

Oracle® Retail Clearance Optimization Engine

Installation Guide

Release 13.0.2

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A Installation Order

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Preface

This guide enables you to install the Oracle Retail Clearance Optimization Engine, along with the server-side components.

Audience

This guide is intended for system administrators and assumes that you are familiar with the following:

- Installing and configuring application server software
- Installing and configuring relational database management systems
- Installing and configuring distributed client/server applications on a UNIX-based local area network

Related Documents

For more information about using the Clearance Optimization Engine, the following documents are available in the Oracle Retail Clearance Optimization Engine Release 13.0.2 documentation set:

- *Oracle Retail Clearance Optimization Engine Administration Guide*
- *Oracle Retail Clearance Optimization Engine Configuration Guide*
- *Oracle Retail Clearance Optimization Engine Operations Guide*

Customer Support

- <https://metalink.oracle.com>

When contacting Customer Support, please provide:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to recreate
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

If you are installing the application for the first time, you install either a base release (for example, 13.0) or a later patch release (for example, 13.0.2). If you are installing a software version other than the base release, be sure to read the documentation for each patch release (since the base release) before you begin installation. Patch documentation can contain critical information related to the base release and code changes that have been made since the base release.

Oracle Retail Documentation on the Oracle Technology Network

In addition to being packaged with each product release (on the base or patch level), all Oracle Retail documentation is available on the following Web site (with the exception of the Data Model which is only available with the release packaged code):

http://www.oracle.com/technology/documentation/oracle_retail.html

Documentation should be available on this Web site within a month after a product release. Note that documentation is always available with the packaged code on the release date.

Conventions

The following text conventions are used in this document:

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

Overview

This chapter provides an overview of Oracle Retail Clearance Optimization Engine and a roadmap to install Clearance Optimization Engine (COE). It contains the following sections:

- [Overview of Clearance Optimization Engine](#)
- [Overview of Oracle Configuration Manager](#)
- [Roadmap for Implementing Clearance Optimization Engine](#)

Overview of Clearance Optimization Engine

The Clearance Optimization Engine (COE) is a web service that provides remote access to the WhatIf RMI interface via an RPAS special expression. This allows the application *Item Planning Configured for COE* to produce in-season price recommendations and forecasts that account for planned promotions and future markdowns in the product life cycle. The forecast includes a sales plan and an optimal price plan.

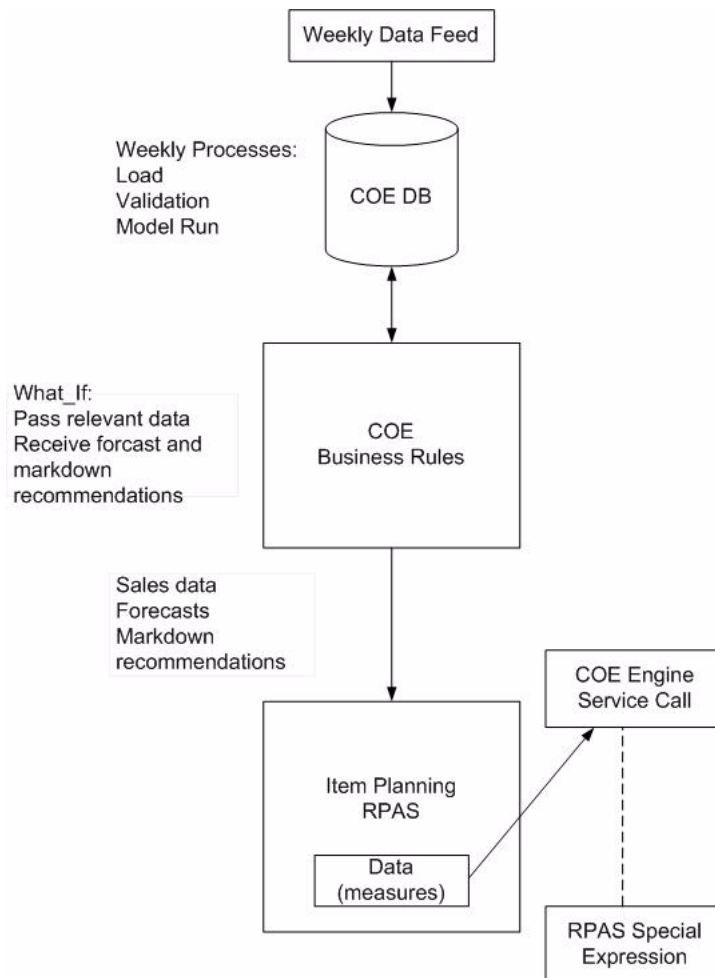
COE produces its recommendations during the weekly model run. The results of the model run are available in the sendback files that are generated from the results stored in the database.

Users have the ability to perform real-time What-If from within Item Planning and alter plans in order to see the results of those changes. The changes include changing future prices, changing an order, changing the exit date, changing the salvage value, and changing the sell-through target.

Business rules can also be imported from Item Planning into COE from Item Planning in a format that follows the COE standard interface. This load occurs weekly.

COE provides a sendback functionality that makes the model run results available to the Item Planning application. The relationship between COE and Item Planning is shown in [Figure 1-1, "Relationship between COE and Item Planning"](#).

Figure 1–1 Relationship between COE and Item Planning



Supported Languages

Clearance Optimization Engine is available in the following languages:

- Chinese (Simplified)
- Chinese (Traditional)
- English
- French
- German
- Italian
- Japanese
- Korean
- Portuguese (Brazilian)
- Russian
- Spanish

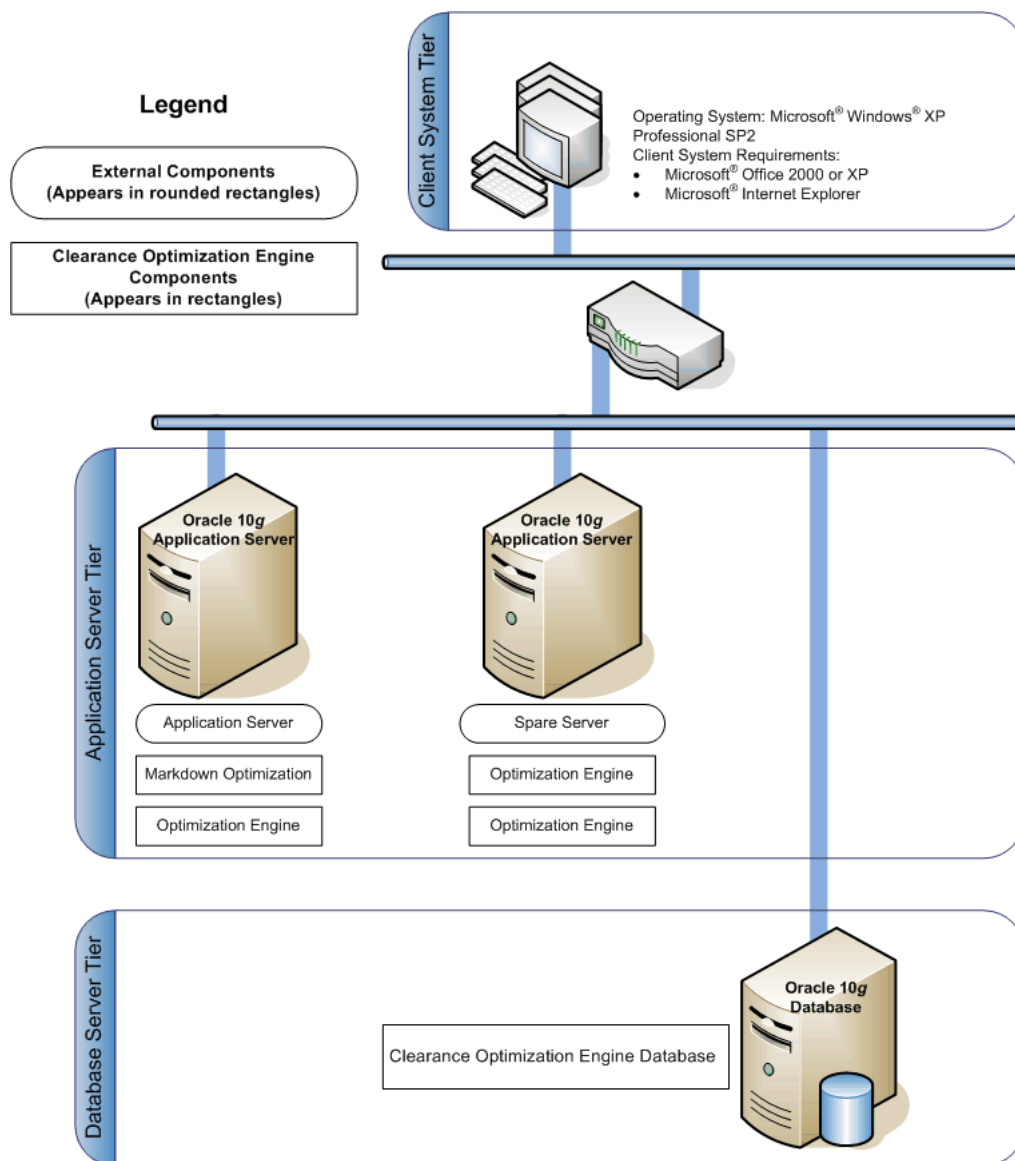
Clearance Optimization Engine Enterprise Components

