Oracle Utilities Customer To Meter

Installation Guide

Release 2.9.0.0.0

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ORACLE

Oracle Utilities Customer To Meter Installation Guide

Contents

Preface

Welcome to the Oracle Utilities Customer To Meter Installation Guide.

This guide provides information about installing Oracle Utilities Customer To Meter and is intended for anyone interested in the installation process.

Audience

This guide is intended for anyone interested in the installation process.

To complete the installation you should have:

- Administrative privileges on the host where you are installing the software.
- Experience installing and configuring application servers and other software.

Related Documents

For more information, refer to these Oracle documents:

Installation Guides and Release Notes

- *Oracle Utilities Customer To Meter Release Notes*
- *Oracle Utilities Customer To Meter Quick Install Guide*
- *Oracle Utilities Customer To Meter Installation Guide*
- *Oracle Utilities Customer To Meter Database Administrator's Guide*
- *Oracle Utilities Customer To Meter Database Changes Guide*
- *Oracle Utilities Customer To Meter Optional Products Installation Guide*
- *Oracle Utilities Customer To Meter Licensing Information User Manual*

Administrative and Business User Guides

- *Oracle Utilities Customer To Meter Administrative User Guide*
- *Oracle Utilities Customer To Meter Business User Guide*

Supplemental Documents

- *Oracle Utilities Customer To Meter Server Administration Guide*
- *Oracle Utilities Customer To Meter Security Guide*

Updates to Documentation

The complete Oracle Utilities Customer To Meter documentation set is available from Oracle Help Center at https://docs.oracle.com/en/industries/utilities/index.html.

Visit My Oracle Support for additional and updated information about the product.

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.

Convention	Meaning
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Acronyms

The following acronyms and terms are used in this document:

Term	Description
C2M	Oracle Utilities Customer To Meter
OUAF	Oracle Utilities Application Framework
MDM	Oracle Utilities Meter Data Management
BI	Business Intelligence

Additional Resources

Additional and updated information about the product is available on My Oracle Support.

For more information and support, visit the Oracle Support website.

Chapter 1

Overview

This chapter provides a high-level overview of the Oracle Utilities Customer To Meter installation.

To install Oracle Utilities Customer To Meter:

1. Review the different tiers of the application architecture as described in Application Architecture Overview.
2. Understand the hardware requirements for installing the application and the supported platforms for the application and database servers as described in Supported Platforms and Hardware Requirements.

   Note: The installation and administration of the database server tier is described in detail in the *Oracle Utilities Customer To Meter Database Administrator's Guide*.
3. Install the database as described in the *Oracle Utilities Customer To Meter Database Administrator's Guide*.
4. Plan your installation as described in Planning the Installation.
5. Install all required third-party software as described in Installing Application Server Prerequisite Software. The required software is listed for each supported combination of operating system and application server.
6. Install the framework for the application as described in Installing the Application Server Component of Oracle Utilities Application Framework.
7. Install Oracle Utilities Customer To Meter as described in Installing Oracle Utilities Customer To Meter.
8. Follow the post-installation guidelines described in Additional Tasks.

Chapter 2

Application Architecture Overview

This chapter provides an overview of the Oracle Utilities Application Framework application architecture.

The Oracle Utilities Application Framework application is deployed on multiple tiers.

Refer to the *Oracle Utilities Customer To Meter Server Administration Guide* for a more detailed description of the application architecture and individual tiers.

Tier 1: Desktop/Client, or Presentation Tier

This tier is implemented in a browser-based client. Users use a desktop client web browser to log in to and use the Oracle Utilities Customer To Meter application. Note also that a desktop machine running Microsoft Windows and the Oracle client is required to perform some of the Oracle Utilities Customer To Meter product installation steps.

Tier 2: Web Application / Business Application Server, or Business Logic Tier

This tier is implemented in a web application server, business application server, or the batch server. The business application component can be installed as part of the web application server, or as a separate component. Except where explicitly noted, most of the Oracle Utilities Application Framework installation documentation assumes that the web application and business application servers reside together. The batch infrastructure will also run within this tier. You can have multiple batch server instances that serve the application.

Tier 3: Database, or Persistence Tier

This tier is implemented in a database server. The database server stores data maintained by the Oracle Utilities Customer To Meter application. More specifically, the database tier contains the data server files and database executables that physically store the tables, indexes, and other database objects for your system.

Chapter 3

Supported Platforms and Hardware Requirements

This chapter provides an overview of the tiers on which the product is implemented and shows each of the operating system/server combinations that the product is supported on. It includes:

- Software and Hardware Considerations
- Requirements by Tier
- Supported Platforms
- Application Server Memory Requirements
- Support for Software Patches and Upgrades

Software and Hardware Considerations

There are many factors that can influence software and hardware decisions. For example, your system may have to satisfy specific performance, availability, or scalability requirements, or to support running in a language other than English. These business requirements, together with the chosen system architecture, should be used in initial software and hardware planning.

Some of the questions that you should answer before beginning the installation include:

- On which hardware platform and operating system will Oracle Utilities Customer To Meter be deployed?
- Which web server product will Oracle Utilities Customer To Meter deploy on?
- Which database product will Oracle Utilities Customer To Meter deploy on?
- Do you plan to deploy multiple Oracle Utilities Customer To Meter instances on the same physical server?
- How do you plan to deploy Oracle Utilities Customer To Meter?
    - Web/application/database on the same physical server?
    - Web/application on one server and database on separate server?
    - Each component on its own server?

For detailed descriptions of various deployment architecture choices that may aid in planning, please see the document *Oracle Utilities Application Framework Architecture Guidelines,* available on My Oracle Support (Article ID 807068.1).

The final hardware and software decisions must comply with the specific requirements of the Oracle Utilities Customer To Meter product, as described in the rest of this chapter.

Requirements by Tier

The application is deployed on multiple Tiers:

- Tier 1, Desktop
- Tier 2, Web/Business Application Server
- Tier 3, Database Server

Tier 1, Desktop: Software and Hardware Requirements

Configuration	Processor	Memory (RAM)
Mninimum	Pentium IV - 2.0 GHz	1024 MB
Recommended	Pentium IV - 3.0+ GHz or any Core 2 Duo or any Athlon X2	2048MB

Minimum monitor display size: 1920 X 1080.

Tier 2, Web/Business Application Server: Software and Hardware Requirements

Refer to Supported Platforms to determine which web application servers can be used with the operating system that will be hosting this tier.

The recommendations that follow are based on a standard installation with both the web application and business application servers on the same machine and the system running with the default values. The default values may not support a production environment. You should adjust these values according to your production needs. Refer to the *Server Administration Guide* on how to change the default values. The minimum resource requirements exclude third-party software installation requirements. Refer to the third-party vendors for specific requirements. The following sizing excludes the Oracle database server installation.

Tier 3, Database Server: Software and Hardware Requirements

Refer to Supported Platforms for information about the supported database servers.

Supported Platforms

The installation has been tested to operate on many operating system, application server, and database server combinations. For the software requirements for each of these combinations, refer to Installing Application Server Prerequisite Software.

Operating Systems and Application Servers

This section details the operating system and application server combinations on which this version of Oracle Utilities Customer To Meter is supported.

Application Server Operating Systems

- Oracle Linux 8.x for x86_64
- Oracle Solaris 11.4+ for SPARC (64-bit)
- IBM AIX 7.2. TL5+ for POWER (64-bit)

Prerequisite Application Server Software

- Oracle Database Client 19c
- Oracle Java SE Development Kit 1.8.0_x (Windows, Solaris and Linux platforms only)
- IBM 64-bit SDK for AIX 8.0.x.x (IBM platforms only)
- Select jars from Hibernate ORM 4.1.0
- Oracle WebLogic Server 12c (Release 12.2.1.4) 64-bit

Notes:

Oracle Linux is 100% user space-compatible with Red Hat Enterprise Linux, therefore, Oracle Utilities Application Framework is also supported on Red Hat Enterprise Linux.

Refer to the *Oracle Utilities Application Framework Database Administrator's Guide* for the Oracle database server requirements.

Refer to the *Certification Matrix for Oracle Utilities Products (Document ID 1454143.1)* document on My Oracle Support to determine if support for newer versions of the listed products have been added.

Please note the following:

- Version numbers marked with a "+" are the MINIMUM version supported. That version and all future 4th digit updates will be supported.

  Example: Oracle 12.1.0.2+ means that 12.1.0.2 and any higher 12.1.0.x versions of Oracle are supported.

- An "x" indicates that any version of the digit designed by the "x" is supported.

  Example: Linux 8.x indicates that any version of Linux 8 (8.0, 8.1, 8.2 etc) will be supported.

Windows Server

- Windows Server is **not** supported for Production environments. Wherever Windows Server is referenced within this guide, it is supported for Test or Development environments **only**.

WebLogic Server

- Oracle WebLogic Server (Fusion Middleware Infrastructure) and any higher versions of Oracle are supported.
- Customers must download Oracle WebLogic Server from the Oracle Software Delivery Cloud.

Oracle Database Server

Prerequisite database server software (on any vendor supported platform where x is vendor supported version):

- Oracle Database Server Enterprise Edition 19c
- Oracle Database Server Standard Edition 2 19c

Oracle VM Support

This version of Oracle Utilities Customer To Meter is supported on Oracle VM Server for x86 for supported releases of Oracle Linux and Microsoft Windows operating systems.

Refer to My Oracle Support knowledge base article 249212.1 for Oracle's support policy on VMWare.

Application Server Memory Requirements

For each application server environment a minimum of 4 GB of real memory is required, plus 6 GB of swap space. The approximate disk space requirements in a standard installation are as follows (the size represents the MINIMUM required):

Location	Size	Usage
Install Dir ("$SPLEBASE") Location	10 GB recommended 5 GB minimum	This is the location where the application and Framework get installed. Startup, shutdown and other online log files are stored here. The size and space that is used should be monitored because various debugging options can significantly affect the size of log files. **Note**: This does not include the size of the edge product.
Log Dir ("$SPLOUTPUT") Location	10 GB recommended 2 GB minimum	This location is used for storing batch log files and output from batch jobs. The size of this space should be influenced by which batches are run and how often, and the amount of debugging information that is collected.
Location of the application web work files on the web servers	5 GB recommended 2 GB minimum	This location is used by various web server vendors to expand the application. It should be considered when installing these products. Refer to the individual web server documentation to determine the location of the temporary files.
Installation Temporary Area	10 GB minimum	The application gets installed from this location. You need enough space to un-compress the files and install the application.
Oracle Data Area	10 GB minimum	This location is where the Oracle database data files are stored. The size of this space should be based on the requirements of the production environment. For an initial or demo database install 4 GB should be sufficient.

Support for Software Patches and Upgrades

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

If it is necessary to apply an upgrade, please do so in a test environment that is running on the same platform as your production environment prior to updating the production environment itself. The exception to this is Hibernate software 4.1.0 which should not be upgraded.

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

Chapter 4

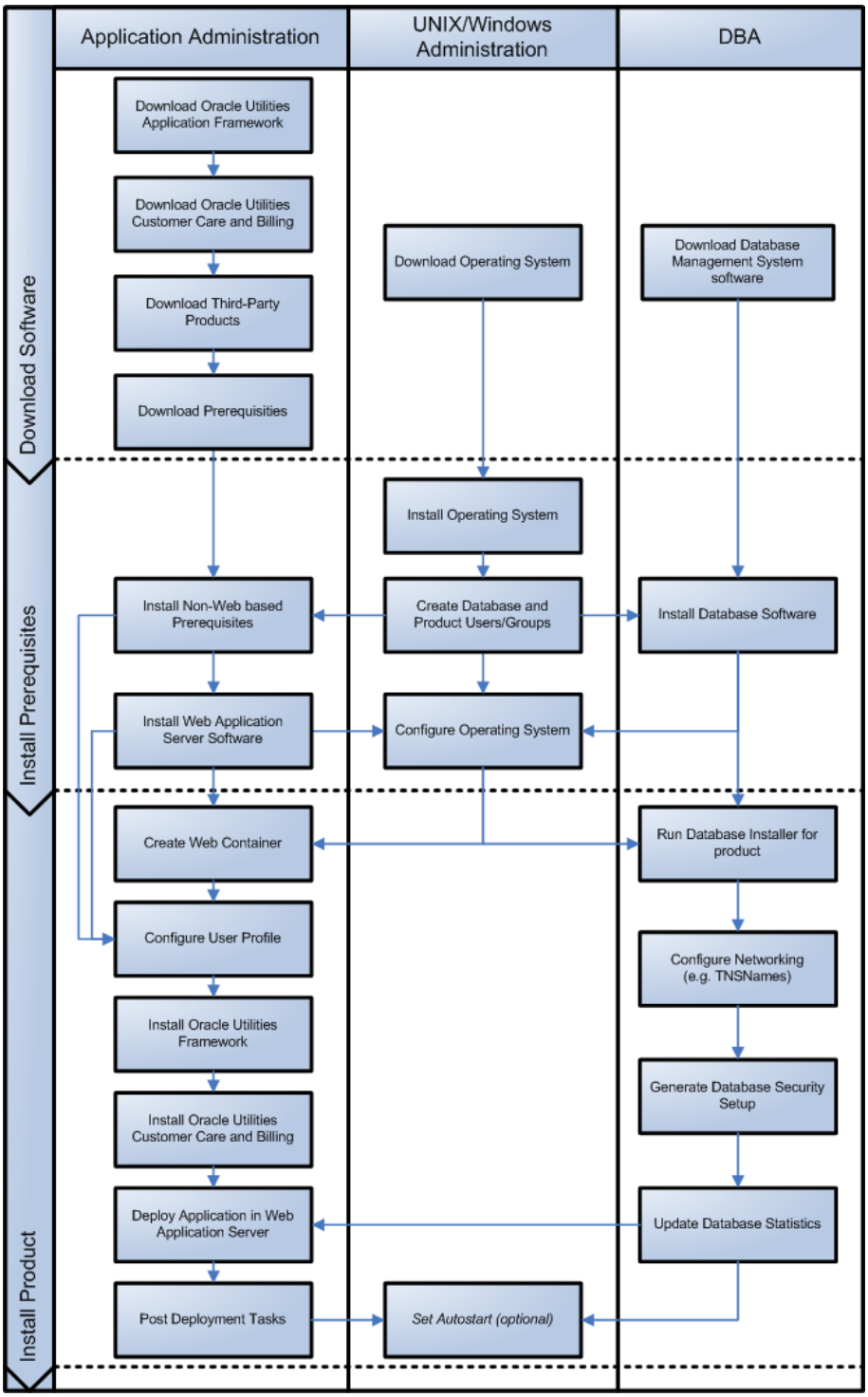
Planning the Installation

This chapter provides information for planning an Oracle Utilities Customer To Meter installation, including:

- Installation and Configuration Overview
- Before You Install
- Installation Checklist
- Installation Menu Functionality Overview
- Installation and Configuration Worksheets

Installation and Configuration Overview

The following diagram provides an overview of the steps that need to be taken to install and configure Oracle Utilities Customer To Meter:



Before You Install

Refer to My Oracle Support for up-to-date additional information on installing.

