check the error messages in the PDC UI and follow the instructions below the error.
Error while submitting changeset with message "Error publishing changeset"	The job dispatcher is not configured correctly.	<p>Check that the job dispatcher is deployed correctly and the status is Active in the WebLogic Administration Console.</p> <p>Check the Oracle WebLogic Server log files for relevant messages.</p>
Changeset when submitted remains in pending state for a duration longer than normal.	Transformation engines are not running.	Check that the transformation engines are running on the system where BRM Integration Pack is installed by using the standard operating system commands.
-	Transformation engines are running but are configured to connect to the wrong WebLogic server instance.	Verify the host name of the WebLogic server in the <i>BRM_Integration_Pack_home\apps/transformation/TransformationConfiguration.xml</i> file. If required, update the host name of the WebLogic server and restart the transformation engines.

**Table 10–1 (Cont.) Common PDC Problems and Solutions**

Problem	Possible Causes	Solution
SyncPDC is failing with error	Event attributes are not configured properly.	<p>If the event attribute is defined in BRM, you must specify the following in the event definition file:</p> <pre>&lt;targetApplicationSpecName&gt;Pricing&lt;/targetApplicationSpecName&gt;</pre> <pre>&lt;targetApplicationSpecName&gt;Billing&lt;/targetApplicationSpecName&gt;</pre> <p>For more information, see the discussion about enriching event definitions in <i>PDC User's Guide</i>.</p>

## Getting Help for PDC Problems

If you cannot resolve the PDC problem, contact Oracle Global Support.

Before you contact Oracle Global Support, try to resolve the problem with the information logged in the log files. See ["Using Error Logs to Troubleshoot PDC"](#) for more information. If this does not help to resolve the problem, note the following information:

- A clear and concise description of the problem, including when it began to occur.
- Relevant portions of the relevant log files.
- Relevant configuration files.
- Recent changes in your system after which the problem occurred, even if you do not think they are relevant.
- List of all PDC components and patches installed on your system.

When you are ready, report the problem to Oracle Global Support.