The Clearance Optimization Engine is a distributed application, using an application server as the platform for the services, a database, and several other software components. It contains the following components:

- [Client System Tier](#)
- [Application Server Tier](#)
- [Database Server Tier](#)
- [Optional Components](#)

The following diagram depicts a typical setup for a large retailer at chain level or a specialty retailer at region level:

Figure 1–2 Clearance Optimization Engine Network Diagram



Client System Tier

The Client System tier contains the systems that connect to the Clearance Optimization Engine using a Web browser. It includes systems with the following components:

- Microsoft Windows
- Microsoft Office
- Microsoft Internet Explorer 7.0, with ActiveX control

Application Server Tier

The Application Server tier contains the application server domains, clusters, and managed servers set up as a platform used by Clearance Optimization Engine. This tier includes the following components hosted on the application server (Oracle Application Server):

- Clearance Optimization Engine – The Clearance Optimization Engine resides on a domain configured on this application server. You can install and run multiple instances of the application server or multiple application server machines, based on your business needs.
- Calculation Engine – It also installs on a specific domain configured on the application server. To improve performance, you can install and run multiple engines, and move them to any other production server within your environment as needed.

Note: Oracle recommends that you set up separate hosts for Clearance Optimization Engine and the Calculation Engine.

Database Server Tier

The Database Server tier contains the systems configured with the database management systems (Oracle 10g Database) along with the necessary database software.

- Relational database management system.
- Clearance Optimization Engine Database – contains historical sales and other business information that originates from systems external to Clearance Optimization Engine.

Optional Components

- Additional computational servers for implementing the Calculation Engine in a large-scale environment.
- Additional application server machines for implementing Clearance Optimization Engine for a large number of users.

Overview of Oracle Configuration Manager

Oracle Premier Support offers an automated support capability through the Software Configuration Manager and Oracle Configuration Manager (OCM). OCM is a configuration data collector that provides continuous tracking of key Oracle and system configuration settings for machines on which it is installed. This tool collects configuration details for customer environments and uploads it to a repository that is viewable through the Software Configuration Manager Metalink Web site.

The first OCM collector distribution that will be aware of the Oracle Retail applications is in development. This version of OCM is scheduled to be posted for download but is not yet available. Oracle Retail recommends that retailers download OCM 10.3.0 from ARU and use the "emCCR update_components" command to upgrade installed OCM collectors. See the OCM Installation and Administration Guide for further instructions. The Retail OCM Installer released with Oracle Retail 13.0 applications will install OCM 10.2.7. If the collector remains at version 10.2.7 and is installed in connected mode, an automatic update to version 10.3.0 is expected to occur later this year, the time at which 10.3.0 becomes a mandatory upgrade.

For more information, see the following:

Metalink Note: 559539.1

The Oracle Configuration Manager Installer Guide describes the procedures and interface of the Oracle Retail Oracle Configuration Manager Installer that a retailer runs near the completion of its installation process.

Important: In case you choose to install the OCM collector, ensure that you have the Metalink user account name, customer support identification number, and the country code (where the support agreement was issued) for the OCM installation.

Roadmap for Implementing Clearance Optimization Engine

This guide explains how you can install and set up the Clearance Optimization Engine, along with the required and optional software.

The instructions in this guide assume knowledge of application servers, databases, and application installation, and are intended for system administrators and experienced IT personnel. Before carrying out any of these activities, ensure that you understand UNIX commands (including shell configuration and scripting), directory operations, and symlinks.

In order to implement Clearance Optimization Engine for production, you must perform the following tasks in a sequence:

Table 1–1 Roadmap for Implementing Clearance Optimization Engine

Task	Description
<i>Pre-installation Tasks</i>	
1.	Plan your environment, based on your business needs. For more information on the planning process and the supported configurations, see Chapter 2, "Planning Your Installation" .
2.	Set up your application database. For more information, see Chapter 3, "Setting Up the Database" .

Table 1–1 (Cont.) Roadmap for Implementing Clearance Optimization Engine

Task	Description
3.	Set up your application server. For more information, see Chapter 4, "Setting Up Your Application Server" .
Installation Task	
4.	Access the COE installation software, set up the install.properties file, and run the Oracle installer. For more information, see Chapter 5, "Installing Clearance Optimization Engine" .
Post-installation Tasks	
5.	Configure your business rules and user accounts. For more information, see the <i>Clearance Optimization Engine Configuration Guide</i> .
6.	Load data and evaluate the results. For more information, see the <i>Clearance Optimization Engine Configuration Guide</i> .
7.	If you want to integrate the Clearance Optimization Engine as part of the Oracle Application Server Single Sign-On implemented with Oracle Retail Workspace, see Chapter 6, "Setting up Single Sign-On" .
8.	Modify the Clearance Optimization Engine user interface to accommodate your business needs, as described in the <i>Clearance Optimization Engine Configuration Guide</i> . Concurrent with this activity, complete the remaining steps in this roadmap. You can continue refining the user interface iteratively, as needed (optional).
9.	Set up user accounts and introduce the end users to the application.
10.	Maintain the application as described in the <i>Clearance Optimization Engine Configuration Guide</i> .
11.	Perform and schedule the necessary data loads, as described in the <i>Clearance Optimization Engine Operations Guide</i> .

Planning Your Installation

Before installing Clearance Optimization Engine, you must first determine the performance and availability goals for your business, and then plan the hardware, network, and storage requirements accordingly. This chapter provides some basic considerations for the implementation. It also includes the list of hardware and software requirements.

This chapter includes the following sections:

- [Overview of the Planning Process](#)
- [Supported Configurations](#)

Overview of the Planning Process

Planning your implementation prior to an installation also gives you a better understanding of the environment, and enables you to adapt faster to any future changes in the environment setup.

This section contains the following topics:

- [Planning Your Environment](#)
- [Planning for Optimal Clearance Optimization Engine Performance](#)

Planning Your Environment

Use the following steps to plan and prepare the product environment:

1. Plan and design the infrastructure, based on your business needs, for the installation. This includes:
 - Meeting the hardware and associated software requirements.
 - Acquiring the prerequisite software (and licensing).
 - Setting up the load balancers and clusters.
 - Gathering the capacity data.
 - Planning the data security policies.
 - Designing the backup and recovery strategies.
2. Determine the size of the implementation.
3. Identify source systems. Identify the systems that will exchange data with Clearance Optimization Engine.

Planning for Optimal Clearance Optimization Engine Performance

Consider the following steps to plan and prepare the product environment.

1. Determine the Clearance Optimization Engine metrics relevant to your business needs.
2. Determine your relevant business policies. The business policy is a statement of what rules govern the application processes. You need to develop a business policy based on your business rules. For more information about business rules, see the *Clearance Optimization Engine Configuration Guide*.
3. Plan the periodic batch loading of business and historical databases. This also includes the data feeds needed from the external systems for nightly, weekly, and periodic batch updates and recycling.

Supported Configurations

This section describes the hardware and network requirements for the Clearance Optimization Engine, and includes the following topics:

- [Network Requirements](#)
- [Database Requirements](#)
- [Application Server Requirements](#)
- [Client System Requirements](#)

Network Requirements

This section describes basic requirements for your network infrastructure:

- For connections between servers use the following:
 - Minimum: 100 MBps switched ethernet
 - Recommended: 1000 MBps
- For connections to the desktop, 100 MBps is sufficient.

Database Requirements

Clearance Optimization Engine requires the use of the Oracle database as described in the following table:

Table 2–1 Database Requirements for Clearance Optimization Engine

Software	Requirement	
Database (64-bit)	Oracle 10g Release 2 (10.2.0.3) Single Instance	Oracle 10g Release 2 (10.2.0.3) RAC
Operating System (64-bit)	<ul style="list-style-type: none"> Oracle Enterprise Linux 4.0 HP-UX 11iv2 (11.23) Itanium IBM AIX 5.3.0, TL5, APAR IY75211 Sun Solaris 10 (SPARC platform), with timezone patch 122032-01 or later and libc patch 119689-07 or later. 	
Utilities	file transfer protocol utility (ftp or ssh/scp/rsync) sudo utility	

Important: Although the Clearance Optimization Engine Release 13.0 supports JDK 1.5, ensure that the system that hosts the database is set to use JDK 1.4.