WebLogic Native Installation

With Oracle Utilities Application Framework 4.5.0.0.0, a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* document on My Oracle Support for more information.

Application Server Clustering

If you are considering application server clustering, refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework (Doc ID 2413918.1)* document on My Oracle Support.

Additional information about WebLogic clustering, refer to the Fusion Middleware Using Clusters for Oracle WebLogic Server documentation.

Directory Names

Directory cannot contain whitespace characters.

Installation Checklist

The following checklist will help guide you through the installation process of the application tier. The details for each step are presented in subsequent chapters.

1. Install the database as described in the *Oracle Utilities Customer To Meter Database Administrator's Guide*.
2. Create Group/User ID.
3. Install the prerequisite software (for complete details about installing and configuring the prerequisite third-party software for your specific platform, refer to Installing Application Server Prerequisite Software):
   - Oracle client 19c
   - Java 8
   - Hibernate 4.1.0
4. Install optional software.
5. Install web server Oracle WebLogic 12.2.1.4.

   Note: If you are upgrading and you are currently running Oracle Application Server please contact your Global Support Representative.
6. Verify that the software installed.
7. Set up environment variables.
8. Install Oracle Utilities Application Framework.

9. Install Oracle Utilities Application Framework prerequisite single fixes (if there are any).
10. Install Oracle Utilities Customer Care and Billing.
11. Install Oracle Utilities Customer Care and Billing prerequisite single fixes (if there are any).
12. Install Oracle Utilities Meter Data Management.
13. Install Oracle Utilities Operational Device Management.
14. Install Oracle Utilities Customer To Meter.
15. Install Oracle Utilities Customer To Meter prerequisite single fixes (if there are any).
16. Deploy the Oracle Utilities Customer To Meter application.
17. Complete the post-installation tasks.
18. Complete the optional third-party product integration (such as web self service or reporting tools).

Installation Menu Functionality Overview

The main configuration menu is structured so that related variables and/or options are grouped together and are associated by a menu item number. To access a particular group of variables and options, enter the menu item number associated with that group. Each option is displayed in turn on the screen, along with a prompt so that you can type the desired value for the option, if it is not the same as the default or current value.

When performing the initial installation you need to go through all menu options. The menu options may have a default value, a list of valid values and a validation check.

On each option prompt you can keep the current value by simply leaving the input line empty. In order to erase a variable value you need to enter one dot (“.”). The leading spaces will be trimmed out on each values entered. The menu includes the following:

- **Valid Values: [ALFANUM].** This indicates you will need to enter an alphanumeric value in the prompt.
- **Valid Values: [NUM].** This indicates you will need to enter a numeric value in the prompt.

Please also note the following:

- When all options are set, type <P> at the main menu prompt option. This will save the option values selected throughout the configuration.
- During this processing the global variables are validated and the configuration file <SPLEBASE>/etc/ENVIRON.INI is created or updated. This file contains all the variables inputted and calculated. These are needed by the next part of the installation process.
- To exit the configuration utility without saving any of the values entered, type <X> and press 'Enter'.

Installation Menu Functionality Details

The Environment Installation Utility requires that Oracle Client Home is set in the path for the user performing the installation.

Prior to running the installation utility you will need to review the supported platforms document to ensure you have all of the Third Party software installed.

In this menu if the variables are set prior to execution, that value will be defaulted by the installation utility when performing the installation.

When the installation has been completed successfully, the values will be written to an ENVIRON.INI file. When splenviron.sh / cmd is executed, it will read from the ENVIRON.INI file to set the environment variables. Refer to the *Oracle Utilities Application Framework Server Administration Guide* for details about configuring these values.

Install the Oracle Client software specified in the section in prior to running any of the installation utilities.

The following prompt appears when executing the installation utility:

```
Enter Oracle Client Home Directory (<ENTER> quit):
```

> **Note:** If the environmental variable ORACLE_CLIENT_HOME is set, the install script will validate the variable. If it passes the validation you will not be prompted for it. This is needed in order to run Perl installation utilities.

Encryption Methods

The Oracle Utilities Application Framework installation also uses industry standard cryptography to encrypt passwords that are prompted within the installation.

When these passwords are entered in the command line, the input values are not reflected on the screen when performing the installation.

Installation and Configuration Worksheets

During the installation and configuration of the application you will need to provide a variety of system values. These worksheets will assist you in providing that information. They should be completed before installing the application framework, as described in the Installing the Application Server Component of Oracle Utilities Application Framework.

> **Note:** Some web application server information will not be available until the software installation steps have been completed as described in the Installing Application Server Prerequisite Software.

Refer to the *Server Administration Guide* for additional details (default, valid values, usage, etc.), as applicable.

Menu Block 1: Environment ID, Roles, Third Party Software Configuration

The Environment ID, Roles, Third Party Software Configuration options include:

Menu Option	Name Used in Documentation	Customer Install Value
Environment ID	ENVIRONMENT_ID	
Server Roles	SERVER_ROLES	
Oracle Client Home Directory	ORACLE_CLIENT_HOME	
Web Java Home Directory	JAVA_HOME	
Hibernate JAR Directory	HIBERNATE_JAR_DIR	
**ONS JAR Directory	ONS_JAR_DIR	
Web Application Server Home Directory	WEB_SERVER_HOME	
***Additional JAR Directory	WLTHINT3CLIENT_JAR_DIR	

* Denotes optional menu items that may be required for the product installation and variables.

** To activate the RAC FCF, the application needs the external ons.jar file, from the ORACLE_HOME path:

```
$ORACLE_HOME/opmn/lib/ons.jar
```

During the installation the relevant option should be populated with the folder location of the ons.jar.

*** Refer to the for more information.

Menu Block 2: Keystore Options

The keystore is a set of files used for encryption, decryption and hash generation. The files reside in the following location:

- <SPLEBASE>/ks/.ouaf_keystore
- <SPLEBASE>/ks/.ouaf_storepass

To run the application correctly, data encryption, decryption and hash generation of data in the database and on the application server must be performed using the same keystore; otherwise, the application will fail.

Starting Oracle Utilities Application Framework v4.4.0.0.0 the keystore and truststore options have been removed from the Menu and defaulted into the following template user exit, which is loaded by all properties files: templates/ FW_spl.properties.keystore.truststore.include.

The user can still customize those options using the "Centralized Properties Customization".

Upgrades from Oracle Utilities Application Framework versions below 4.4.0.0.0 will still use the keystore and truststore options recorded in the existing etc/ENVIRON.INI file (Menu options file).

Note: Populate the "Import Keystore Directory" option to import an existing keystore.

Keystore options include:

Menu Option	Name Used in Documentation	Customer Install Value
Import Keystore Directory	KS_IMPORT_KEYSTORE_FOLDER	

Menu Block 50: Environment Installation Options

Environment installation options include:

Menu Option	Name Used in Documentation	Customer Install Value
Environment Mount Point	SPLDIR	
Log File Mount Point	SPLDIROUT	
Environment Name	SPLENVIRON	
Installation Application Viewer Module	WEB_ ISAPPVIEWER	
Install Sample CM Source Code	CM_INSTALL_ SAMPLE	

Menu Block 1: Environment Description

The environment description menu option includes:

Menu Option	Name Used in Documentation	Customer Install Value
Environment Description	DESC	

Menu Block 2: [WebLogic] Business Application Server Configuration

WebLogic Business Application Server configuration options include:

Menu Option	Name Used in Documentation	Customer Install Value
Business Server Host	BSN_WLHOST	
Business Server Application Name	BSN_APP	

Menu Block 3: [WebLogic] Web Application Server Configuration

WebLogic Web Application Server configuration options include:

Menu Option	Name Used in Documentation	Customer Install Value
Web Server Host	WEB_WLHOST	
Weblogic SSL Port Number	WEB_WLSSLPORT	
Weblogic Console Port Number	WLS_ADMIN_PORT	
Web Context Root	WEB_CONTEXT_ ROOT	
WebLogic JNDI User ID	WEB_WLSYSUSER	
WebLogic JNDI Password	WEB_WLSYSPASS	
WebLogic Server Name	WEB_WLS_ SVRNAME	
Web Server Application Name	WEB_APP	
Deploy Application Viewer Module	WEB_DEPLOY_ APPVIEWER	
Enable The Unsecured Health Check Service	WEB_ENABLE_ HEALTHCHECK	
MDB RunAs User ID	WEB_IWS_MDB_ RUNAS_USER	
Super User Ids	WEB_IWS_SUPER_ USERS	

Menu Block 4 - Database Configuration

The parameters below and in the worksheet are for the database configuration. Note that if changes are made to any of the database menu option items below, thus potentially connecting to a different schema, a warning will be displayed in the screen next to the actual option that has been changed.

Menu Option	Name Used in Documentation	Customer Install Value
Application Server Database User ID	DBUSER	
Application Server Database Password	DBPASS	
XAI Database User ID	XAI_DBUSER	
XAI Database Password	XAI_DBPASS	
Batch Database User ID	BATCH_DBUSER	
Batch Database Password	BATCH_DBPASS	

Menu Option	Name Used in Documentation	Customer Install Value
Web JDBC DataSource Name	JDBC_NAME	
Database Name	DBNAME	
Database Server	DBSERVER	
Database Port	DBPORT	
ONS Server Configuration	ONSCONFIG	
Database Override Connection String	DB_OVERRIDE_ CONNECTION	
Character Based Database	CHAR_BASED_DB	
Oracle Client Character Set NLS_LANG	NLS_LANG	

Menu Block 5 - General Configuration Options

The general configuration options include:

Menu Option	Name Used in Documentation	Customer Install Value
Batch RMI Port	BATCH_RMI_PORT	
RMI Port number for JMX Business	BSN_JMX_RMI_PORT_ PERFORMANCE	
RMI Port number for JMX Web	WEB_JMX_RMI_PORT_PERFORMANCE	
JMX Enablement System User ID	BSN_JMX_SYSUSER	
JMX Enablement System Password	BSN_JMX_SYSPASS	
Coherence Cluster Name	COHERENCE_ CLUSTER_NAME	
Coherence Cluster Address	COHERENCE_ CLUSTER_ADDRESS	
Coherence Cluster Port	COHERENCE_ CLUSTER_PORT	
Coherence Cluster Mode	COHERENCE_ CLUSTER_MODE	

Menu Block 6 - OUAF TrustStore Options

The OUAF truststore configuration is required for IWS.

Menu Option	Name Used in Documentation	Customer Install Value
Import TrustStore Directory	TS_IMPORT_KEYSTORE_FOLDER	

Menu Block 8 - OSB Configuration

The OSB configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
OSB Home		
OSB Host Server	slc11cds.us.oracle.com	
OSB Port Number		
OSB SSL Port Number		
OSB Managed Server Port Number		
OSB Managed Server SSL Port Number		
JDBC URL for Database		
OSB Service Table Schema Name		
OSB Service Table Schema Password		
OSB WebLogic User Name		
OSB WebLogic User Password		
Mount Point for OSB Files	/spl/sploutput/osb	

Menu Block 9 - SOA Configuration

The SOA configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
SOA Home		
SOA Host Server	slc11cds.us.oracle.com	
SOA Port Number		
SOA SSL Port Number		
SOA Internal URL		

Menu Option	Name Used in Documentation	Customer Install Value
SOA External URL		
JDBC URL for SOA Database		
SOA Service Table Schema Name		
SOA Service Table Schema Password		
SOA WebLogic User Name		
SOA WebLogic User Password		
Specify the Path for XAI/IWS Service	XAIApp/xaiservert	

Menu Block 10 - SOA Configuration Plan (MDM)

The SOA configuration plan (MDF) includes:

Menu Option	Name Used in Documentation	Customer Install Value
MDM Bulk Request Callback URL		
MDM Headend HTTP Connection Timeout	50000	
MDM Headend HTTP Read Timeout	500000	
MDM SOA Request Queue JNDI Name	queue/BulkRequestQueue	
MDM SOA Notify Queue JNDI Name	queue/BulkNotifyQueue	
MDM SOA Command Queue JNDI Name	queue/BulkCommandQueue	
SGG-NMS TestHarness Partition Name	SGG-NMS_Test	

Menu Block 11 - Configuration for DataRaker Integration

The DataRaker Integration configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
JNDI Name of Destination Queue to publish SGG payloads for DataRaker Integration Tool	DataRakerQueue	
Number of records (SGG Payloads) to accumulate	100	
Max file size for the accumulated (SGG Payloads) file in Kilobytes	524288	
Specify a time which, when exceeded, causes a new outgoing file to be created in seconds	600	
Polling frequency of Staging directory for new files in seconds	60	
Mount point/directory for the accumulated SGG payload file	/spl/sploutput/staging	
Mount Point/directory for the converted XML file to place for DataRaker	/spl/sploutput/int	

Menu Block 16 - SOA Configuration Plan (LG)

The SOA configuration plan (LG) includes:

Menu Option	Name Used in Documentation	Customer Install Value
LG SOA Partition Name	LG	
LG SOA TestHarness Partition Name	LG_Test	
AMI Event Subscriber Output Path	/spl/sploutput/osb/lg-cim-event	
MR_Server endpoint URI		
CD_Server endpoint URI		
CIM_Server endpoint URI		
MeteringServer endpoint URI		