Oracle 10g Release 2 requires the use of JDK 1.4.

Application Server Requirements

Clearance Optimization Engine requires the use of the Oracle 10g Application Server. The following table lists the supported operating systems and the associated application server versions:

Table 2–2 Application Server Requirements for Clearance Optimization Engine

Software	Requirement			
Application Server	OAS 10.1.3.3 (64-bit)	OAS 10.1.3.3 (32-bit)		
Operating System (64-bit)	HP-UX 11iv2 (11.23) Itanium	Oracle Enterprise Linux 4.0	IBM AIX 5.3.0, TL5, APAR IY75211	Sun Solaris 10 (SPARC)
JVM (32-bit)	HP JDK 1.5.0.03 build 1.5.0.03-13_feb_2006_16_39 (32-bit)	Sun JDK 1.5.0_6	IBM JDK 1.5 - build pap32dev-20051104	Sun JDK 1.5.0_6

For Solaris, the following timezone and libc patches are required:

- On SPARC platform, with timezone patch 122032-01 or later and libc patch 119689-07 or later.

Client System Requirements

The following table lists the supported client system options:

Table 2–3 *Client System Environment*

Software	Requirements
Windows XP Pro SP2 (with Office 2003)	<ul style="list-style-type: none">■ Microsoft Office 2003■ Microsoft Internet Explorer 7.0
Windows XP Pro SP2 (with Office XP)	<ul style="list-style-type: none">■ Microsoft Office XP■ Microsoft Internet Explorer 7.0
Windows XP Pro SP2 (with Office 2000)	<ul style="list-style-type: none">■ Microsoft Office 2000■ Microsoft Internet Explorer 7.0

Setting Up the Database

This chapter describes how you can set up your database, and the various database components. It contains the following sections:

- [Before You Begin](#)
- [Creating the Clearance Optimization Engine Database](#)

Note: If your database requires multi-byte support, specify the following properties in your init.ora file:

```
CHARACTER_SET=AL32UTF8  
NLS_LENGTH_SEMANTICS=CHAR
```

Before You Begin

Read this section before setting up your Clearance Optimization Engine database.

Overview of the Clearance Optimization Engine Database Installation

Clearance Optimization Engine requires the following database instances:

- Business database
- History database
- Optimized data database

Installing the Prerequisite Software

Install your database before you install your application server and Clearance Optimization Engine. For database prerequisites and other requirements, see [Chapter 2, "Planning Your Installation"](#).

Install the following software, using the documentation specific to your database for guidance:

- Oracle J Accelerator
- Oracle application software

Creating the Clearance Optimization Engine Database

Note: The size of tablespaces depends on the amount of data being stored. For any sizing recommendations, see [Table 3–1, Clearance Optimization Engine Tablespaces](#).

Creating the Clearance Optimization Engine database involves the following steps:

1. [Creating the Initialization Parameter File](#)
2. [Creating the Clearance Optimization Engine Tablespaces](#)
3. [Creating the System Data Dictionary](#)
4. [Specifying Users and Permissions](#)
5. [Creating the Bufferpools](#)

Creating the Initialization Parameter File

Create an init.ora file in the <ORACLE_HOME>/dbs directory, specifying the following parameters:

```
db_block_size = 8192
shared_pool_size = 500M
db_cache_size = 1500M
large_pool_size = 20M
log_buffer = 524288
pga_aggregate_target = 500M
workarea_size_policy = AUTO
undo_management = AUTO
global_names = FALSE
optimizer_mode = CHOOSE
cursor_sharing = SIMILAR
query_rewrite_enabled = TRUE
query_rewrite_integrity = TRUSTED
compatible = 9.2.0
optimizer_features_enable = 9.2.0
parallel_automatic_tuning = TRUE
db_file_multiblock_read_count = 64
log_checkpoints_to_alert = TRUE
session_cached_cursors = 100
timed_statistics = TRUE
log_checkpoint_interval = 100000000
log_checkpoint_timeout = 0
```

Creating the Clearance Optimization Engine Tablespaces

The Clearance Optimization Engine database requires the following system tablespaces.

Table 3–1 Clearance Optimization Engine Tablespaces

Tablespace	Description
DATA_01	Required. Default tablespace for Clearance Optimization Engine table. Recommended: 5 GB.

Table 3–1 (Cont.) Clearance Optimization Engine Tablespaces

Tablespace	Description
INDEX_01	Required. Tablespace for indexes of Clearance Optimization Engine, STG, and ASH. Recommended: 5 GB.
ITEM_DATA_PIN	Required. Tablespace for ITEM_DATA table of the Clearance Optimization Engine schema. Recommended: 5 GB.
SYSTEM	System tablespace used for metadata.
SYSAUX	System tablespace used for system monitoring.
TEMP	Typical but not required. System tablespace used for temporary system swap space for Clearance Optimization Engine, STG, and ASH. Recommended size: 10 GB.
RBS	Typical but not required. System tablespace for resolving data write clashes. Recommended size: 5 GB.

Creating the System Data Dictionary

To create the system data dictionary, log in as the sys user and run the following scripts:

```
<ORACLE_HOME>/rdbms/admin/catalog.sql
<ORACLE_HOME>/rdbms/admin/catproc.sql
<ORACLE_HOME>/sqlplus/admin/pupbld.sql
```

Specifying Users and Permissions

Specify the following default privileges to the Oracle schemas:

- Resource
- Select any table
- Query rewrite
- Create materialized view
- Drop any table
- Create view
- Execute any procedure
- Java permissions as follows:

```
dbms_java.grant_permission
('PRICE','SYS:java.lang.RuntimePermission','getClassLoader','');
```

Creating the Bufferpools

After the default privileges to the schemas are assigned, run the following commands to create bufferpools with the set recommended values

```
CREATE BUFFERPOOL "BP_8K_DATA_01" SIZE 40000 PAGESIZE 8192 NOT EXTENDED STORAGE;
CREATE BUFFERPOOL "BP_8K_INDEX_01" SIZE 40000 PAGESIZE 8192 NOT EXTENDED STORAGE;
CREATE BUFFERPOOL "BP_8K_TEMP_01" SIZE 40000 PAGESIZE 8192 NOT EXTENDED STORAGE;
CREATE BUFFERPOOL "BP_8K_DATA_02" SIZE 40000 PAGESIZE 8192 NOT EXTENDED STORAGE;
CREATE BUFFERPOOL "BP_16K_ITEM_DATA" SIZE 1000 PAGESIZE 16384 NOT EXTENDED
STORAGE;
CREATE BUFFERPOOL "BP_16K_TEMP_02" SIZE 1000 PAGESIZE 16384 NOT EXTENDED STORAGE;
```

Setting Up Your Application Server

Before installing Clearance Optimization Engine, you must set up an instance on the application server. Based on your business need, you must set up the instance to include one or more server instances, and logically related resources and services.

This chapter describes how you can set up the Oracle Application Server. It contains the following section:

- [Installing and Configuring Oracle Application Server](#)

If you plan to use clusters for the Clearance Optimization Engine installation, Oracle recommends that you create the clusters before setting up the instance. Otherwise, the managed servers must be added manually. For information about managing clusters, see the documentation for your application server.

Installing and Configuring Oracle Application Server

Clearance Optimization Engine requires the use of Oracle Application Server 10g Release 3 (10.1.3.3). To install and configure Oracle Application Server, use these sections in the following sequence:

1. [Installing Oracle Application Server](#)
2. [Configuring Oracle Application Server](#)

Installing Oracle Application Server

Install the Oracle Application Server, referring to the Oracle Application Server documentation for guidance.

During the installation, accept the default values for the multicast IP address and port settings; these settings will be automatically updated, as needed, when you run the Clearance Optimization Engine Installer. If you want your OAS instance to be part of a cluster, specify the information relevant to your cluster topology.

In this guide, the Oracle Application Server installation directory is referred to as the <OAS_HOME> directory.

Next, you need to specify properties in the Oracle Application Server configuration files.

Configuring Oracle Application Server

To specify Oracle Application Server configuration properties:

1. Navigate to the **<OAS_Home>/j2ee/home/config** directory, edit the **server.xml** file to include the *global-jndi-lookup-enabled* property. For example,

```
<application-server xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://xmlns.oracle.com/oracleas/schema/applicat
ion-server-10_1.xsd" localhostIsAdmin="true"
  application-directory="../applications"
  check-for-updates="adminClientOnly"
  deployment-directory="../application-deployments"
  connector-directory="../connectors"
  global-jndi-lookup-enabled="true"
  schema-major-version="10" schema-minor-version="0" >
```

2. Navigate to the **<OAS_Home>/opmn/conf** directory, edit the **opmn.xml** to include the JVM start up parameters. For example,

```
<category id="start-parameters">
  <data id="java-options" value="-Xrs -server
    -Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy
    -Dcom.profitlogic.configroot=/pricecluster/config
    -Djava.awt.headless=true -Xmx512m -Xms512m -XX:MaxPermSize=256m
    -Dhttp.webdir.enable=false"/>
</category>
```

3. For the changes to take effect, restart the application server.

Installing Clearance Optimization Engine

After you have set up your database management system and application server, you can install Clearance Optimization Engine as described in this chapter. This chapter contains the following sections:

- [Overview of the Installation Process](#)
- [Installing Clearance Optimization Engine](#)
- [Post-Installation Tasks](#)
- [Upgrading to the Latest Release of Clearance Optimization Engine](#)
- [Troubleshooting Installation Issues](#)

Overview of the Installation Process

Note: Although options for DB2, WebSphere, and BEA WebLogic Server appear in the Oracle Installer, they are not supported in this release.

In order to install Clearance Optimization Engine, your first task is to obtain the installation media.

Then you should choose which installation mode you prefer. Whichever mode you use, you first need to set up the Clearance Optimization Engine properties file. The two modes are as follows:

- Graphical mode - In graphical mode, the Oracle Installer displays a graphical user interface and prompts you to enter or modify the value of properties specified in the properties file.
- Silent mode - In silent mode, the installer processes the properties file with no manual intervention required.

To begin the installation process, see [Installing Clearance Optimization Engine](#).

Installing Clearance Optimization Engine

Installing Clearance Optimization Engine consists of the following tasks:

- [Accessing the Installation Software](#)
- [Setting Up Your Installation Properties File](#)
- [Installing Clearance Optimization Engine in Silent Mode](#)
- [Installing Clearance Optimization Engine Using the Graphical Oracle Installer](#)

Accessing the Installation Software

In order to install Clearance Optimization Engine, you first need to obtain the software media, which is available on DVD or from a ZIP file. This section explains how to download the Clearance Optimization Engine software ZIP file from the Oracle E-Delivery site.

To download the Clearance Optimization Engine software:

1. From the application server where you will be installing Clearance Optimization Engine, open a browser and navigate to the following URL:

<http://edelivery.oracle.com/>

The **Oracle E-Delivery** download page displays.

2. Select a language and click **Continue**.

The **Export Validation** screen displays.

3. Respond to the following and click **Continue**.

- **Full Name** - Enter your full name.
- **Company Name** - Enter your company name.
- **E-mail Address** - Enter your e-mail address.
- **Country** - Select your country.
- **License Agreement** - Click the check box.
- **Export Restrictions** - Click the check box.

The **Media Pack Search** screen displays.

4. Respond to the following and click **Go**.

- **License List** - Review the list to determine which Product Packs you need to download.
- **Product Pack** - Select **Oracle Retail Applications**.
- **Platform** - Select the desired operating system. Optional.

The **Oracle Retail Clearance Optimization Engine Media Pack** screen displays.

5. In the **Select** column, click **Download**.

Oracle E-Delivery writes a ZIP file to the default location you have selected for downloads.

6. Unpack the ZIP file to a temporary directory. In this guide, the directory that contains the installation media is referred to as the <COE_CD_IMAGE> directory.

Now you can set up your Clearance Optimization Engine installation properties file.

Setting Up Your Installation Properties File

In order to install Clearance Optimization Engine, you first need to specify the properties to use during the installation process. These properties are specified in the install.properties file.

To set up your install.properties file:

1. Ensure that your <COE_CD_IMAGE> directory exists and is populated as described in [Accessing the Installation Software](#), on page 5-2.

2. Navigate to the <COE_CD_IMAGE> directory and copy the reference.price.install.properties file to the same directory, naming it install.properties.
3. Edit the install.properties file, specifying values as described within the file, and save it. For more information on the parameters, see [Install.properties Parameter Reference](#).

Now you can install Clearance Optimization Engine, using either of the following modes:

- [Installing Clearance Optimization Engine in Silent Mode](#)
- [Installing Clearance Optimization Engine Using the Graphical Oracle Installer](#)

Install.properties Parameter Reference

The following table describes the parameters in the install.properties file that you must set up before you install Clearance Optimization Engine:

Table 5–1 Install.properties Parameters Reference

Parameter	Description
Architecture Properties	
basedest.basedest.dir	Use this parameter to specify the path to the base installation folder.
basedest.baselog.dir	Use this parameter to specify the path to the folder that contains the log files.
basedest.basespool.dir	Use this parameter to specify the path to the folder that contains the spool files.
architecture	Use this parameter to specify the operating system for the application. Valid values are aix_powerpc, linux_i686, sunos_sun4u, or hpux_ia64.
http.protocol	The type of HTTP protocol used to host Clearance Optimization Engine.
install.command.shell	The shell command to use when you want to execute the shell scripts.
suite.host	The host name or IP address where the User Management module is installed.
suite.port	The port to connect to the User Management module.
delphi.rmi.host	The host name or IP address where the Delphi RMI server is installed.
delphi.rmi.port	The port to connect to the Delphi RMI server.
Database Properties	
install.database	Use this parameter to specify the installed database.
install.database.default	Use this parameter to specify the default database.
Oracle Properties	
dbms.oracle.host	The host name or IP address where the Oracle database is installed.
dbms.oracle.port	The port to connect to the Oracle database.
dbms.oracle.db	Use this parameter to specify the Oracle database name.
dbms.oracle.alias	Use this parameter to specify the Oracle database alias name.
dbms.oracle.user	Use this parameter to specify the user name to connect to the Oracle database.
dbms.oracle.pass	Use this parameter to specify the password to connect to the Oracle database.

Table 5–1 (Cont.) Install.properties Parameters Reference

Parameter	Description
database.commondb.oracle.address	Use this parameter to specify the URL (host name or IP address) where the Oracle database is installed.
database.commondb.oracle.dbalias	Use this parameter to specify the database alias name.
database.commondb.oracle.dbname	Use this parameter to specify the database name.
database.commondb.oracle.dbport	Use this parameter to specify the port to connect to the database.
database.commondb.oracle.auth.commonOracleAuth.user	Use this parameter to specify the user name to connect to the database.
database.commondb.oracle.auth.commonOracleAuth.password	Use this parameter to specify the password to connect to the database.
database.commondb.oracle.user	Use this parameter to specify the user name to connect to the database.
database.commondb.oracle.password	Use this parameter to specify the password to connect to the database.
<i>Properties for databases with Real Application Clusters (RAC)</i>	
database.commondb.oracle.racenabled	Use this parameter to indicate that the database is set up with Real Application Clusters (RAC).
database.commondb.oracle.dbhostlist	Use this parameter to specify the host names (with port numbers) of the servers hosting the database.
database.commondb.oracle.dburl	Use this parameter to specify the database URL for JDBC connectivity. Syntax: For non RAC database, <code>jdbc:oracle:thin:@<host name>:<dbport>:<dbname></code> For RAC database, <code>jdbc:oracle:thin:@(DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP)(HOST = <host name1>)(PORT = <dbport1>)) (ADDRESS = (PROTOCOL = TCP)(HOST = <host name2>)(PORT = <dbport2>)) (ADDRESS = (PROTOCOL = TCP)(HOST = <host name3>)(PORT = <dbport3>)) (ADDRESS = (PROTOCOL = TCP)(HOST = <host name4>)(PORT = <dbport4>))) (CONNECT_DATA = (SERVICE_NAME = <dbname>) (failover_mode = (type=select) (method=basic) (retries=60) (delay=5))))</code>
database.commondb.oracle.create	Use this parameter to specify that a new database schema must be created. Valid values are Yes or No.
database.commondb.oracle.upgrade	Use this parameter to specify that the existing database schema be upgraded. Valid values are Yes or No.
Oracle Application Server Properties	
install.appserver	The default application server for Clearance Optimization Engine.
oracle.home	The default base folder for the Oracle application server.
oracle.server.address	The base URL for the Oracle application server instance.
oracle.admin.port	Use this parameter to specify the port to connect to the Oracle application server.
oracle.admin.userid	Use this parameter to specify the administrative user name for the application server.
oracle.admin.password	Use this parameter to specify the password associated with the administrative user.
oracle.group.name	Use this parameter to specify the group name associated with the application server instance.