Menu Option	Name Used in Documentation	Customer Install Value
Security policy attached to outbound web service calls to a CIM interface	sgg/d3_cfs_cim_header_client_policy	
Security policy attached to inbound web service calls from a CIM interface	sgg/d3_cim_token_service_policy	
The name of the OWSM policy to use when SOA calls a head end system	oracle/ http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by a head end system	oracle/ http_basic_auth_over_ssl_service_policy	

Menu Block 17 - SOA Configuration Plan (NES)

The SOA configuration plan (NES) includes:

Menu Option	Name Used in Documentation	Customer Install Value
NES endpoint URI		
SOA partition to which the application is installed	Echelon	
Path to the NES EventManager web service on the head end system	CoreServices/EventManager.asmx	
Path to the NES GatewayManager web service	CoreServices/GatewayManager.asmx	
Path to the NES DeviceManager web service on the head end system	CoreServices/DeviceManager.asmx	
Path to the NES SettingManager web service on the head end system	CoreServices/SettingManager.asmx	
Path to the NES UserManager web service on the head end system	CoreServices/UserManager.asmx	
Name of the OWSM policy to use when SOA calls a head end system	oracle/ http_basic_auth_over_ssl_client_policy	
Name of the OWSM policy to use when SOA is called by a head end system	oracle/ http_basic_auth_over_ssl_service_policy	

Menu Block 18 - SOA Configuration Plan (Sensus)

The SOA configuration plan (Sensus) includes:

Menu Option	Name Used in Documentation	Customer Install Value
Sensus SOA TestHarness Partition Name	Sensus_Test	
Sensus SOA Partition Name	Sensus	
MR Server Endpoint URI		
CD Server Endpoint URI		
OD Server Endpoint URI		
Headend Http Read Timeout	500000	
Headend Http Connection Timeout	50000	
The name of the OWSM policy to use when SOA calls a head end system	oracle/ http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by a head end system	oracle/ http_basic_auth_over_ssl_service_policy	

Menu Block 19 - SOA Configuration Plan (SSN)

The SOA configuration plan (Sensus) includes:

Menu Option	Name Used in Documentation	Customer Install Value
SSN SOA Partition Name	SSN	
SOA Weblogic User Name		
SSN SOA Queue JNDI Name	queue/SSNODRQ	
SSN Headend DataAggregation Endpoint URI		
The URL for the SSN 4.7 DataAggregation service (DataAggregation.asmx)	http://127.0.0.1/CoreServices/ DataAggregation.asmx	
The URL for the SSN 4.10 DataAggregation service	https://ssn.ssnsgs.net:3000/amm/ webservice/v2_1/DataAggregat...	
The url for the SSN 4.14 DataAggregation service	https://ssn.ssnsgs.net:3000/amm/ webservice/v2_5_1/ DataAggregationPort	
SSN Headend DeviceManager Endpoint URI		

Menu Option	Name Used in Documentation	Customer Install Value
The URL for the SSN 4.7 DeviceManager service (DeviceManager.asmx)	http://127.0.0.1/CoreServices/DeviceManager.asmx	
The URL for the SSN 4.10 DeviceManager service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_1/DeviceManage...	
The url for the SSN 4.14 DeviceManager service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_5_1/DeviceManagerPort	
SSN Headend DeviceResults Endpoint URI		
The URL for the SSN 4.7 DeviceResults service (DeviceResults.asmx)	http://127.0.0.1/CoreServices/DeviceResults.asmx	
The URL for the SSN 4.10 DeviceResults service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_1/DeviceResult...	
The url for the SSN 4.14 DeviceResults service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_5_1/DeviceResults	
SSN Headend JobManager Endpoint URI		
The URL for the SSN 4.7 JobManager service (JobManager.asmx)	http://127.0.0.1/CoreServices/JobManager.asmx	
The URL for the SSN 4.10 JobManager service:	https://ssn.ssnsgs.net:3000/amm/webservice/v2_1/JobManagerPo...	
The url for the SSN 4.14 JobManager service	https://ssn.ssnsgs.net:3000/amm/webservice/v2_5_1/JobManagerPort	
The name of the OWSM policy to use when SOA calls a head end system	oracle/http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by a head end system	oracle/http_basic_auth_over_ssl_service_policy	

Menu Block 20 - SSN JMS Source Destination Bridge Configuration

The SSN JMS Source Destination Bridge configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
SSN Bridge Destination Name	SSNTestHarnessBridgeDestination	
SSN Bridge Destination Additional Classpath		

Menu Option	Name Used in Documentation	Customer Install Value
SSN Bridge Destination Connection URL		
SSN Bridge Destination Initial Context Factory	weblogic.jndi.WLInitialContextFactory	
SSN Bridge Connection Factory JNDI Name	jms/SSNTestHarnessConnectionFactory	
SSN Bridge Destination Queue JNDI Name	queue/SSNTestSSNODRQ	
SSN Destination Bridge Username		

Menu Block 21 - DG Reference Implementation SOA Configuration

The DG Reference Implementation SOA configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
DG SOA Partition Name	DG	
MR Server Endpoint URI		
CD Server Endpoint URI		
OD Server Endpoint URI		
Headend Http Read Timeout	500000	
Headend Http Connection Timeout	50000	
DG SOA TestHarness Partition Name	DG_Test	

Menu Block 22 - SOA Configuration Plan (Itron Openway)

The SOA Configuration Plan (Itron Openway) configuration includes:

Menu Option	Name Used in Documentation	Customer Install Value
Itron SOA Partition Name	Itron	
Headend Http Read Timeout	500000	
Headend Http Connection Timeout	50000	
DataSubscriberService Output Path		

Menu Option	Name Used in Documentation	Customer Install Value
ExceptionSubscriberService Output Path		
Itron Headend DataService Endpoint URI		
Itron Headend DiagnosticService Endpoint URI		
Itron Headend UtilService Endpoint URI		
Itron Headend ControlService Endpoint URI		
Itron Headend ProvisioningService Endpoint URI		
Itron Headend ProvisioningService370 Endpoint URI		
Itron Headend ControlService370 Endpoint URI:		
Itron SOA TestHarness Partition Name	Itron_Test	
The name of the OWSM policy to use when SOA calls a head end system	oracle/ http_basic_auth_over_ssl_client_policy	
The name of the OWSM policy to use when SOA is called by a head end system	oracle/ http_basic_auth_over_ssl_service_policy	

Advanced Menu Options

The advanced menu options are not available during installation. These options can be accessed after installation using the following commands:

Linux/UNIX:

```
$SPLEBASE/bin/configureEnv.sh -a
```

Windows:

```
%SPLEBASE%\bin\configureEnv.cmd -a
```

Menu Block 50 - WebLogic Advanced Environment Miscellaneous Configuration

WebLogic advanced environment miscellaneous configurations include:

Menu Option	Name Used in Documentation	Customer Value Install
OUAF DBMS Scheduler User	OUAF_DBMS_SCHEDULER_USER	
WebLogic ThreadPoolWorker Enabled	WLS_THEADPOOLWORKERENABLED	
Online JVM Batch Server Enabled	BATCHENABLED	
Online JVM Batch Number of Threads	BATCHTHREADS	
Online JVM Batch Scheduler Daemon Enabled	BATCHDAEMON	
Enable Batch Edit Functionality	BATCHEDIT_ ENABLED	
Batch Online Log Directory	BATCH_ONLINE_LOG_DIR	
JDBC Read Timeout	JDBC_TIMEOUT	
Enable JMS Global Flush for Batch	ENABLE_JMS_GLOBAL_FLUSH	
Add UsernameToken.xml	ADD_USERNAMETOKEN_XML	
IWS deployment target	WLS_CLUSTER_NAME	
Web Admin Server Host	WEB_ADMIN_SERVER	
Split File Size in MB	TEMPSTORAGE_SPLITFILESIZE	
GIS Service Running on the same Web Server	GIS	
GIS Service URL	GIS_URL	
GIS WebLogic System User ID	GIS_WLSYSUSER	
GIS WebLogic System Password	GIS_WLSYSPASS	
Online Display Software Home	ONLINE_DISPLAY_HOME	
Max Queries To Hold In Cache Across All Threads	XQUERIES_TO_ CACHE	
Seconds Timeout Flush Cache Completely	XQUERY_CACHE_ FLUSH_TIMEOUT	

Menu Block 51 - WebLogic Advanced Environment Memory Configuration

WebLogic advanced environment memory configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Global JVM Arguments	GLOBAL_JVMARGS	
Ant Min Heap Size	ANT_OPT_MIN	
Ant Max Heap Size	ANT_OPT_MAX	
Ant Additional Options	ANT_ADDITIONAL_OPT	
Thread Pool Worker Java Min Heap Size	BATCH_MEMORY_OPT_MIN	
Thread Pool Worker Java Max Heap Size	BATCH_MEMORY_OPT_MAX	
Thread Pool Worker Additional Options	BATCH_MEMORY_ ADDITIONAL_OPT	

Menu Block 52 - Advanced Web Application Configuration

Advanced web application configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Deploy XAI Application Module	WEB_DEPLOY_XAIAPP	
Web Application Cache Settings	WEB_L2_CACHE_MODE	
Web Server Port Number	WEB_WLPORT	
CSRF Protection For REST Services	CSRF_PROTECTION	
OWSM Protection For REST Services	OWSM_PROTECTION_FOR_ REST_SERVICES	
Domain Home Location	WLS_DOMAIN_HOME	
Batch Cluster URL	WEB_BATCH_CLUSTER_URL	
Strip HTML Comments	STRIP_HTML_COMMENTS	
Authentication Login Page Type	WEB_WLAUTHMETHOD	
Web Form Login Page	WEB_FORM_LOGIN_PAGE	
Web Form Login Error Page	WEB_FORM_LOGIN_ERROR_ PAGE	
Application Viewer Form Login Page	WEB_APPVIEWER_FORM_ LOGIN_PAGE	

Menu Option	Name Used in Documentation	Customer Install Value
Application Viewer Form Login Error Page	WEB_APPVIEWER_FORM_ LOGIN_ERROR_PAGE	
Help Form Login Page	WEB_HELP_FORM_LOGIN_ PAGE	
Help Form Login Error Page	WEB_HELP_FORM_LOGIN_ ERROR_PAGE	
Web Security Role	WEB_SECURITY_NAME	
Web Principal Name	WEB_PRINCIPAL_NAME	
Application Viewer Security Role	WEB_APPVIEWER_ROLE_ NAME	
Application Viewer Principal Name	WEB_APPVIEWER_PRINCIPAL_ NAME	
This is a development environment	WEB_ISDEVELOPMENT	
Preload All Pages on Startup	WEB_PRELOADALL	
Maximum Age of a Cache Entry for Text	WEB_MAXAGE	
Maximum Age of a Cache Entry for Images	WEB_MAXAGEI	
JSP Recompile Interval (s)	WEB_ WLPAGECHECKSECONDS	
Enable Strict Transport Security		
Strict Transport Security Max Age	HSTS_MAX_AGE	
Strict Transport Security Include Subdomains	HSTS_SUBDOMAINS	
Strict Transport Security Preload	HSTS_PRELOAD	
User Interface Style	USER_INTERFACE_STYLE	
Oracle Guided Learning Id	ORACLE_GUIDED_LEARNING _ID	

Menu Block 54 - WebLogic Diagnostics

WebLogic diagnostic options include:

Menu Option	Name Used in Documentation	Customer Install Value
Diagnostic Context Enabled	WLS_DIAGNOSTIC_CONTEXT_ ENABLED	

Menu Block 55 - URI, File and URL Related Options

URI, File and URL Related Options include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable CORS For Embedded UI	ENABLE_CORS	
Source Origin for CORS Host	CORS_HOST	
Source Origin for CORS Port	CORS_PORT	
Source Origin for CORS Scheme	CORS_SCHEME	
Restriction URIs Enable	CLOUD_RESTRICTION_URIS_ ENABLE	
Custom SQL Security	CUSTOM_SQL_SECURITY	
White List Full Path	CLOUD_WHITE_LIST_PATH	
Custom White List Full Path	CLOUD_CUSTOM_WHITE_LIST _PATH	
Substitution Variable List File Location	CLOUD_SUBSTITUTION_VARIA BLE_LIST_FILE_LOCATION	
Directory For Variable F1_CMA_FILES	CLOUD_LOCATION_ F1_MIGR_ASSISTANT_FILES	
URI For Variable F1_OAUTH2_URI	CLOUD_LOCATION_F1_ OAUTH2_URI	
URI for Variable F1_BASE_REST_URL	CLOUD_LOCATION_F1_BASE_ REST_URL	
URI for Variable F1_OPEN_API_BASE_URL	CLOUD_LOCATION_F1_OPEN_ API_BASE_URL	
URI For Variable F1_BASE_WEB_URI	CLOUD_LOCATION_F1_BASE_ WEB_URI	
URI For Variable F1_BASE_IWS_URI	CLOUD_LOCATION_F1_BASE_I WS_URI	
Consolidated Logfile Full Path	CONSOLIDATED_LOG_FILE_P ATH	
Temporary File Location	TMP_FILE_LOCATION	

Menu Block 56 - Mobile Security Configuration

Mobile Security configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable Mobile Application	MOBILE_ENABLED	

Menu Option	Name Used in Documentation	Customer Install Value
Deploy Only Mobile Web Application	MOBILE_APP_ONLY	
Mobile Application Directory	MOBILE_APPDIR	
Allow Self Signed SSL Certificates	ALLOW_SELFSIGNED_SSL	
Force Http Connection	FORCE_HTTP	
Web Mobile Form Login Page	WEB_MOBILE_FORM_LOGIN_PAGE	
Web Mobile Form Login Error Page	WEB_MOBILE_FORM_LOGIN_ERROR_PAGE	

Menu Block 60 - Advanced Configurations for OSB

The advanced configurations for OSB include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable OSB SSL Port	false	
OSB Trust Keystore Type	Demo	
OSB Trust Keystore File Type	JKS	
OSB Trust Keystore File		