Table 5–1 (Cont.) Install.properties Parameters Reference

Parameter	Description
oracle.instance.name	Use this parameter to specify the name of the application server instance.
oracle.opmn.enabled	Use this parameter to specify whether you want to use the OPMN server service. Set the value to 'Yes' for Oracle Application Server, and 'No' for OC4J instance.
database.commondb.oracle.dbdriver	Use this parameter to specify the database driver that provides connection to the database.
WebLogic Server Properties	
bea.home	Use this parameter to specify the path to the BEA base directory. For example, C:\BEA.
weblogic.server	Use this parameter to specify the name of the server instance.
weblogic.domain	Use this parameter to specify the name of the domain created on the WebLogic application server.
weblogic.admin.userid	Use this parameter to specify the WebLogic admin user name.
weblogic.admin.password	Use this parameter to specify the WebLogic admin password.
weblogic.admin.port	Use this parameter to specify the port to connect to the WebLogic application server.
weblogic.server.address	Use this parameter to specify the URL to connect to the WebLogic application server.
weblogic.home	Use this parameter to specify the path to the WebLogic server in the BEA base directory. For example, C:\BEA\weblogic81\server
weblogic.start	Use this parameter to specify the path to the WebLogic startup shell script (startWebLogic.sh).
WebLogic Cluster Properties	
scope.fetarget.serverobject	Use this parameter to specify the name of the server or cluster where the COE database is installed.
scope.fetarget.type	Use this parameter to specify the type of the server object. You can specify cluster or server.
WebLogic Cluster (Calc Engine) Properties	
scope.cetarget.serverobject	Use this parameter to specify the name of the server or cluster where the Calculation Engine is installed.
scope.cetarget.type	Use this parameter to specify the type of the server object. You can specify cluster or server.
jms.server	Use this parameter to specify the name of the JMS server (in the cluster) where Clearance Optimization Engine is installed.
jms.deployment	Use this parameter to specify the type of deployment. The value defaults to Server . For cluster-based deployment, specify Cluster .
jms.ce.server	Use this parameter to specify the name of the JMS server (in the cluster) where the Calculation Engine is installed.
jms.ce.deployment	Use this parameter to specify the type of deployment. The value defaults to Server . For cluster-based deployment, specify Cluster .

Table 5–1 (Cont.) Install.properties Parameters Reference

Parameter	Description
host.list	This is the list of managed servers, where you want the installer to deploy an instance of Calculation Engine. <hostname1,hostname2...>, When installing in a clustered environment across multiple hosts, the install base needs to be replicated on all the hosts involved. (This is not needed if the install base is on network drive shared among the servers).
Post-installation Properties Files	
install.properties.savefile	Use this parameter to specify the path to the folder where you want to store the properties file (last-session.properties) that contains the parameter values used in the last installation session.
missing.properties.savefile	Use this parameter to specify the path to the folder where you want to store the properties file (missing-entries.properties) that contains the parameter values the Oracle installer tried to use during installation.
Audit Database Connection Information for Oracle	
database.auditdb.oracle.address	Use this parameter to specify the URL where the Audit database is installed.
database.auditdb.oracle.dbalias	Use this parameter to specify the Audit database alias name.
database.auditdb.oracle.dbname	Use this parameter to specify the name of the Audit database.
database.auditdb.oracle.port	Use this parameter to specify the port to connect to the Audit database.
database.auditdb.oracle.user	Use this parameter to specify the user name to connect to the Audit database.
database.auditdb.oracle.password	Use this parameter to specify the password to connect to the Audit database.
Database Authentication Credentials for AUDIT	
database.auditdb.oracle.auth.auditoracleauth.user	Use this parameter to specify the user name to connect to the Audit database.
database.auditdb.oracle.auth.auditoracleauth.password	Use this parameter to specify the password to connect to the Audit database.
AUDIT property for Creating the Database	
database.auditdb.oracle.create	Use this parameter to indicate that a new Audit database must be created.
AUDIT property for Upgrading the Database	
database.auditdb.oracle.upgrade	Use this parameter to specify that the existing database be upgraded to include the Audit schema.
common.feschema	Use this parameter to specify the user name associated with the application schema.
common.dblink	Use this parameter to specify the database link to access the common components schema through the audit schema. If the schema exists in the same instance, specify <i>none</i> .
Oracle Configuration Manager (OCM) Properties	
basedest.baseocm.dir	Use this parameter to specify the path to the folder that contain the OCM files. Oracle recommends that this path be in the base installation folder.
product.ocm.install	Use this parameter to accept or decline the OCM license agreement. The value defaults to <i>no</i> and indicates that OCM will not be installed (rest of the OCM properties are ignored).
ocm.distribution	Use this parameter to specify the architecture of the operating system on which OCM is being installed.

Table 5–1 (Cont.) Install.properties Parameters Reference

Parameter	Description
ocm.disconnected	Use this parameter to specify one of the following OCM connection mode: <ul style="list-style-type: none"> ■ Connected – to proceed installing OCM. You must also procure the Customer Support Identifier, Metalink user account name, and the country code to install the OCM. ■ Disconnected – to skip the OCM configuration.
ocm.csi_id	Use this parameter to specify the Customer Support identification number.
ocm.metalink_id	Use this parameter to specify the Metalink user account name associated with the Customer Support identification number.
ocm.country_code	Use this parameter to specify the country code where the support agreement was initiated.
ocm.http.proxyenabled	Use this parameter to indicate that the system will connect to the Internet using proxy. Valid values are <i>yes</i> or <i>no</i> .
ocm.http.proxyhost	Use this parameter to specify the host name of the proxy server.
ocm.http.proxyport	Use this parameter to specify the port number of the proxy server.
ocm.http.proxyuser	Use this parameter to specify the user name to connect to the proxy server.
ocm.http.proxypassword	Use this parameter to specify the password associated with the user name to connect to the proxy server.

Setting Up Environment Variables

Before you start the installation, ensure that the following environment variables are set in the system:

- JAVA_HOME
- ORACLE_HOME
- PATH
- LD_LIBRARY_PATH (applies to Linux, HP-UX, Solaris based systems)
- LIBPATH (applies to IBM AIX based systems)

Although it is recommended that these variables be set up in relevant bash shell startup files (*.bash_profile*) of the system, you can also set up the variables using the *EXPORT* command at the UNIX prompt. For more information on setting up these variables in the startup files, refer to the operating system documentation.

To set up the environment variables for the current session, at the UNIX prompt type the following commands in sequence:

```
export JAVA_HOME=<path where JVM is installed>
For example, /usr/lib/java/jdk1.4
```

```
export ORACLE_HOME=<path where the Oracle database is installed>
For example, /u01/app/oracle/product/10.2.0/db_1
```

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

```
export LD_LIBRARY_PATH=$ORACLE_HOME/lib:$LD_LIBRARY_PATH
In case of AIX, export LIBPATH=$ORACLE_HOME/lib:$LIBPATH
```

Installing Clearance Optimization Engine in Silent Mode

This section describes how to install Clearance Optimization Engine in silent mode. Silent mode is non-interactive.

To install Clearance Optimization Engine in silent mode:

1. Ensure that you have completed ["Setting Up Your Installation Properties File"](#) on page 5-2.
2. Make sure that your application server is running.
3. From your application server machine, enter the following command:

```
bash install.sh
```

install.sh

The install.sh command enables you to install Clearance Optimization Engine.

Syntax

```
install.sh [-s] [-p <path-to-install.properties-file>]
```

Arguments

Use any arguments listed below as needed.

Argument	Description
-s	Optional. Silent mode. If you omit this option, the Oracle Installer user interface displays.
-p <path-to- install.properties>	Optional. Specifies an alternate path to the install.properties file. Defaults to ./install.properties.
-l, --log-config	Optional. Specifies an alternate log4j configuration file (to change the verbosity level or the log file output location). Defaults to ./Install/conf/log4j.properties. The log4j log file is used for troubleshooting.
-y -n	Optional. Specifies whether or not to overwrite existing files. Defaults to -y (overwrite).
-d <XML path>	Optional. Specifies an alternate path to the XML install scripts. Defaults to ./InstallScripts.
-x <filename.xml>	Optional. Specifies an alternate XML install script file within the ./InstallScripts directory.
-i, --websphere -b, --weblogic	Optional. For specifying your application server.
-h	Optional. Prints a help message.

Return Value

When run in silent mode (install.sh -s), the script displays a trace message to stdout (the console). When run in Oracle Installer mode (the default), the script displays a graphical user interface.

Output

The Clearance Optimization Engine installation creates the COE directory structure, populates it with appropriate files, and when the installation finishes, it generates a log file and two properties files.

If the installation resulted in issues, see [Troubleshooting Installation Issues](#).

Installing Clearance Optimization Engine Using the Graphical Oracle Installer

If you prefer to use a guided user interface, you can use the graphical Oracle Installer. To install Clearance Optimization Engine using the Oracle Installer:

1. Ensure that you have completed ["Setting Up Your Installation Properties File"](#) on page 5-2.

Note: Although you can run the installation without setting up the installation properties file, ensure that you set up the installation properties file, and then start the installation.

2. Ensure that your application server software is running.
3. If you are viewing the installer from a Windows client:
 - On the **Windows** client, start an **Xserver** program that enables you to emulate the X terminal.
 - On the application server, set the display for the Windows client where you want the Oracle Installer to display as follows:

```
export DISPLAY=<IP address>:0.0
```

4. From your application server machine, enter the following command:

```
bash install.sh
```

Note: For more information about this command, see [Installing Clearance Optimization Engine in Silent Mode](#).

The **Welcome** screen appears.

Figure 5–1 Welcome Screen



5. Click **Next**. The **Clearance Optimization Engine Installation Destination** screen appears.

Figure 5–2 Clearance Optimization Engine Installation Destination Screen

ORACLE
RETAIL Clearance Optimization Engine Installation Destination

General Installation

Application Servers
Databases
Custom
OCM

Destination directory

Spool directory

Log directory

OCM installation root

The following attributes apply to multi-server installations

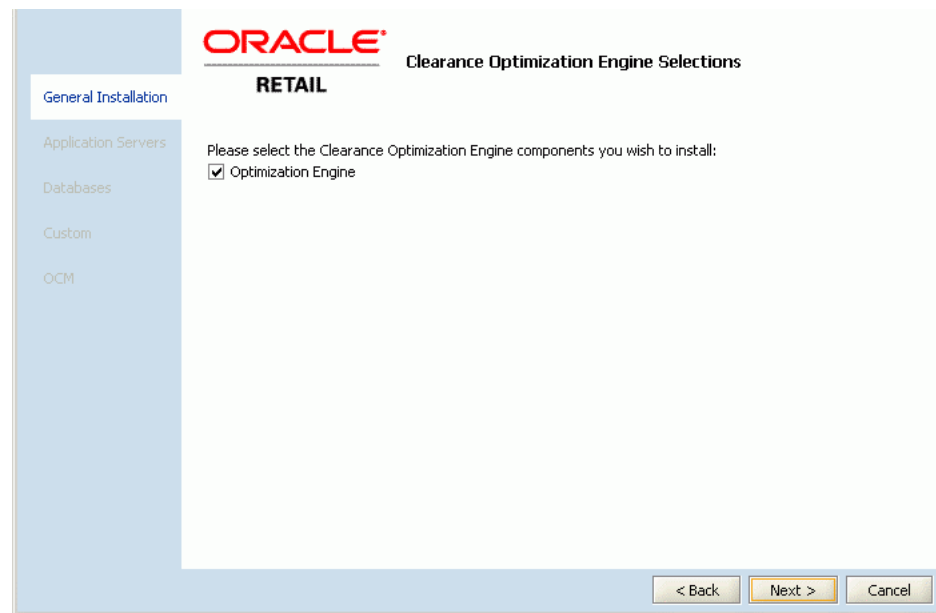
Remote shell

Remote command

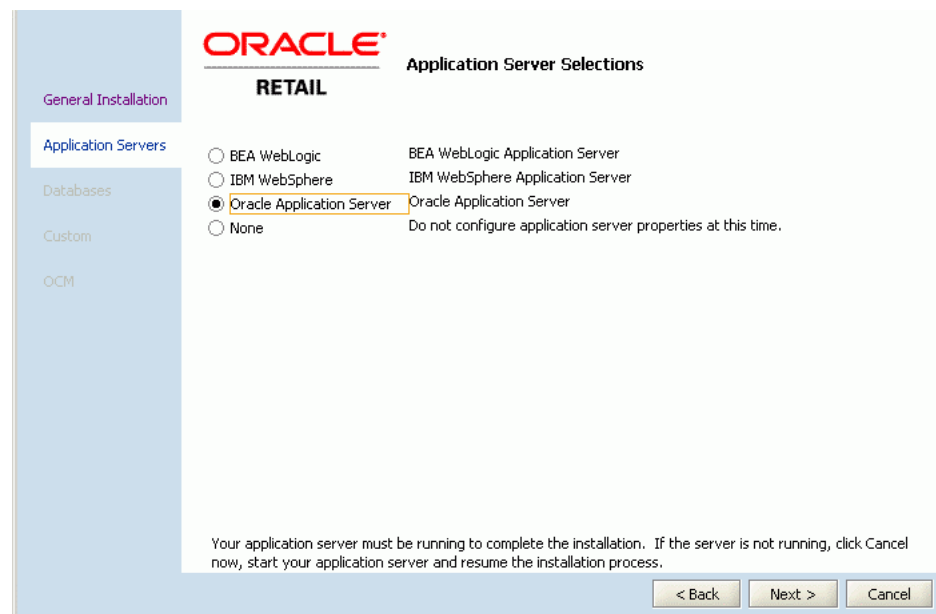
Host List

< Back Next > Cancel

6. On the **Clearance Optimization Engine Installation Destination** screen, specify the paths for the following:
 - **Destination Directory** - path to the Clearance Optimization Engine installation target directory.
 - **Spool Directory** – path to the Clearance Optimization Engine spool directory.
 - **Log Directory** – path to the Clearance Optimization Engine installation log files.
 - **OCM installation root** – path to the location where the Oracle Configuration Manager (OCM) is installed.
7. Click **Next**. The **Clearance Optimization Engine Selections** screen appears.

Figure 5–3 Clearance Optimization Engine Selections Screen

8. On the **Clearance Optimization Engine Selections** screen, select the component you want to install, and click **Next**. The **Application Server Selections** screen appears.

Figure 5–4 Application Server Selections Screen

9. On the **Application Server Selections** screen, click **Oracle Application Server**, and then click **Next**. The **Oracle Application Server** screen appears.

Figure 5–5 Oracle Application Server Screen

10. On the **Oracle Application Server** screen, enter the relevant information (such as host, port, user name, password) to connect to the application server set up for the application.

Note: In case the installation does not proceed ahead, check the application server information or the status of the application server.

11. Click **Next**. The **Java Message Server Properties** screen appears.

Figure 5–6 Java Message Server Properties Screen

12. On the **Java Message Server Properties** screen, specify the name of the server or cluster that you may have set up as a Java Message Server (JMS), and click **Next**. The **Database Selections** screen appears.

Figure 5–7 Database Selections Screen

13. On the **Database Selections** screen, click **Oracle**, and then click **Next**. The **Database Properties** screen appears.

Figure 5–8 Database Properties Screen

14. On the **Database Properties** screen, enter the following database information for the **Audit**, and **CommonDB** databases:
- **RAC Database** – Select this check box to indicate that the database is set up with Real Application Clusters (RAC). Once you select this check box, you

must then specify the RAC host list and properties in the **RAC Host List** and **RAC Properties** fields.

- **Database server address** – Enter the address of the database server.
- **Database server port** – Enter the server port number associated with your database.
- **Database name** – Enter the name used to identify your database.
- **Database alias** – Enter the database alias, which is typically the same name as the database.
- **Tables** – Select one of the following options:
 - **No Change** – Select this option if you have an existing database schema that you do not want to modify. This enables you to configure data sources, EAR files, and so forth, without affecting the database.
 - **Create** – Select this option if you are installing a new database schema for COE. The Oracle Installer drops all the schemas and creates new ones.
 - **Upgrade** – Select this option if you have an existing database schema that you want to update. Any existing data remains intact and modified on a row-by-row, column-by-column basis, depending on the actions specified in the database patches.
- **User ID** – Enter the user name associated with the database.
- **Password** – Enter the password associated with the database.

15. Click **Next**. The **Audit FE Schema Link Properties** screen appears.

Figure 5–9 Audit FE Schema Link Properties Screen

16. On the **Audit FE Schema Link Properties** screen, specify the user name and the database link associated with the application schema, and then click **Next**. The **Engine Properties** screen appears.

Figure 5–10 Engine Properties Screen

The screenshot shows the 'Engine Properties' window. On the left is a navigation pane with 'General Installation', 'Application Servers', 'Databases', 'Custom' (selected), and 'OCM'. The main area has the Oracle logo and 'RETAIL' text. Below this, there are three labels and their corresponding input fields: 'Architecture (linux_i686,sunos_sun4u,aix_powerpc)' with a text box containing '%architecture%', 'Engine host name' with a text box containing '%delphi.rmi.host%', and 'Engine port number' with a text box containing '%delphi.rmi.port%'. At the bottom right are three buttons: '< Back', 'Next >', and 'Cancel'.

17. On the **Engine Properties** screen, specify the following information on the system hosting the Optimization Engine:
 - **Architecture** – operating system on which the Optimization Engine runs.
 - **Engine host name** – host name associated with the server.
 - **Engine port number** – port number associated with the server.
18. Click **Next**. The **Oracle Configuration Manager Registration** screen appears.