Menu Block 61 - Advanced Memory Configurations for SOA

The advanced memory configurations for SOA include:

Menu Option	Name Used in Documentation	Customer Install Value
SOA Initial Heap Size	1024	
SOA Maximum Heap Size	2048	
SOA Minimum Perm Size	512	
SOA Maximum Perm Size	1024	
SOA Application Additional Options		
The name of the OWSM policy to use when SOA calls another SOA service	oracle/http_basic_auth_over_ssl_client_policy	

Menu Option	Name Used in Documentation	Customer Install Value
The name of the OWSM policy to use when SOA is called by another SOA service	oracle/ http_basic_auth_over_ssl_service_ policy	
The name of the OWSM policy to use when SOA calls an OUAF service	oracle/ wss_http_token_over_ssl_client_ policy	

Menu Block 62 - Advanced Memory Configurations for OSB

The advanced memory configurations for OSB include:

Menu Option	Name Used in Documentation	Customer Install Value
OSB Initial Heap Size	512	
OSB Maximum Heap Size	1024	
OSB Minimum Perm Size	512	
OSB Maximum Perm Size	1024	
OSB Application Additional Options		

Menu Block 63 - Data Migration

The data migration configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable Data Migration	FALSE	
Data Migration Database User		
Data Migration Database Password		

Menu Block 64 - Advanced Configurations for SOA

The advanced configurations for SOA include:

Menu Option	Name Used in Documentation	Customer Install Value
Enable SOA SSL Port	false	
SOA Trust Keystore Type	Demo	

Menu Option	Name Used in Documentation	Customer Install Value
SOA Trust Keystore File Type	JKS	
SOA Trust Keystore File		

Menu Block 70 - SSN SOA TestHarness Configurations

The SSN SOA TestHarness configurations include:

Menu Option	Name Used in Documentation	Customer Install Value
SSN TestHarness SOA Host Server	slc11cds.us.oracle.com	
SSN TestHarness SOA Port Number	8920	
SSN SOA TestHarness Partition Name	SSN_Test	
SSN SOA TestHarness Queue JNDI Name	queue/SSNTestSSNODRQ	

Chapter 5

Installing Application Server Prerequisite Software

This chapter describes the software that needs to be installed for each of the supported operating system and application server combinations.

AIX Application Server

This section describes the software requirements for operating the application using the AIX application server.

Supported Application Servers

Operating System	Chipsets	Application Server
AIX 7.2 TL5+ (64-bit)	POWER 64-bit	Oracle WebLogic (12.2.1.4) 64-bit version

Web/Application Server Tier

AIX 7.2 TL5+ Operating System Running on Power5 and Power6 Architecture

UNIX Administrator Userid

The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
C2M Administrator User ID	cissys	
C2M User Group	cisusr	

> **Note:** It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user id. You should substitute that with the customer defined user id when not using the default value. After the initial install, the software should always be managed using that user id.

By default, the cissys userid is the only one given access to the installed files.

1. Create a group called cisusr (user group).
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.

The shell scripts use the ">" to overwrite shell functionality. Your operating system may be configured to not allow this functionality by default in the users shell.

To avoid file access permission problems when executing scripts, consider placing the following command into cissys profile script:

```
set +o noclobber
```

Security Configuration

Various options exists to secure a system. In this application all files will be created with the minimum permissions required to ensure that group-readable, group-writable and group-executable files will have the correct user groups and to restrict the permissions available to legitimate users. In this way, a low privileged end user cannot directly edit configuration files and thereby bypass application security controls.

The following users and group categories must be defined to implement this security. For demonstration purposes the following users and groups will be used. These users must be created according to industry standards (including password policies). All users should be created with a default umask of 077 to ensure files created during normal operation have the correct permissions.

Please replace these users and groups for your installation defaults:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify and files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files

Note: The Oracle Client and WebLogic should be installed as the user who will stop and start the application. For example, if you plan to run the application as the install user these components must belong to cissys.

You must use the same user for starting and stopping a process. For example, if cissys is used to start the application server, the use cissys to stop it as well.

Oracle 19c Client - Runtime Option

Install the Oracle Client as described in the Oracle Client installation documentation. Use the cissys account to install the Oracle Client. If another user installs the Oracle Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

IBM Java Software Development Kit 8.0 (64-bit)

Installation of Java as a prerequisite is only needed if you are using Oracle WebLogic as a Web application server.

At the time of release, AIX Java packages could be obtained from:

http://www.ibm.com/developerworks/java/jdk/aix/service.html

The web server requires the 64-bit Java platform in order to function. The main prerequisite for the web server is the version of java mentioned above.

For the Administrator user ID (cissys), make sure that the environment variable JAVA_HOME is set up, and that "java" can be found in cissys' PATH variable.

Hibernate 4.1.0

You must install Hibernate 4.1.0 before installing Oracle Utilities Customer To Meter. For instructions to install Hibernate 4.1.0, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12c Release 2 (12.2.1.4) 64-bit

Oracle WebLogic software can be downloaded from the Oracle web site. This application server will run as a 64-bit application.

- Download and install 64-bit Java (as documented above) before installing WebLogic.
- Download and install WebLogic Server 12c Release 2 (12.2.1.4) 64-bit.

  Note: If you plan on using the Oracle Utilities Application Framework in native mode within Oracle WebLogic (as opposed to embedded mode), refer to *Native Installation Oracle Utilities Application Framework* (Doc ID: 1544969.1) on My Oracle Support.

Oracle Linux 8.x and Red Hat Linux 8.x Application Server

This section describes the software requirements for operating the application using the Oracle Linux or Red Hat Linux application server.

Supported Application Servers

Operating System	Chipsets	Application Server
Oracle Linux 8.x (64-bit) Red Hat Enterprise Linux 8.x (64-bit)	x86_64	Oracle WebLogic 12.2.1.4 (64-bit)

Web/Application Server Tier

Oracle Enterprise Linux 8.x or Red Hat Enterprise Linux 8.x Operating System Running on x86_64 64-bit Architecture

UNIX Administrator UserID

The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
C2M Administrator User ID	cissys	

Description	Default Value	Customer Defined Value
C2M User Group	cisusr	

Note: It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user ID. You should substitute that with the customer defined user id when not using the default value. After the initial install, the software should always be managed using that user id.

By default, the cissys userid is the only one given access to the files installed.

1. Create the 'cisusr' user group.
2. Create the 'cissys' user. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.

The shell scripts use the ">" to overwrite shell functionality. Your operating system may be configured to not allow this functionality by default in the users shell.

To avoid file access permission problems when executing scripts, consider placing the following command into cissys profile script:

```
set +o noclobber
```

Security Configuration

Various options exists to secure a system. In this application all files will be created with the minimum permissions required to ensure that group-readable, group-writable and group-executable files will have the correct user groups and to restrict the permissions available to legitimate users. In this way, a low privileged end user cannot directly edit configuration files and thereby bypass application security controls.

The following users and group categories must be defined to implement this security. For demonstration purposes the following users and groups will be used. These users must be created according to industry standards (including password policies). All users should be created with a default umask of 077 to ensure files created during normal operation have the correct permissions.

Please replace these users and groups for your installation defaults:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify and files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files

Note: The Oracle Client and WebLogic should be installed as the user who will stop and start the application. For example, if you plan to run the application as the install user these components must belong to cissys.

You must use the same user for starting and stopping a process. For example, if cissys is used to start the application server, the use cissys to stop it as well.

Oracle 19c Client - Runtime Option

Install the Oracle Client as described in the Oracle Client installation documentation. Use the cissys account to install the Oracle Client. If another user installs the Oracle Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Oracle Java Development Kit 8.0 Update 131 or Later (64-Bit)

At the time of release, Oracle Java packages could be obtained from:

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

The Oracle WebLogic Server requires the 64-bit version. The main prerequisite for the web server is the version of Java mentioned above.

For the user ID cissys, ensure that the environment variable JAVA_HOME is setup, and that java_home/bin and java_home/lib can be found in cissys' PATH variable.

Hibernate 4.1.0

You must install Hibernate 4.1.0 before installing Oracle Utilities Customer To Meter. For instructions to install Hibernate 4.1.0, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12c Release 2 (12.2.1.4) 64-bit

Oracle WebLogic software can be downloaded from the Oracle web site. This application server will run as a 64-bit application.

- Download and install 64-bit Java (as documented above) before installing WebLogic.
- Download and install WebLogic Server 12.2.1.4.

  Note: If you plan on using the Oracle Utilities Application Framework in native mode within Oracle WebLogic (as opposed to embedded mode), refer to *Native Installation Oracle Utilities Application Framework* (Doc ID: 1544969.1) on My Oracle Support.

Solaris 11.4+ (64-bit) Application Server

This section describes the software requirements for operating the application using the Sun Solaris 11.4+ (64-bit) application server.

Supported Application Servers

Operating System	Chipsets	Application Server
Solaris 11.4+ (64-bit)	SPARC	Oracle WebLogic 12.2.1.4 (64-bit)

Web/Application Server Tier

Solaris 11.4+ (64-bit) Operating System Running on SPARC-based 64-bit Architecture

UNIX Administrator UserID

The following user groups and accounts have to be created to install and administer the application:

Description	Default Value	Customer Defined Value
C2M Administrator User ID	cissys	
C2M User Group	cisusr	

> **Note:** It is recommended that you change the default values for security reasons.

Throughout this document the administrator user ID is often referred to as the "cissys" user id. You should substitute that with the customer defined user id when not using the default value. After the initial install, the software should always be managed using that user id.

By default, the cissys userid is the only one given access to the files installed.

1. Create a group called cisusr (user group)
2. Create a user called cissys. Primary group cisusr. Set the primary shell for the cissys user to Korn Shell.

The shell scripts use the ">" to overwrite shell functionality. Your operating system may be configured to not allow this functionality by default in the users shell.

To avoid file access permission problems when executing scripts, consider placing the following command into cissys profile script:

```
set +o noclobber
```

Security Configuration

Various options exists to secure a system. In this application all files will be created with the minimum permissions required to ensure that group-readable, group-writable and group-executable files will have the correct user groups and to restrict the permissions available to legitimate users. In this way, a low privileged end user cannot directly edit configuration files and thereby bypass application security controls.

The following users and group categories must be defined to implement this security. For demonstration purposes the following users and groups will be used. These users must be created according to industry standards (including password policies). All users should be

created with a default umask of 077 to ensure files created during normal operation have the correct permissions.

Please replace these users and groups for your installation defaults:

User	Group	Description
cissys	cisusr	This user will be used to install the application and to apply patches. This user will own all the application files. The same care should be taken with this user ID as if it is 'root'. This user will be able to add, delete and modify and files within the application.
cisadm	cisusr	Administrative and Operation functions will be available to this user. This user will be able to stop and start the application and batch processes, but will not have access to modify any file other than generated log files

Note: The Oracle Client and WebLogic should be installed as the user who will stop and start the application. For example, if you plan to run the application as the install user these components must belong to cissys.

You must use the same user for starting and stopping a process. For example, if cissys is used to start the application server, the use cissys to stop it as well.

Oracle 19c Client - Runtime Option

Install the Oracle Client as described in the Oracle Client installation documentation. Use the cissys account to install the Oracle Client. If another user installs the Oracle Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Oracle Java Development Kit 8.0 Update 131 or Later (64-Bit)

At the time of release, Oracle Java packages could be obtained from:

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

The Oracle WebLogic Server requires the 64-bit version. The main prerequisite for the web server is the version of Java mentioned above.

For the user ID cissys, ensure that the environment variable JAVA_HOME is setup, and that java_home/bin and java_home/lib can be found in cissys' PATH variable.

Hibernate 4.1.0

You must install Hibernate 4.1.0 before installing Oracle Utilities Customer To Meter. For instructions to install Hibernate 4.1.0, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12c Release 2 (12.2.1.4) 64-bit

Oracle WebLogic software can be downloaded from the Oracle web site. This application server will run as a 64-bit application.

- Download and install 64-bit Java (as documented above) before installing WebLogic.
- Download and install WebLogic Server 12c Release 2 (12.2.1.4) 64-bit.

  Note: If you plan on using the Oracle Utilities Application Framework in native mode within Oracle WebLogic (as opposed to embedded mode), refer to *Native Installation Oracle Utilities Application Framework* (Doc ID: 1544969.1) on My Oracle Support.

Windows 2012 Application Server

This section describes the software requirements for operating the application using the Windows application server.

Note: Windows Server is not supported for Production environments. Wherever Windows Server is referenced within this guide, it is supported for Test or Development environments only.

Supported Application Servers

Operating System	Chipsets	Application Server
Window Server 2012	x86_64	Oracle WebLogic 12.2.1.4 (64-bit)

Web/Application Server Tier

File and Directory Names Limitations

File and directory names cannot contain spaces. Due to the limitations in Windows, fully qualified filenames cannot exceed 2047 characters.

Oracle Client 19c - Runtime Option

Install the Oracle Client as described in the Oracle Client installation documentation. Use the cissys account to install the Oracle Client. If another user installs the Oracle Client, make sure the cissys user ID has the proper execute permissions.

For the cissys user ID, ensure that the environment variable ORACLE_CLIENT_HOME is set up, and that ORACLE_CLIENT_HOME/perl/bin is the first Perl listed in the cissys account's PATH variable.

Oracle Java Development Kit 8.0 Update 131 or Later (64-Bit)

At the time of release, Oracle Java packages could be obtained from:

http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

The Oracle WebLogic Server requires the 64-bit version. The main prerequisite for the web server is the version of Java mentioned above.

For the user ID cissys, ensure that the environment variable JAVA_HOME is setup, and that java_home/bin and java_home/lib can be found in cissys' PATH variable.

Hibernate 4.1.0

You must install Hibernate 4.1.0 before installing Oracle Utilities Customer To Meter. For installation instructions, refer to the Installing Hibernate 4.1.0 section.

Oracle WebLogic Server 12c Release 2 (12.2.1.4) 64-bit

Oracle WebLogic software can be downloaded from the Oracle web site. This application server will run as a 64-bit application.

- Download and install 64-bit Java (as documented above) before installing WebLogic.
- Download and install WebLogic Server 12c Release 2 (12.2.1.4) 64-bit.

  Note: If you plan on using the Oracle Utilities Application Framework in native mode within Oracle WebLogic (as opposed to embedded mode), refer to *Native Installation Oracle Utilities Application Framework* (Doc ID: 1544969.1) on My Oracle Support.

Additional Prerequisite Software Information

This section outlines additional information related to installing the prerequisite software, including:

- Setting Up and Using the Additional JAR Directory
- Special Note to Upgrade from a WebLogic 12.1.3.x Environment

Setting Up and Using the Additional JAR Directory

The additional JAR directory must be populated if the Web Application Server Home directory is not set.

For example: The environment is for batch only and the server has no WebLogic installed. In this scenario, the Additional JAR Directory must be created prior to the installation and the following list of WebLogic JARs should be copied to that directory (full path from the actual WebLogic location which must be installed in the web server).

```
<Web Application Server Home Directory>/server/lib/
wlthint3client.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.codehaus.woodstox.stax2-api.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-client.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-common.jar
```

```
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.bundles.repackaged.jersey-guava.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.core.jersey-server.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.media.jersey-media-jaxb.jar
<Web Application Server Home Directory>/../oracle_common/modules/
org.glassfish.jersey.media.jersey-media-multipart.jar
if WebLocic 12.2.1.[0-2].0:
<Web Application Server Home Directory>/../oracle_common/modules/
org.codehaus.woodstox.woodstox-core-asl.jar
if WebLocic is not 12.2.1.[0-2].0:
<Web Application Server Home Directory>/../oracle_common/modules/
com.fasterxml.woodstox.woodstox-core.jar
```

If the Additional JAR directory is configured, the initialSetup process will pull those JARs from that directory. If it is not configured, the initialSetup process will pull those JARs from the Web Application Server Home directory.

Special Note to Upgrade from a WebLogic 12.1.3.x Environment

If you are upgrading from an environment which is using WebLogic 12.1.3.x, make sure to follow the steps below prior to the installation:

1. Install Oracle WebLogic Server (Fusion Middleware Infrastructure) 12.2.1.4.
2. Install Oracle Java SE Development Kit 1.8.0_261 (if not installed yet).
3. Shutdown the application server environment.
4. Take a full backup of the application:

   ```
   $SPLEBASE
   ```

5. Set the environment:

   ```
   splenviron.sh -e <ENV NAME>
   ```

6. Reconfigure the environment to point to the new WebLogic and Java (if upgraded Java as well):

   Execute:

   ```
   configureEnv.sh -i
   ```

   Update:

   ```
   "Web Java Home Directory" and "Web Application Server Home
   Directory"
   Type <P> to process (no need to rerun initialSetup.sh).
   ```

7. Set the environment again.

   ```
   splenviron.sh -e <ENV NAME>
   ```

8. Upgrade the Oracle Utilities Application Framework to V4.5.0.0.0.

   ```
   install.sh -u
   ```

Chapter 6

Installing the Application Server Component of Oracle Utilities Application Framework

Installing Oracle Utilities Application Framework ("the framework") is the prerequisite and foundation for installing a framework-based application such as Oracle Utilities Customer To Meter. This chapter describes the process to install Oracle Utilities Application Framework, including:

Installation Overview

The installation packages for your Oracle Utilities Application Framework-based application must be downloaded from the Oracle Software Delivery Cloud.

Application server installations are new, you cannot upgrade an existing application server. The database installation can be an initial install or an upgrade install.

Before you proceed with the installation process:

1. Complete the database installation/upgrade process. Refer to the *Oracle Utilities Customer To Meter Database Administrator's Guide.*
2. Make sure that you have installed all the required third-party software as described in Installing Application Server Prerequisite Software.

Once the Oracle Utilities Application Framework installation is successfully completed and the framework application environment is created, Oracle Utilities Customer To Meter can be installed on top of the framework environment.

You can download the installation packages from the Oracle Software Delivery Cloud.

This section describes how to install a working Oracle Utilities Application Framework Server, which can then be further configured manually to allow for production performance levels.

Application server installation packages delivered for this version are multi-platform and are ready to install on any supported platform (as described in Supported Platforms and Hardware Requirements).

Pre-Installation Tasks

Hardware and Software Version Prerequisites

Supported Platforms and Hardware Requirements contains all of the available platforms that are required with this release of the product.

Database Installation

Verify that the database has been installed and is operational. See *Oracle Utilities Customer To Meter Database Administrator's Guide* for more information.

Installation Prerequisites

Installing Application Server Prerequisite Software describes all preparations that need to be done on the server prior to installing the application server. Please read carefully the server setup requirements and make sure that all prerequisite software is installed and that all required environment variables are set. Correct server setup and proper environment variable settings are an essential prerequisite for successful environment installation.

System Architecture Overview

Oracle Utilities Application Framework V4.5.0.0.0 is a decoupled system architecture involving a business service application tier and a web application tier. Typically both will run on the same server, but the design does allow each tier to be installed on separate servers.

The design implements a stateless session bean (EJB technology, under Java EE 7), to provide remote access to service invocations. The root web app and XAI web apps can be configured to access service processing locally (as in previous versions), or to make a remote EJB call to perform the service request. In the latter case, the served containers, effectively, run as very thin servlet wrappers around the remote call.

For all supported application servers except for WebLogic expanded configuration (SDK environment), the deployment is in the form of two Enterprise Archive (ear) Files: SPLService.ear and SPLWeb.ear. Web Archive (war) files are created during the installation process but are not deployed.

Copying and Decompressing Install Media

To copy and decompress the Oracle Utilities Customer To Meter installation media:

1. Download Oracle Utilities Customer To Meter V2.9.0.0.0 from Oracle Software Delivery Cloud (eDelivery) and extract the following:
    - Oracle Utilities Application Framework V4.5.0.0.0 Application Installation Media
    - Oracle Utilities Application Framework V4.5.0.0.0 Single Fix Prerequisite Rollup for Oracle Utilities Customer To Meter V2.9.0.0.0 (if there is any)
    - Oracle Utilities Customer Care and Billing v2.9.0.0.0 for Multiplatform
    - Oracle Utilities Customer Care and Billing V2.9.0.0.0 Single Fix Prerequisite Rollup for Oracle Utilities Customer to Meter V2.9.0.0.0 (if there is any)
    - Oracle Utilities Meter Data Management V2.5.0.0.0 Multiplatform
    - Oracle Utilities Work and Asset Management v2.4.0.0.0 Multiplatform
    - Oracle Utilities Customer to Meter V2.9.0.0.0 for Multiplatform
    - Oracle Utilities Customer to Meter V2.9.0.0.0 Single Fix Prerequisite Rollup for Oracle Utilities Customer to Meter V2.9.0.0.0 (if there is any)
2. Copy the following Oracle Utilities Customer To Meter files to your local machine:
    - FW-V4.5.0.0.0-Multiplatform
    - C2M-V2.9.0.0.0-FW-PREREQ-MultiPlatform (if there is any)
    - CCB-V2.9.0.0.0-Multiplatform
    - CCB-V2.9.0.0.0-Rollup-MultiPlatform (if there is any)
    - MDM-V2.5.0.0.0-Multiplatform
    - Oracle Utilities Work and Asset Management V2.4.0.0.0 Multiplatform
    - C2M-V2.9.0.0.0-Multiplatform
    - C2M-V2.9.0.0.0-Rollup-MultiPlatform (if there is any)

The Oracle Utilities Application Framework V4.5.0.0.0 installation file is delivered in jar format for both UNIX and Windows platforms.

If you are planning to install multiple Oracle Utilities Application Framework V4.5.0.0.0 environments operated by different Oracle Utilities administrator user IDs, you must complete each of the following installation steps for each administrator user ID.

To copy and decompress the install media, follow these steps:

1. Login to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download the Oracle Utilities Application Framework V4.5.0.0.0 Multiplatform from Oracle Software Delivery Cloud.
3. Create a temporary directory such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>.)

   Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
4. Copy the file FW-V4.5.0.0.0-MultiPlatform.jar from the delivered package to the <TEMPDIR>. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file:

   ```
   cd <TEMPDIR>
   jar -xvf FW-V4.5.0.0.0-MultiPlatform.jar
   ```

   Note: You will need to have Java JDK installed on the machine used to (un)jar the application server installation package. Please install the JDK that is supported for the install on your platform to be able to use the jar command. This is the location of Java packages:

   http://www.oracle.com/technetwork/ java/archive-139210.html

A sub-directory named "FW-V4.5.0.0.0" is created. It contains the installation software for the Oracle Utilities framework application server.

Set Permissions for the cistab File in UNIX

Every Oracle Utilities Application Framework environment installed on a server must be registered in the /etc/cistab file located on that server. On UNIX servers, generally only the root user ID has write permissions to the /etc directory. Since the installation process is run by the Oracle administrator user ID (cissys), this user ID may not be able to write to /etc/cistab table.

The install utility checks permissions and if it identifies a lack of the necessary permissions, it generates a script in the <TEMPDIR>/FW-V4.5.0.0.0 directory named cistab_<SPLENVIRON>.sh. Run the generated script using the root account before continuing with the installation process. The script initializes the cistab file in /etc directory (if it is the first Oracle Utilities Application Framework application environment on the server) and registers a new environment.

The generated script also changes the owner of /etc/cistab file to the Oracle Utilities Application Framework administrator user ID, so that the next time a new environment is created by the same Oracle Utilities Framework administrator user ID, you do not need

to run the generated script with the root user ID. Instead the install utility itself proceeds with the registration.

Installing Oracle Utilities Application Framework

This section outlines the steps for installing the Application Framework. It includes the following:

- Installation Process (Brief Description)
- Installation Process (Detailed Description)
- Detailed Description for Configuring the OUAF Keystore

Installation Process (Brief Description)

1. Login as the Oracle Utilities Framework administrator (the default is cissys on UNIX) or as a user with Administrator privileges (on Windows).
2. Configure your application server and any third-party software required for your platform, as outlined in Installing Application Server Prerequisite Software.
3. Change directory to the <*TEMPDIR*>/FW-V4.5.0.0.0 directory.
4. Set the following path:

   ```
   export PATH=/<JAVA_HOME>/bin:/<JAVA_HOME>/lib:$PATH
   ```

   Note: The above command is only applicable on a Unix platform. <JAVA_HOME> is the location where the JDK has been installed.
5. Start the application installation utility by executing the appropriate script:

   UNIX:

   ```
   ksh ./install.sh
   ```

   Windows:

   ```
   install.cmd
   ```
6. Follow the messages and instructions that are produced by the application installation utility. Use the completed worksheets in Planning the Installation to assist you.
7. Installation of Oracle Utilities Framework Application Server is complete if no errors occurred during installation.

Installation Process (Detailed Description)

1. Login to the host server as Oracle Utilities Application Framework administrator.

   Login as cissys (on UNIX) or as a user with Administrator privileges (on Windows).
2. Configure application server and third-party software.

   Complete all steps outlined in Installing Application Server Prerequisite Software. You will need to obtain specific information for the install.

3. Change directory to the *<TEMPDIR>*/FW-V4.5.0.0.0 directory and start the application installation utility by executing the appropriate script:

   Unix:

   ```
   ksh ./install.sh
   ```

   Windows:

   ```
   install.cmd
   ```

4. On the Environment Installation Options menu, select item 1: Environment ID, Roles, Third Party Software Configuration.

   Use the completed Environment ID, Roles, Third Party Software Configuration worksheet in Installation Menu Functionality Overview to complete this step.

5. Select menu item 2: Keystore Options.

   Use the completed Keystore Options Worksheet to complete this step. See Installation Menu Functionality Overview.

6. Select menu item 50: Environment Installation Options.

   Use the completed Environment Installation Options Worksheet to complete this step. See Installation Menu Functionality Overview.

   Note: You must create the directory for output (the Log Mount Point). The installation process fails if this directory does not exist.

   - Specify the environment mount point, log files mount point, name and the environment directory names for a new installation on a menu screen.
   - Specify the web application server type your environment will run with (the default will be WebLogic).
   - Specify if you want to install the application viewer module.
   - Specify if you want to install the demo certificate generation scripts.
   - Specify if you want to install sample custom code.
   - Enter P to accept the selected options.
   - During this step, the specification of a new environment is checked for validity against /etc/cistab and the permissions on mount points and directories.

7. Configure the environment parameters.

   - During this step you will configure environment parameters such as web server hosts and ports, database name, and user ID.
   - The application installation utility shows default values for some configuration options.
   - Use the completed Environment Configuration Worksheet to assist you.

   Note: Some options require a value for a successful install. It is important to provide these values as described in the previous sections.

   - When you are done with the parameters setup, proceed with the option P.
   - All of the options will be written in the following File: $ SPLEBASE/etc/ENVIRON.INI.

- You will be warned if you did not edit a section. You may proceed if you want to keep the default settings.
- The application installation utility copies the installation media to a new environment.
- The application installation utility generates environment configuration parameters.

  The application installation utility automatically executes the script initialSetup.sh (on UNIX) or initialSetup.cmd (on Windows), located in $SPLEBASE/bin (%SPLEBASE%\bin on Windows) directory. This script populates different application template configuration files with the new environment variables values and completes the rest of the installation steps.

8. Set up environment variables.

   Once the ENVIRON.INI file is created and contains the correct environment parameters, the application installation utility starts a sub shell to the current process by executing the splenviron.sh (on UNIX) or splenviron.cmd (on Windows) script, located in $SPLEBASE/bin (or *%SPLEBSE%\etc for Windows)* directory. This script sets up all the necessary environment variables and shell settings for the application server to function correctly.

   From this point, a number of environment variables have been set up. Some key ones are:

   - $PATH - an adjustment to $PATH is made so that all of the environment scripts and objects will be in the path.
   - $SPLEBASE (%SPLEBASE%) - stands for <SPLDIR>/<SPLENVIRON> directory
   - $SPLOUTPUT (%SPLOUTPUT%) - stands for <SPLDIROUT>/<SPLENVIRON> directory
   - $SPLENVIRON (%SPLENVIRON%) - environment name

   For future operations or any post installation steps, you need to first execute the following command to setup your session to the new environment:

   UNIX:

   ```
   $SPLEBASE/bin/splenviron.sh -e <SPLENVIRON>
   ```

   Windows:

   ```
   %SPLEBASE%\bin\splenviron.cmd -e <SPLENVIRON>
   ```

   You need to execute this script each time you want to be connected to the specific environment before performing manual operations such as shutdown, startup or performing an additional application product installation.