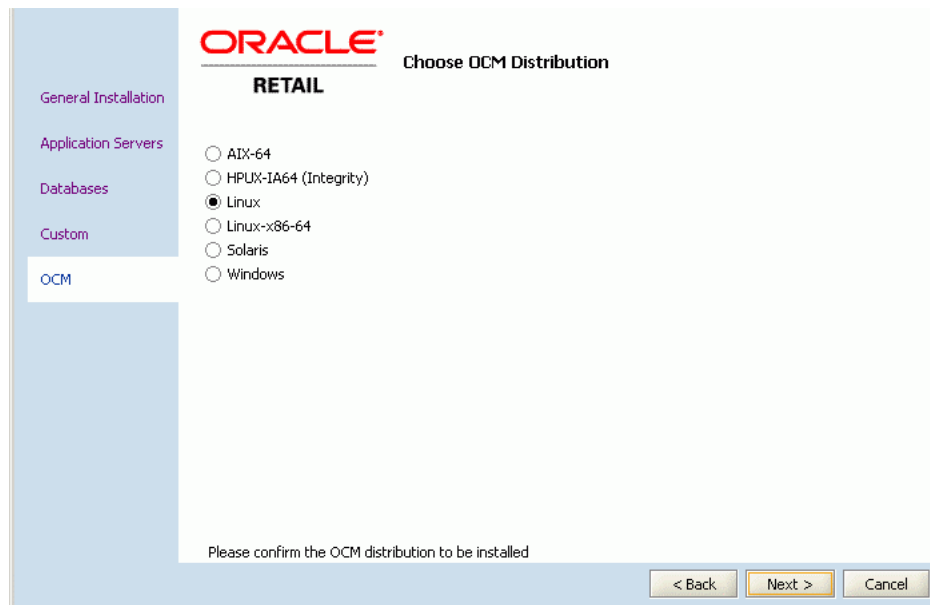
Figure 5–11 Oracle Configuration Manager Registration Screen

The screenshot shows the 'Oracle Configuration Manager Registration' window. The navigation pane on the left is the same as in Figure 5-10, with 'Custom' selected. The main area has the Oracle logo and 'RETAIL' text. Below this, there is a paragraph explaining that Oracle Configuration Manager allows associating configuration information with a Metalink account. Then, it states 'The installer will ask you for the following information' followed by a bulleted list: 'Customer Support Identifier (CSI) number', 'Metalink ID', 'Country Code', 'OCM Connection Mode', and 'Web Proxy Settings'. At the bottom right, there is a note 'To view license agreement, click "Next"' and three buttons: '< Back', 'Next >', and 'Cancel'.

Note: For more information on Oracle Configuration Manager (OCM), see [Overview of Oracle Configuration Manager](#).

19. Click **Next**. The **Oracle Configuration Manager Licensing Agreement** screen appears. To skip installing the OCM, decline the license agreement, and click **Next**. The **Selection Verification** screen appears. Go to step 26.
20. Accept the license agreement, and click **Next**. The **Choose OCM Distribution** screen appears.

Figure 5–12 Choose OCM Distribution Screen



21. On the **Choose OCM Distribution** screen, select the operating system hosting the application, and click **Next**. The **Choose OCM Connection Mode** screen appears.

Figure 5–13 Choose OCM Connection Mode Screen

ORACLE Choose OCM Connection Mode

RETAIL

☐ Connected
☒ Disconnected

OCM has the option to be installed in disconnected mode. Disconnected mode should only be used if there is no way to access the Oracle servers. Keep in mind that OCM can use a proxy server for connections if that is required on your network.

< Back Next > Cancel

22. On the **Choose OCM Connection Mode** screen, select one of the following modes:

- **Disconnected** – select this mode of OCM installation, when there is no way to access the Oracle servers or you want to keep the automatic collection of configuration data disabled. The **Selection Verification** screen appears. Go to Step 26.
- **Connected** – select this mode to continue installing OCM, and click **Next**. The **Oracle Customer Information** screen appears.

Figure 5–14 Oracle Customer Information Screen

ORACLE Oracle Customer Information

RETAIL

Customer Support Identifier
 Metalink Account Username
 Country Code: US - UNITED STATES

Provide your CSI number, Metalink account and Country Code where service agreement is initiated. This allows you to associate your configuration information with your Metalink account. When you log your service request with Oracle, you will be able to link the request with the pre-collected configuration data associated with your installation. If registration parameters are not provided or invalid, the configuration will not be performed. Follow the instructions in Release Notes to complete the installation if required.

< Back Next > Cancel

23. On the **Oracle Customer Information** screen, specify your Customer Support Identifier (CSI) number, Metalink account user name, and the country code where the service agreement is initiated.

24. Click **Next**. The **Proxy Server Details** screen appears.

Figure 5–15 Proxy Server Details Screen

25. On the **Proxy Server Details** screen, enter the relevant proxy server details, and click **Next**.

Note: Skip this step if your connection to the Internet does not require a proxy server.

The **Select Verification** screen appears.

Figure 5–16 Selection Verification Screen

26. Review the **Selection Verification** screen, and click **Install**.

The **Installation Progress** screen appears.

If the installation resulted in issues, see [Troubleshooting Installation Issues](#) on page 5-21.

Post-Installation Tasks

Now that you have installed Markdown Optimization, restart your application server software and proceed with the following options:

- If you are ready to start working with your business data, perform the following tasks:
 - [Loading Business Rules](#)
 - [Loading User Roles](#)
 - [Loading Seed Data](#)
- If you want to integrate Clearance Optimization Engine as part of the Oracle Application Server Single Sign-On implemented with Oracle Retail Workspace, see [Setting up Single Sign-On](#).
- If you want to maximize system performance, you can tune your Calculation Engine.

Loading Business Rules

Use the Business Rules Management Administration shell script (brmadmin.sh) to load the business rule definitions set up for Clearance Optimization Engine. The script loads the business rule definitions specified in a rule definitions file.

The rule definitions are set up based on your business needs and includes the business rules information for Clearance Optimization Engine. Ensure that this file is available during the implementation. You can find a sample rules definition file, *rule_definitions.xml*, at the following location:

```
<Clearance Optimization Engine_Installation>\modules\tools\conf\SampleRules
```

For more information, see the section *Loading Business Rule Definitions* in the *Clearance Optimization Engine Configuration Guide*.

Loading User Roles

Use the User Management Bulk Loader script to load the user roles set up for Clearance Optimization Engine. The Bulk Loader script loads the user roles specified in a role set file.

The role set and role assignments are set up based on your business needs and include the user accounts and roles access information for Clearance Optimization Engine. Ensure that this file is available during the implementation. You can find sample user roles set files at the following location:

```
<Clearance Optimization Engine_Installation>\modules\tools\conf
```

For more information, see the chapter *User Management* in the *Clearance Optimization Engine Configuration Guide*.

Loading Seed Data

Clearance Optimization Engine provides a set of scripts that stage, transform, and load data into the target database tables in the Clearance Optimization Engine database. It is also referred to as the standard load.

Before starting the data load process, configure and run scripts that load the seed data. For more information, see the *Clearance Optimization Engine Configuration Guide*.

Upgrading to the Latest Release of Clearance Optimization Engine

This section describes how you can upgrade from a previous release to the latest release of Clearance Optimization Engine. Before you start the upgrade process, Oracle recommends that you study, procure, and set up the system configuration required for the upgrade. For more information, see [Planning Your Installation](#).

To upgrade to the latest release of Clearance Optimization Engine Release 13.0.2:

1. Back up the database, configuration root, custom scripts, and so on.
2. Upgrade the operating system referring to the operating system documentation for guidance. Also, apply the necessary patches as described in the chapter [Planning Your Installation](#).

Note: Although you can upgrade an operating system from an existing version, Oracle recommends that you do a clean installation of the operating system.

3. Once you have installed the operating system, install the Oracle database referring to the database documentation for guidance. For more information on the database configuration required for COE, see [Setting Up the Database](#).
4. Install the supported application server (Oracle Application Server) referring to the application server documentation for guidance. For more information on the application server configuration required for COE, see [Setting Up Your Application Server](#).
5. Verify the JVM version for the application server. The JVM versions differ based on the operating system. For more information on the compatible JVMs, see [Application Server Requirements](#).
6. Once you have set up the application server and database, edit the *install.properties* file and set up the database parameters in the following manner:
 - For the Common DB, set up the following parameters to indicate an upgrade to the existing database or schema:
 - set the **database.commondb.oracle.upgrade** parameter to **yes**.
 - set the **database.commondb.oracle.create** parameter to **no**.
 - For the Audit DB, set up the following parameters to indicate that a new database schema be created:
 - set the **database.auditdb.oracle.create** parameter to **yes**.
 - set the **database.auditdb.oracle.upgrade** parameter to **no**.

For more information, see [Setting Up Your Installation Properties File](#).

7. Before you run the installer, set the environment variables required for the COE installation. For more information, see [Setting Up Environment Variables](#).

8. Run the installer and install the application. For more information, see [Installing Clearance Optimization Engine in Silent Mode](#) or [Installing Clearance Optimization Engine Using the Graphical Oracle Installer](#). In case you choose to install the application in the graphical mode, ensure that you select the **Upgrade** check box in the **Database Properties** screens.
9. Replace the configuration root with the copy that was backed up in step 1.
10. Replace all other customizations and scripts that were backed up in step 1.

Troubleshooting Installation Issues

The Oracle Installer simplifies the process of integrating and configuring multiple applications (for example, your database software, your application server software, and Clearance Optimization Engine).

Because of this complexity and the state of your own environment, there may be some situations that you need to troubleshoot and resolve. This section enables you to understand and resolve Clearance Optimization Engine installation issues.

Ensure that you thoroughly understand the messages being output by the Oracle Installer.

Understanding Trace Output Messages

Note that the Oracle Installer displays messages that originate from multiple sources. Some messages are Clearance Optimization Engine-specific, such as the directories being created. Other messages are redirected stderr output from third-party applications; as a result, the message content depends on what the software vendor wants to display.

As a result, refer to the documentation associated with the relevant application when troubleshooting, which will help you determine if the error message is even valid and how to correct any existing problems.

For example, during database installation, if a error messages indicate class deployments issues, see the documentation associated with your database management software. The documentation will explain whether the message is spurious (and to be ignored) or valid. If the error is actually valid, the documentation will explain how to correct the problem.

Installation Does Not Complete

If the installation process fails before the application has been completely installed, an on-screen message prompts you to review the log files to determine the cause of the errors. However, since the installation had not completed, no log file was generated.

Instead, review the on-screen trace messages to determine the origin of the error.

Installation Completes with Errors

If the installation completes but has errors, an on-screen message prompts you to review the log. Also, you may want to review the generated properties files.

The file naming convention of the log file is as follows:

```
install-<YYYYMMDD>-<HHMMSS>.log
```

where HH is in 24-hour format.

Setting up Single Sign-On

This chapter describes how you can set up the Single Sign-On plugin and integrate Clearance Optimization Engine as part of the Oracle Application Server Single Sign-On (OSSO) implemented with Oracle Retail Workspace.

It contains the following sections:

- [About the Single Sign-On Plugin](#)
- [Installing the Single Sign-On Plugin](#)
- [Integration with Oracle Retail Workspace](#)

About the Single Sign-On Plugin

The current User Management module provides single sign-on capabilities for Clearance Optimization Engine. Once you install the Single Sign-On cookie plugin, you can achieve a one-way interoperability with other Oracle Retail applications (such as Workspace) implemented on Oracle Application Server Single Sign-On (OSSO).

When you log on to the OSSO server using a user account configured at both the systems, a User Management cookie gets registered in your browser session. This enables you to access the COE URL directly. If you access Clearance Optimization Engine first and then later attempt to access the OSSO URL, you will need to log on to the OSSO system because the User Management module cannot create an SSO cookie.

For more information on Oracle Application Server Single Sign-On and Oracle Internet Directory, refer to the *Oracle Application Server Single Sign-On Administrator's Guide* and *Oracle Internet Directory Administrator's Guide*.

Installing the Single Sign-On Plugin

To install the Single Sign-On plugin on the Oracle Application Server implementing Single Sign-On:

1. Copy the SSO Plugin JAR or ZIP file to the following location on the OSSO infrastructure application server:

```
$ORACLE_HOME/sso/plugin
```

2. Use one of the following commands, and extract the SSO Plugin contents:

```
jar -xvf plsso_plugin.jar
```

OR

```
unzip plsso_plugin.zip -d $ORACLE_HOME/sso/plugin
```

3. Review the `/sso/plugin` directory and verify that following classes and property files exist in this location:
 - `plsso.properties`
 - `PLSSOCustomCookie.class` (in `com/profitlogic/common/security/ssoplugin`)
 - `PLSSOPlugin.class` (in `com/profitlogic/common/security/ssoplugin`)
 - `PLSSOHelper.class` (in `com/profitlogic/common/security/util`)
 - `HexEncoder.class` (in `com/profitlogic/common/util`)
4. In the **`plsso.properties`** file, enter relevant information for the following properties
 - **domain** – indicates the domain within which the cookie is created for the browser session.
 - **timeout** – indicates the number of minutes the Single Sign-On plugin is valid.
 - **plssoplugin.log.file** – [Optional] indicates the location of the Single Sign-On plugin log file.
5. In the `$ORACLE_HOME/sso/conf/` directory, edit the **`policy.properties`** to include the following entries:

```
CustomCookie_ProviderPlugin  
=com.profitlogic.common.security.ssoplugin.PLSSOCustomCookie  
CustomCookieAuthLevel=MediumSecurity
```

Important: Ensure that the domain value includes both the systems (Clearance Optimization Engine and OSSO) and is more specific than a top-level domain name (such as `.com`).

For example, if the Clearance Optimization Engine system is hosted on **`.mydepartment.mycompany.com`** and the Oracle Single Sign-On system is hosted on **`osso.mydepartment.mycompany.com`**, the domain value must be specified as **`mydepartment.mycompany.com`**.

Integration with Oracle Retail Workspace

The Oracle Retail Workspace installer prompts you to enter the URL for your supported Oracle Retail applications. However, if you install an application after the Oracle Retail Workspace installation, you must update the *retail-workspace-page-config.xml* file to reflect the new application.

The file as supplied comes with all the appropriate products configured, but the configurations for the products not installed are switched off (**rendered** parameter set to **false**).

To make the Clearance Optimization Engine URL available through Workspace:

1. In the *retail-workspace-page-config.xml* file, create a **secure-work-item id** entry with the value **coe**, and set the **rendered** parameter value to **true**.
2. Specify the application URL within the **<url>** tags as illustrated in the example below.

For Clearance Optimization Engine, there are no other application configuration parameters.

Example

Suppose Clearance Optimization Engine is installed on **mycomputer.mycompany.com**, port **7777**, using a standard install and Clearance Optimization Engine is configured with the application name of **coe**. If you were to access Clearance Optimization Engine directly from your browser, you would type in:

```
http://mycomputer.mycompany.com:7777/p4pgui
```

The entry in the *retail-workspace-page-config.xml* file after installation would resemble the following:

```
<secure-work-item id="coe"
  display-string="Launch Clearance Optimization Engine"
  rendered="true"
  launchable="true"
  show-in-content-area="false">
<url>http://mycomputer.mycompany.com:7777/p4pgui</url>
<parameters>
</parameters>
```

Configuring the Logout Page

Once you set up the Clearance Optimization Engine URL in the Workspace page configuration file (*retail-workspace-page-config.xml*), you must also enable the Clearance Optimization Engine Logout page. This page enables you to log out of the system completely by ending the browser session.

To enable the Logout page, in the **suite.properties** file (in the **<COE_Installation>/config/suite** directory), set the **suite.logoutpage.show** parameter to **true**. For more information on this parameter, refer to the chapter User Management in the *Oracle Retail Clearance Optimization Engine Configuration Guide*.

Installation Order

This section provides the order in which the Oracle Retail applications should be installed. If a client has chosen to use some, but not all, of the applications the order is still valid less the applications not being installed.

1. Oracle Retail Merchandising System (RMS), Oracle Retail Trade Management (RTM), Oracle Retail Sales Audit (ReSA)
2. Oracle Retail Service Layer (RSL)
3. Oracle Retail Extract, Transform, Load (RETL)
4. Oracle Retail Active Retail Intelligence (ARI)
5. Oracle Retail Warehouse Management System (RWMS)
6. Oracle Retail Allocation
7. Oracle Retail Invoice Matching (ReIM)
8. Oracle Retail Price Management (RPM)

Note: During the installation of RPM, you are asked for the RIBforRPM provider URL. Since RIB is installed after RPM, make a note of the URL you enter. If you need to change the RIBforRPM provider URL after you install RIB, you can do so by editing the `jndi_provider.xml` file.

9. Oracle Retail Central Office (ORCO)
10. Oracle Retail Back Office (ORBO)
11. Oracle Retail Store Inventory Management (SIM)

Note: During installation of SIM, you are asked for the AIP provider URL. Since AIP is installed after SIM, make a note of the URL you enter. If you need to change the AIP provider URL after you install AIP, you can do so by editing the `jndi_providers_ribclient.xml` file.

12. Oracle Retail Integration Bus (RIB)
13. Oracle Retail Point-of-Service (ORPOS)
14. Oracle Retail Analytics Applications
15. Oracle Retail Advanced Inventory Planning (AIP)
16. Oracle Retail Predictive Application Server (RPAS)
17. Oracle Retail Data Warehouse (RDW)
18. Oracle Retail Workspace (ORW)

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