   When you have finished the install process, your current online session will be connected to the new environment.

   Refer to Planning the Installation for settings and configuration.

Detailed Description for Configuring the OUAF Keystore

The following section details the steps required to configure the OUAF keystore.

OUAF Keystore

The OUAF Keystore feature secures sensitive data such as passwords and prevents tampering of long login IDs via direct updates to the database. The application server uses an external keystore to store keys for system password and other sensitive system data including user "hashes" that are used to verify the validity of email long login IDs. In order to run the application correctly, the keystore used by the application server must match the data encrypted in the database. If they do not match, the application will not be able to decrypt passwords correct, nor will users be able to log on due to a mismatch of user security hashes.

To help manage the keystore and ensure that the keystore matches the database-encypted data, there is a system check at startup of the application that display warning messages when the system detects that the keystore in use does not match the encrypted data in the database. Thus after any keystore operation, fresh installation of the application, or reconfiguration to point to a different database, the keystore will need to be synchronized with the database. Synchronization of the keystore happens any time ChangeCryptographyKey or ResetCryptography key programs are run.

After running the cryptography programs, it is necessary to reset the database credentials used by the database patching utility with the nvokeDBUpdatePatch.sh|cmd script.

> **Note**: The database utility ORADBI does not require the keystore files. Refer to the database documentation for more details.

The following lists the common administrative activities related to the keystore.

Determining Keystore in Use

You can determine if an existing application server uses a keystore through the existence of the files in the following location. (Use the ls -a option in Unix systems to list all files):

```
<SPLEBASE>/ks/.ouaf_keystore
<SPLEBASE>/ks/.ouaf_storepass
```

If there are no files in this location, then the system is not using a keystore. Starting from 4.2.0.2.0, a keystore should be in use.

Configuring the Keystore Options

If you would like to customize the keystore options, the Install Menu includes a section for keystore options as shown below. You can access the Install Menu later through (execute configureEnv.sh|cmd -i):

```
2. Keystore options
       Import Keystore Directory:
       Store Type: JCEKS
       Alias: ouaf.system
       Alias Key Algorithm: AES
       Alias Key Size: 128
       HMAC Alias: ouaf.system.hmac
       Padding: PKCS5Padding
       Mode: CBC
```

Importing an Existing Keystore

This will import a keystore from an existing environment to the current one. Use this when upgrading from 4.2.0.2.0 or when reconfiguring environments using different keystores and you want them to point to the same database schema (e.g. you want to have more than one application server pointing to the same database schema).

Follow these steps:

1. Enter the keystore options from the the install menu or from the configureEnv.sh|cmd –i as above.
2. Run initialSetup.sh|cmd –s so that the keystore is imported and appropriate property files are updated.
3. Run configureEnv.sh|cmd and re-enter the passwords so they are encrypted with the imported keystore.
4. Run initialSetup.sh|cmd again to update property files with the encrypted data.
5. Run the following:

   ```
   perl $SPLEBASE/bin/run_java_standalone.plx
   com.splwg.shared.common.ChangeCryptographyKey -l -h
   ```

6. Run $SPLEBASE/bin/nvokeDBUpdatePatch.sh|cmd and follow the prompts.

   You can use the –h option to obtain help.

Upgrading from the Legacy Keystore

This process:

- Synchronizes the keystore to the database
- Regenerates the user hashes
- Re-encrypts any passwords (from the legacy-encrypted passwords) using the current keystore.
- Is used only when upgrading from a framework prior to version 4.2.0.2.0.

Follow these steps:

1. Run the following command:

   ```
   perl $SPLEBASE/bin/run_java_standalone.plx
   com.splwg.shared.common.ChangeCryptographyKey -l -h
   ```

2. Run $SPLEBASE/bin/nvokeDBUpdatePatch.sh|cmd and follow the prompts. You can use the –h option to obtain help.

Forcing the Environment to Use the Current Keystore

This process will:

- Prompt for and encrypt application server-stored passwords
- Synchronize the keystore to the database
- Regenerate the user hashes
- Invalidate any database-stored passwords
- Use this option when, for example, a keystore has been lost, and thus, the system will not be able to decypt the passwords stored in the configuration files or database. All passwords will need to be reentered.

Follow these steps:

1. Using configureEnv.sh|cmd, re-enter the menu passwords to encrypt the data.
2. Run initialSetup.sh|cmd to update property files with the encrypted data.
3. Run the following commands:

```
perl $SPLEBASE/bin/run_java_standalone.plx
com.splwg.shared.common.ResetCryptographyKey
```

4. Run $SPLEBASE/bin/nvokeDBUpdatePatch.sh|cmd and follow the prompts. You can use the –h option to obtain help.
5. Re-enter stored password information using the application (example: passwords for reports).

Synchronizing the Keystore

This process will:

- Synchronize the keystore to the database
- Regenerate the user hashes
- Follow these instructions only when you are sure the data in the database is encrypted with the current keystore. This is used to synchronize the keystore to the database.

Follow these steps:

1. Run the following:

```
perl $SPLEBASE/bin/run_java_standalone.plx
com.splwg.shared.common.ResetCryptographyKey
```

2. Run $SPLEBASE/bin/nvokeDBUpdatePatch.sh|cmd and follow the prompts. You can use the –h option to obtain help.

Creating a New Keystore

This process will:

- Prompt for and encyrpt new application server-stored passwords
- Synchonize the keystore to the database
- Regenerate user hashes
- Decrypt the passwords using the old keystore and encrypt them using the new keystore.

Follow these steps:

1. Copy the old keystore to a temporary directory as a backup measure.
2. Run initialSetup.sh|cmd –k to generate the new keystore.
3. Using configureEnv.sh|cmd, re-enter the menu passwords to encrypt the data.
4. Run initialSetup.sh|cmd to update property files with the encrypted data.
5. Run the following:

```
perl $SPLEBASE/bin/run_ java_standalone.plx
-Dcom.oracle.ouaf.system.old.keystore.file={property-value}
-Dcom.oracle.ouaf.system.old.keystore.passwordFileName={property-
value}
```

```
-Dcom.oracle.ouaf.system.old.keystore.type={property-value}
-Dcom.oracle.ouaf.system.old.keystore.alias={property-value}
-Dcom.oracle.ouaf.system.old.keystore.padding={property-value}
-Dcom.oracle.ouaf.system.old.keystore.mode={property-value}
 com.splwg.shared.common.ChangeCryptographyKey
```

where {property-value}is related to the old keystore

6. Run $SPLEBASE/bin/nvokeDBUpdatePatch.sh|cmd and follow the prompts. You can use the –h option to obtain help.

Installing Hibernate 4.1.0

To install Hibernate 4.1.0 external jar files to the Hibernate 3rd party jars depot:

1. Create a Hibernate jar external depot:

   ```
   export HIBERNATE_JAR_DIR=<Hibernate 3rd party jars depot>
   ```

2. Download the hibernate-release-4.1.0.Final.zip file from:

   http://sourceforge.net/projects/hibernate/files/hibernate4/

3. Click the "4.1.0.Final" link to download the zip file.

4. Extract the contents of the archive file:

   ```
   unzip hibernate-release-4.1.0.Final.zip
   ```

   Note: You must have Java JDK installed on the machine to use the jar command. Be sure to install the JDK that is supported for your platform.

5. Copy the jar files to your Hibernate jar directory ($HIBERNATE_JAR_DIR):

   ```
   cp hibernate-release-4.1.0.Final/lib/optional/
   ehcache/ehcache-core-2.4.3.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/optional/
   ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/
   hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/
   hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/
   hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/
   javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR
   cp hibernate-release-4.1.0.Final/lib/required/
   jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
   ```

6. Another package needs to be downloaded in order to get the jboss-logging-3.3.0.Final.jar.

   Download the hibernate-search-5.5.4.Final-dist.zip file from:
   https://sourceforge.net/projects/hibernate/files/hibernate-search/

7. Click the "5.5.4.Final" link to download the zip file.

8. Extract the contents of the archive file.

   ```
   unzip hibernate-search-5.5.4.Final-dist.zip
   ```

9. Copy the jboss-logging-3.3.0.Final.jar file to your Hibernate jar directory ($HIBERNATE_JAR_DIR).

   ```
   cp hibernate-search-5.5.4.Final/dist/lib/required/jboss-logging-3.3.0.Final.jar to $HIBERNATE_JAR_DIR
   ```

Chapter 7

Installing Oracle Utilities Customer To Meter

Important! In this release, Oracle Utilities Operational Device Management is included as part of Oracle Utilities Customer To Meter for all customers. However, the existing customers can disable the Oracle Utilities Operational Device Management functionality.

This chapter provides instructions to install Oracle Utilities Customer To Meter, as well as enable/disable Oracle Utilities Operational Device Management.

Prerequisites

Before you can install the Oracle Utilities Customer To Meter components, the following must be installed:

- Oracle Utilities Application Framework V4.5.0.0.0

Refer to Installing the Application Server Component of Oracle Utilities Application Framework for instructions.

Installing Customer To Meter Components

The Oracle Utilities Customer to Meter installation includes:

- Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes
- Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0
- Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches
- Installing Oracle Utilities Meter Data Management V2.5.0.0.0
- Installing Oracle Utilities Operational Device Management V2.4.0.0.0
- Installing Oracle Utilities Customer To Meter V2.9.0.0.0
- Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches

Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes

Note: This section is applicable only if there are any Oracle Utilities Application Framework prerequisites patches to install.

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Utilities Customer To Meter.

The patches are available as a convenience roll-up inside the C2M-V2.9.0.0.0-FWPREREQ-MultiPlatform.zip file which is part of the downloaded media pack.

For a list of the patches included in this roll-up, refer to Application Framework Prerequisite Patches.

To install the application and database patches on top of Oracle Utilities Application Framework V4.5.0.0.0:

1. Copy the C2M-V29000-FW-PREREQ-MultiPlatform.jar file in the delivered package to a <TEMPDIR>.
2. Unjar the file.

   ```
   jar -xvf C2M-V29000-FW-PREREQ-MultiPlatform.jar
   ```

3. Initialize the Oracle Utilities Application Framework environment that you want to install the patch roll-up into:

   UNIX

```
$SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
```

Windows

```
$SPLEBASE\bin\splenviron.cmd -e %SPLENVIRON%
```

4. Install application patches.
   a. Navigate to the <temp location>/FW-V4.5.0.0.0-Rollup/Application folder.
   b. Execute the group installation script.

      UNIX/Linux

      ```
      chmod a+x installSFgroup.sh
      chmod a+x FW*/*.sh
      ./installSFgroup.sh
      ```

      Windows

      ```
      installSFgroup.cmd
      ```

Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0

This section describes the steps to install Oracle Utilities Customer Care and Billing, including:

- Copying and Decompressing Install Media
- Preparing for the Installation
- Installing the Oracle Utilities Customer Care and Billing Application Component

Copying and Decompressing Install Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

Oracle Utilities Customer To Meter is delivered in a separate installation package for each supported Operating System. Refer to the Supported Platforms section in Supported Platforms and Hardware Requirements for version and installation details regarding the database and operating system versions. Also refer to Installing Application Server Prerequisite Software for the prerequisite third-party software installation instructions.

Download the installation package for your operating system and proceed with the following instructions.

1. Login to the host server as the Oracle Utilities Application Framework administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Customer To Meter application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
3. Copy the file CCB-V2.9.0.0.0-MultiPlatform.jar in the delivered package to a <TEMPDIR>. To use FTP to transfer this file, make sure to use the BINARY option.

4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf CCB-V2.9.0.0.0-MultiPlatform.jar
```

> **Note:** You will need to have Java JDK installed on the machine used to (un)jar the application server installation package. Please install the JDK that is supported for the install on your platform to be able to use the jar command. This is the location of Java packages: http://java.sun.com/products/archive/index.html.

For Windows installs, include the location of the JDK in your path before you execute the jar command.

For both Unix and Windows platforms, a sub-directory named CCB.V2.9.0.0.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Preparing for the Installation

1. Login as an Oracle Utilities Customer To Meter Administrator (default is "cissys").
2. Initialize the Framework environment that you want to install the product into.

   UNIX:

   ```
   $SPLEBASE/bin/splenviron.sh  -e $SPLENVIRON
   ```

   Windows:

   ```
   $SPLEBASE\bin\splenviron.cmd -e %SPLENVIRON%
   ```

3. Stop the environment if running.

Installing the Oracle Utilities Customer Care and Billing Application Component

To install the Oracle Utilities Customer Care and Billing application:

1. Change to the <TEMPDIR>/CCB.V2.9.0.0.0 directory.
2. Set the following path:

   ```
   export PATH=<JAVA_HOME>/bin:$PATH
   ```

   > **Note:** The above command is only applicable on a Linux platform. <JAVA_HOME> is the location where the JDK has been installed.

3. Run the following script:

   UNIX

   ```
   ksh ./install.sh
   ```

   Windows

   ```
   install.cmd
   ```

   > **Note:** On UNIX, ensure that you have the proper execute permission on install.sh

4. Follow the messages and instructions that are produced by the install utility. Please note that some of the steps may take some time to complete.

5. If the install utility execution was not stopped due to errors and you did not interrupt the execution, you have finished the installation of the Oracle Utilities Customer To Meter Application product.
6. Run the following commands:

   UNIX

   ```
   splenviron.sh -e <ENV_NAME>
   configureEnv.sh
   Type P and <ENTER> (you don't need to change anything)
   splenviron.sh -e <ENV_NAME>
   initialSetup.sh
   ```

   Windows

   ```
   splenviron.cmd -e <ENV_NAME>
   configureEnv.cmd -e <ENV_NAME>
   Type P and <ENTER> (you don't need to change anything)
   splenviron.cmd -e <ENV_NAME>
   initialSetup.cmd
   ```

7. Start up the environment.

The final step of the installation process is the environment startup. The install utility executes the command spl.sh start (for UNIX) or spl.cmd start (for Windows) to start up the environment. You may start the environment by this command any time. Follow the messages on the screen and check the logs in $SPLSYSTEMLOGS (%SPLSYSTEMLOGS% on Windows) directory to ensure that the environment was started successfully. If the startup failed, identify the problem by reviewing the logs, and start up the environment manually while you are connected to the new environment in your online session.

Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches

> **Note**: This section is applicable only if there are any Oracle Utilities Customer Care and Billing prerequisites patches to install.

The Oracle Utilities Customer Care and Billing patches must be installed after installing Oracle Utilities Customer Care and Billing.

The patches are available as a convenience rollup inside the CCB-V2.9.0.0.0-Rollup-MultiPlatform.zip file, which is part of the downloaded media pack.

For a list of the patches included in this rollup, refer to Post-release Patches.

To install the application and database patches on top of Oracle Utilities Customer Care and Billing 2.9.0.0.0:

1. Copy the CCB-V29000-Rollup-MultiPlatform.jar file in the delivered package to a <TEMPDIR>.
2. Unjar the file.

   ```
   jar -xvf CCB-V29000-Rollup-MultiPlatform.jar
   ```

3. Initialize the Oracle Utilities Customer Care and Billing environment where the Oracle Utilities Customer Care and Billing patch rollup has to be installed.

UNIX

```
$SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
```

Windows

```
$SPLEBASE\bin\splenviron.cmd -e %SPLENVIRON%
```

4. Install application patches.
   a. Navigate to the <temp location>/CCB-V2.9.0.0.0-Rollup/Application folder.
   b. Run the group installation script.

      UNIX/Linux

      ```
      chmod a+x installSFgroup.sh
      chmod a+x CCB*/*.sh
      ./installSFgroup.sh
      ```

      Windows

      ```
      installSFgroup.cmd
      ```

5. Start the environment.

Installing Oracle Utilities Meter Data Management V2.5.0.0.0

This section describes how to install the Oracle Utilities Meter Data Management, including:

- Copying and Decompressing the Install Media
- Installing the Oracle Utilities Meter Data Management Application Component

To proceed with the Oracle Utilities Meter Data Management installation you need to be connected to the target Oracle Utilities Application Framework environment.

Copying and Decompressing the Install Media

The Oracle Utilities Meter Data Management installation file is delivered in jar format for UNIX .

To copy and decompress the install media:

1. Login to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download the Oracle Utilities Meter Data Management V2.5.0.0.0 Multiplatform.zip from Oracle Software Delivery Cloud.
3. Create a temporary directory such as c:\ouaf\temp or /ouaf/temp. (Referred to below as <TEMPDIR>)

   Note: This directory must be located outside any current or other working Oracle Utilities application environment. All files that are placed in this directory as a part of the installation can be deleted after completing a successful installation.
4. Unzip Oracle Utilities Meter Data Management V2.5.0.0.0 Multiplatform.zip to get the file MDM_V2.5.0.0.0.zip from the delivered package and copy to the <TEMPDIR>. To use FTP to transfer this file, use the BINARY option.

5. Decompress the file:

```
cd <TEMPDIR>
unzip MDM_V2.5.0.0.0.zip
cd App
```

For UNIX and Windows platforms, a sub-directory named MDM.V2.5.0.0.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installing the Oracle Utilities Meter Data Management Application Component

To install the Oracle Utilities Meter Data Management application component:

1. Login to the application server host as Oracle Utilities Application Framework Administrator (default cissys).
2. Change directory:

```
cd <install_dir>/bin
```

   where <install_dir> is the location where the Oracle Utilities Application Framework application component is installed.

3. Initialize the environment by running the appropriate command:

   UNIX

```
./splenviron.sh -e <ENV NAME>
```

   Windows

```
splenviron.cmd -e <ENV NAME>
```

4. Navigate to <TEMPDIR>/MDM.V2.5.0.0.0 directory.
5. Run the install script.

   Note: On UNIX, ensure that you have the proper execute permission on install.sh.

   UNIX

```
ksh ./install.sh
```

   Windows

```
install.cmd
```

6. Choose option P to proceed with the installation.

   Note: The rest of the menu items can be ignored if you are installing only Oracle Utilities Meter Data Management.

The Oracle Utilities Meter Data Management installation is complete if no errors occurred during the installation.

Installing Oracle Utilities Operational Device Management V2.4.0.0.0

Important! Note that the Oracle Utilities Operational Device Management installation is not different from that of Oracle Utilities Work and Asset Management installation. Installing Oracle Utilities Work and Asset Management will install Oracle Utilities Operational Device Management also.

In this release, Oracle Utilities Operational Device Management is included as part of Oracle Utilities Customer To Meter for all customers. However, the existing customers can disable the Oracle Utilities Operational Device Management functionality. Follow the manual post-installation steps to disable Oracle Utilities Operational Device Management inside the Oracle Utilities Customer To Meter stack. For instructions refer to Disabling/ Enabling Oracle Utilities Operational Device Management inside Oracle Utilities Customer To Meter.

This section describes how to install the Oracle Utilities Work and Asset Management application component, including:

- Copying and Decompressing the Oracle Utilities Work and Asset Management Install Media
- Installing the Oracle Utilities Work and Asset Management Application Component

Copying and Decompressing the Oracle Utilities Work and Asset Management Install Media

The Oracle Utilities Work and Asset Management installation file is delivered in jar format for both UNIX and Windows platforms.

To copy and decompress the install media:

1. Login to the application server host as the administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Download the Oracle Utilities Work and Asset Management V2.4.0.0.0 Multiplatform zip file from Oracle Software Delivery Cloud.
3. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Work and Asset Management application environment.
   This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
4. Copy the WAM-V2.4.0.0.0-Multiplatform.jar file in the delivered package to a <TEMPDIR> on your host server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
5. Decompress the file.

   ```
   cd <TEMPDIR>
   jar -xvf WAM-V2.4.0.0.0-Multiplatform.jar
   ```

For Windows installations, include the location of the JDK in your path before you execute the jar command.

A sub-directory W1.V2.4.0.0.0 is created for both UNIX and Windows platforms. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installing the Oracle Utilities Work and Asset Management Application Component

Follow these steps to install the Oracle Utilities Work and Asset Management application component:

1. Login to the application server host as the administrator user ID (default cissys).
2. Change the directory.

   ```
   cd <install_dir>
   ```

   where <install_dir> is the location where the Oracle Utilities Application Framework V4.5.0.0.0 base application component is installed.
3. Initialize the environment.

   UNIX

   ```
   ./splenviron.sh -e <ENV NAME>
   ```

   Windows

   ```
   splenviron.cmd -e <ENV NAME>
   ```
4. Change to the <TEMPDIR>/W1.V2.4.0.0.0 directory where <install_dir> is the Oracle Utilities Work and Asset Management application component installation directory.

   Note: On UNIX, ensure that you have the proper execute permission on install.sh.

   UNIX

   ```
   ksh ./install.sh
   ```

   Windows

   ```
   install.cmd
   ```
5. Initialize the environment.

   UNIX

   ```
   ./splenviron.sh -e <ENV NAME>
   ```

   Windows

   ```
   splenviron.cmd -e <ENV NAME>
   ```
6. Generate the appviewer.

   Note: Before generating the appviewer, make sure that Oracle Utilities Operational Device Management is enabled or set to ON. This ensures that Data Dictionary and Javadocs are generated without errors.

   a. Change the directory.

      ```
      cd <install_dir>/bin
      ```

      where <install_dir> is Oracle Utilities Work and Asset Management application component installation directory.

b. Generate the appviewer.

UNIX

```
ksh ./genappvieweritems.sh
```

Windows

```
genappvieweritems.cmd
```

Installing Oracle Utilities Customer To Meter V2.9.0.0.0

This section describes how to install Oracle Utilities Customer to Meter, including:

- Copying and Decompressing the Install Media
- Installing the Oracle Utilities Customer To Meter Application Component

Copying and Decompressing the Install Media

The installation file is delivered in jar format for both UNIX and Windows platforms.

The Customer To Meter is delivered as a separate installation package that can be downloaded along with Oracle Utilities Customer To Meter V2.9.0.0.0.

Download the installation package and proceed as follows:

1. Login to the host server as the Oracle Utilities Application Framework administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Application Framework.
2. Create a <TEMPDIR> directory on the application server, which is independent of any current or other working Oracle Utilities Customer To Meter application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
3. Copy the C2M.V2.9.0.0.0-MultiPlatform.jar file in the delivered package to a <TEMPDIR> on your application server. If you are using FTP to transfer this file, remember to use the BINARY option for the FTP transfer.
4. Decompress the file:

   ```
   cd <TEMPDIR>
   jar -xvf C2M-V2.9.0.0.0-MultiPlatform.jar
   ```

   For UNIX platform, a sub-directory named C2M.V2.9.0.0.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application.

Installing the Oracle Utilities Customer To Meter Application Component

This section outlines the steps to install Oracle Utilities Customer to Meter.

Preparing for the Installation

1. Login as an Oracle Utilities Customer to Meter administrator (default cissys).
2. Initialize the Oracle Utilities Application Framework environment where the product should be installed.

UNIX

```
./splenviron.sh -e $SPLENVIRON
```

Windows

```
splenviron.cmd -e <ENV NAME>
```

3. Stop the environment if running.

Installing the Application

1. Change to the <TEMPDIR>/C2M.V2.9.0.0.0 directory.
2. Run the following script.

   UNIX

   ```
   ksh ./install.sh
   ```

   Windows

   ```
   install.cmd
   ```

   Note: On UNIX, ensure that you have the proper execute permission on install.sh.

   The Configuration menu for the Oracle Utilities Customer to Meter application appears.

3. Choose option **P** to proceed with the installation (you need not modify anything).
4. Start up the environment.

   Follow the message on the screen and review the logs in the $SPLSYSTEMLOGS directory to ensure that the environment was started successfully.

   If the startup failed, identify the problem by reviewing the logs. Resolve any issues before attempting to restart the environment.

   Note: while starting the first time, log into the WebLogic console and provide system access to the 'cisusers' role. The WebLogic console application can be accessed through the following URL: http://<hostname>:<portname>/console.

Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches

Note: This section is applicable only if there are any Oracle Utilities Application Framework prerequisites patches to install.

The Oracle Utilities Customer To Meter patches must be installed after installing Oracle Utilities Customer To Meter.

The patches are available as a convenience rollup inside the C2M-V2.9.0.0.0-Rollup-MultiPlatform.zip file, which is part of the downloaded media pack.

For a list of the patches included in this rollup, refer to Post-release Patches.

To install the application and database patches on top of Oracle Utilities Customer To Meter 2.9.0.0.0:

1. Copy the C2M-V29000-Rollup-MultiPlatform.jar file in the delivered package to a <TEMPDIR>.

2. Unjar the file.

```
jar -xvf C2M-V29000-Rollup-MultiPlatform.jar
```

3. Initialize the Oracle Utilities Customer To Meter environment where the Oracle Utilities Customer To Meter patch rollup has to be installed.

UNIX

```
$SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
```

Windows

```
$SPLEBASE\bin\splenviron.cmd -e %SPLENVIRON%
```

4. Install application patches.
   a. Navigate to the <temp location>/C2M-V2.9.0.0.0-Rollup/Application folder.
   b. Run the group installation script.

UNIX/Linux

```
chmod a+x installSFgroup.sh
chmod a+x C2M*/*.sh
./installSFgroup.sh
```

Windows

```
installSFgroup.cmd
```

5. Start the environment.

Disabling/Enabling Oracle Utilities Operational Device Management inside Oracle Utilities Customer To Meter

By default, Oracle Utilities Operational Device Management is enabled. It can be disabled or enabled manually.

> **Important!** Before enabling or disabling Oracle Utilities Operational Device Management, make sure the Oracle Utilities Operational Device Management database is enabled or disabled. For instructions, refer to the *Oracle Utilities Customer To Meter Database Administrator's Guide*.

To disable Oracle Utilities Operational Device Management:

1. Run a flush to clear the cache.
2. Clear the browser cache.
3. Restart the application.

To enable Oracle Utilities Operational Device Management:

1. Run a flush to clear the cache.
2. Clear the browser cache.
3. Restart the application.

Chapter 8

Additional Tasks

This chapter describes tasks that should be completed after installing Oracle Utilities Customer To Meter, including:

- Importing Self-Signed Certificates
- Customizing Configuration Files
- Integrating Existing Customer Modifications
- Generating the Application Viewer
- Building Javadocs Indexes
- Configuring the Environment for Batch Processing
- Customizing the Logo
- Deploying Inbound WebServices (IWS)
- Domain Templates
- Database Patching

Importing Self-Signed Certificates

If you are using self-signed certificates and the Inbound Web Services (IWS) feature, then it is necessary to import these certificates into the OUAF truststore file.

Make sure to perform these steps before deploying the IWS application.

To import the self-signed certificates into the OUAF truststore:

1. Start WebLogic.
2. Initialize a command shell and setup the environment.

   UNIX

   ```
   $SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
   ```

   For example:

   ```
   /ouaf/TEST_ENVIRON1/bin/splenviron.sh -e TEST_ENVIRON1
   ```

   Windows

   ```
   %SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%
   ```

   For example:

   ```
   D:\ouaf\TEST_ENVIRON1\bin\splenviron.cmd -e TEST_ENVIRON1
   ```

3. Generate all information.

   UNIX

   ```
   $SPLEBASE/bin/initialSetup.sh -i
   ```

   Windows

   ```
   %SPLEBASE%\bin\ initialSetup.cmd –i
   ```

Customizing Configuration Files

To make customer modifications to various configuration files, create a 'CM copy' of the template file or user exit instead. This preserves the changes whenever initialSetup is executed; else, the changes to the delivered template files will be lost if it is patched in the future.

Below is a sample procedure to customize Hibernate properties of the SPLWeb web application:

1. Locate the hibernate.properties.template in the $SPLEBASE/templates directory.
2. Copy the file to cm.hibernate.properties.template.
3. Apply the changes to cm.hibernate.properties.template.
4. Update the application war file with the latest changes:

   Unix:

   ```
   $SPLEBASE/bin/initialSetup.sh
   ```

   Windows:

   ```
   %SPLEBASE%\bin\initialSetup.cmd
   ```

Refer to the Oracle Utilities Application Framework SDK documentation for more details.

Centralized Properties Customization

This feature gives the ability to add, modify, and remove properties in one file. The properties are propagated to the specified property files. The template process, which is part of the initialSetup step, will look at the files etc/cm_properties.ini (this can be created as a Customer Customization), if the file exists the content will be processed for the relevant properties.

> **Note**: Product teams might use this file format: etc/<PROD>_properties.ini (where <PROD> could be one of the list of installed products included in etc/PRODUCT.txt). If it exits it will be processed as well.

cm_properties.ini examples

Type of entries that could be included into cm_properties.ini and relevant type of action:

<PROPERTIES_FILE>:<PROPERTY_NAME>=<VALUE>

- Override <PROPERTY_NAME> in <PROPERTIES_FILE> with <VALUE> if exists.
- Insert <PROPERTY_NAME> in <PROPERTIES_FILE> with <VALUE> it doesn't exists.

<PROPERTY_NAME>=<VALUE>

- Override <PROPERTY_NAME> in all property files with <VALUE>, if <PROPERTY_NAME> exists.

<PROPERTIES_FILE>:<PROPERTY_NAME>=[DELETE]

- Remove <PROPERTY_NAME> from <PROPERTIES_FILE> if exists.

<PROPERTY_NAME>=[DELETE]

- Remove <PROPERTY_NAME> from all property files, if <PROPERTY_NAME> exists.

Template example: hibernate.service.properties.template

```
hibernate.user = @DBUSER@
hibernate.pass = @DBPASS@
hibernate.ucp.validate_connection = true
```

ENVIRON.INI example

```
DBUSER=cisadm
```

cm_properties.ini example

```
hibernate.service.properties.template:hibernate.user=clouduser
hibernate.password=cloudpwd
hibernate.iws.properties.template:hibernate.user=clouduser
hibernate.service.properties.template:hibernate.ucp.validate_conne
ction=[DELETE]
hibernate.service.properties.template:new.property=test
```

hibernate.service.properties generated properties file result

```
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.user=clouduser
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.password=cloudpwd
### The following line was deleted because <PROD>_properties.ini
file setting:
# hibernate.ucp.validate_connection = true
### The following line was appended because <PROD>_properties.ini
file setting:
new.property = test
```

hibernate.iws.properties generated properties file result

```
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.user=clouduser
### The following line was overridden because <PROD>_properties.ini
file setting:
hibernate.password=cloudpwd
```

Integrating Existing Customer Modifications

Existing Customer Modifications (CM) applied to an application server on an earlier release cannot be applied directly to a later version. CM code needs to be applied from an SDK version compatible with this release.

Refer to SDK documentation for more information about migrating CM code.

Generating the Application Viewer

You may extend application viewer capabilities within an environment by generating additional items. These include information about algorithm types, algorithms, maintenance objects and data dictionary information. The Javadoc indexes are also re-built.

> **Note**: Before generating the appviewer, make sure that Oracle Utilities Operational Device Management is enabled or set to ON. This ensures that Data Dictionary and Javadocs are generated without errors.

To generate the additional items in the application viewer:

1. Shut down the environment.
2. Initialize a command shell and setup the environment.

   UNIX

   ```
   $SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
   ```

   For example:

   ```
   /ouaf/TEST_ENVIRON1/bin/splenviron.sh -e TEST_ENVIRON1
   ```

   Windows

   ```
   %SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%
   ```

For example:

```
D:\ouaf\TEST_ENVIRON1\bin\splenviron.cmd -e TEST_ENVIRON1
```

3. Execute the following script to generate all information.

   UNIX

   ```
   ksh $SPLEBASE/bin/genappvieweritems.sh
   ```

   Windows

   ```
   %SPLEBASE%\bin\genappvieweritems.cmd
   ```

4. Restart your application.

Building Javadocs Indexes

Rebuilding Javadoc indexes is already part of generating application viewer above. However, there are times when you need to run it separately. For example, this is required after customer modifications (CM) have been applied to an environment when it includes Java code.

To rebuild the Javadoc indexes:

Windows

```
%SPLEBASE%\bin\buildJavadocsIndex.cmd
```

UNIX

```
ksh $SPLEBASE/bin/buildJavadocsIndex.sh
```

Configuring the Environment for Batch Processing

Refer to the *Server Administration Guide* for information about configuring the environment for batch processing.

Customizing the Logo

To replace the Oracle Utilities logo on the main menu with another image, put the new image <customer_logo_file>.png file into the directory $SPLEBASE/etc/conf/root/cm and create a new "External" Navigation Key called CM_logoImage.

To do that, run the Oracle Utilities application from the browser with the parameters: http://<hostname>:<port>/cis.jsp?utilities=true&tools=true. From the Admin menu, select Navigation Key. Add the above Navigation Key with its corresponding URL Override path. The syntax for the URL path is:

Windows

http://<host name>:<port>/<Web Context>/cm/<customer_logo_file>.png

UNIX

http://<host name>:<port>/<Web Context>/cm/<customer_logo_file>.png

The root directory may be deployed in war file format for runtime environment (SPLApp.war). Use provided utilities to incorporate your cm directory into SPLApp.war file.

Deploying Inbound WebServices (IWS)

All existing XAI Inbound Services have been duplicated as Inbound Web Services. The application no longer supports XAI. The duplicated services are designed to work seamlessly in this release, and customers providing custom services are encouraged to migrate to Inbound Web Services to take full advantage of the new, more efficient web service technology.

For more information about migrating from XAI to IWS, please refer to *Migrating from XAI to IWS Oracle Utilities Application Framework* (Doc ID 1644914.1) on My Oracle Support.

Follow these steps to deploy IWS:

UNIX

1. Enable the Web Services Functionality.

   ```
   cd $SPLEBASE/bin
   configureEnv.sh -a
   ```

   Select option **50** and set the option "Enable Web Services Functionality" to true. Enter **P** to process.

2. Execute initialSetup.sh as shown below:

   ```
   cd $SPLEBASE/bin
   ksh ./initialSetup.sh
   ```

3. Set the classpath.

   ```
   $ CLASSPATH=$WL_HOME/server/lib/weblogic.jar:$CLASSPATH
   $ export CLASSPATH
   $ cd $SPLEBASE/bin
   ```

4. Run the following command:

   ```
   $ java weblogic.Admin -username <username> -password <password>
   STOREUSERCONFIG -userconfigfile $SPLEBASE/etc/.wlsuserconfig -
   userkeyfile $SPLEBASE/etc/.wlsuserkey
   ```

   Select **y**.

5. Execute the below step in $SPLEBASE/bin. Make sure that the application server is up and running.

   ```
   ksh ./iwsdeploy.sh
   ```

Windows

1. Enable the Web Services Functionality.

   ```
   cd %SPLEBASE%\bin
   ```

2. Execute configureEnv.cmd –a.

   Select option **50** and set the option "Enable Web Services Functionality" to true. Enter **P** to process.

3. Execute initialSetup.cmd.

   ```
   cd %SPLEBASE%\bin initialSetup.cmd
   ```

4. Set the classpath.

   ```
   set CLASSPATH=%WL_HOME%\server\lib\weblogic.jar;%CLASSPATH%
   ```

5. Execute the following command:

   ```
   java weblogic.Admin -username system -password ouafadmin
   STOREUSERCONFIG -userconfigfile %SPLEBASE%\etc\.wlsuserconfig -
   userkeyfile %SPLEBASE%\etc\.wlsuserkey
   ```

   Select **y**.

6. Execute the following command in %SPLEBASE%\bin. Make sure the application server is up and running.

   ```
   iwsdeploy.cmd
   ```

Domain Templates

Configure the WebLogic application server to deploy it. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Framework* (Doc ID 2413918.1) on My Oracle Support for more details.

Update Domain Home Location

The following update in the configuration indicates if the embedded configuration is being utilized or if the environment is a native installation to WebLogic. When this item is populated in the environment, the delivered base tools will be able to identify that the starting and stopping of the environment are being done under the domain home.

1. Initialize the Environment: splenviron.sh –e <Environment_Name>
2. Execute: configureEnv.sh –a
3. Select Menu Item: 52. Advanced Web Application Configuration

==========

4. 02. Configuration Option: Domain Home Location

   Current Value <ENTER>:

   The Weblogic Domain Home location, when this parameter is populated you will need to use the native Weblogic tools for maintenance (starting, stopping, deployment, and undeployment).

   Enter Value: <Enter your domain home location>

5. Once the Domain Home location has been completed, enter <P>.

Database Patching

The database patching utility is delivered under SPLEBASE and is Java-based so you are able to create a standalone package to be able to install database patches on a separate server that has Java 8 installed. You can also install database patches using the components that are delivered under SPLEBASE without the need to move the database patching utility to a different server.

The following is an overview of the process to install database patches on a separate server. You will need to create a jar file containing the utilities and supporting files to allow you to run the database patch installer on another server.

To generate the jar file:

1. Initialize a command shell:

   The scripts that are provided with the system need to be run from a shell prompt on the machine where you installed the application server. Before such scripts can be run the shell must be "initialized" by running the splenviron script provided with the system.

   UNIX

   Log on to your UNIX box as the Oracle Utilities Administrator (default cissys) and open a shell prompt.

   In the following example, replace the variables:

   - $SPLEBASE with the Full directory name that you installed the application into.
   - $SPLENVIRON with the name you gave to the environment at installation time.

   To initialize the environment enter:

   ```
   $SPLEBASE/bin/splenviron.sh -e $SPLENVIRON
   ```

   For example:

   ```
   /ouaf/DEMO/bin/splenviron.sh -e DEMO
   ```

   Windows

   The command window should be opened on the Windows server that you installed the application on.

   In the below example you should replace the following variables:

   - %SPLEBASE%: The Full directory name that you installed the application into.
   - %SPLENVIRON%: The name you gave to the environment at installation time.

   To initialize the environment, type the following in your command prompt:

   ```
   %SPLEBASE%\bin\splenviron.cmd -e %SPLENVIRON%
   ```

   For example:

   ```
   D:\ouaf\DEMO\bin\splenviron.cmd -e DEMO
   ```

2. Execute the following script to generate the jar file.

   UNIX

   ```
   ksh $SPLEBASE/bin/createDBStandlone.sh
   ```

   Windows

   ```
   %SPLEBASE%\bin\createDBStandlone.cmd
   ```

   Note: By default, the output jar db_patch_standalone.jar is created in SPLEBASE/tools/dbstandalone. You can use the –l option to change the default directory.

3. Transfer the generated jar (db_patch_standalone.jar) to the Windows/Unix machine where you want to run the database patching utility.

4. Extract the contents of the archive file:

   ```
   jar xvf db_patch_standalone.jar
   ```

   Note: You must have Java 8 JDK installed on the machine to use the jar command. Be sure to install the JDK that is supported for your platform.

Overview of Database Patching Application

The database patching utility requires you have Java 7 JDK installed on the machine to execute the database patch application process.

The patch application process will perform following items to account for executing patch application under SPLEBASE or on a standalone server.

The database patch application utility will look do the following when it is executed:

- Checks to see if the environment variable $SPLEBASE is set.

  If the $SPLEBASE variable is set, the utility uses the libraries under $SPLEBASE to apply the patch.

- When the $SPLEBASE is not set, the utility checks to see if the TOOLSBIN environment variable is set.

  If the TOOLSBIN is set, the utility uses the libraries under the TOOLSBIN location.

- When both SPLEBASE and TOOLSBIN environment are not set, the utility prompts for the location of the TOOLSBIN.

The TOOLSBIN is the location of the of the application scripts ouafDatabasePatch.sh[cmd].

Unix Example

The TOOLSBIN location would be set to /ouaf/dbpatch/bin

```
export TOOLSBIN=/ouaf/dbpatch/bin
```

Unix Sample - Database Patch Application (ouafDatabasePatch.sh)

Note: The default permissions (ouafDatabasePatch.sh), may need to be adjusted to be executed by your user and group, when applying database fixes.

- Sample Execution – Passing a Password

```
./ouafDatabasePatch.sh -x ouafadm -p "-t O -d
CISADM_Z1_12C_43030_BLD001,slc04lds:1522:Z143Q12C"
```

- Sample Execution – Prompting for a Password

```
./ouafDatabasePatch.sh  -p "-t O -d
CISADM_Z1_12C_43030_BLD001,slc04lds:1522:Z143Q12C"
```

- Sample Execution - passing in the tools bin location

```
/ouafDatabasePatch.sh -u
ouafDatabasePatch.sh [-h] [-u] [-v] [-x] [-t tools dir] [-p
ouafparms]
-h   displays help of ouafpatch
-u   displays usage of ouafDatabasePatch.sh
-v   displays version of ouafpatch
-x   password to be passed to ouafpatch
-b   location of the tools bin directory
-p   parameters directly passed to ouafpatch must be the last
parameter passed and be enclosed with quotes
```

WINDOWS Example

The TOOLSBIN location would be set to c:\ouaf\dbpatch\bin

```
SET TOOLSBIN=c:\ouaf\dbpatch\bin
```

Windows Sample - Database Patch Application (ouafDatabasePatch.cmd)

- Sample Execution – Passing a Password

  ouafDatabasePatch.cmd -x password -p "-t O -d SCHEMA_NAME,DBSERVER:DBPORT:DBSID"

- Sample Execution – Prompting for a Password

  ouafDatabasePatch.cmd –p “-t O -d SCHEMA_NAME,DBSERVER:DBPORT:DBSID C”

- Sample Execution - passing in the tools bin location

  ouafDatabasePatch.cmd -b "C:\temp\db_patch_standalone\bin" -p "-t O -d SCHEMA_NAME,DBSERVER:DBPORT:DBSID -c C:\temp\dbrollup\CDXPatch2\CDXPatch.ini"

Windows Sample Usage:

```
ouafDatabasePatch.cmd -u
USAGE:
USAGE:ouafDatabasePatch.cmd[-h] [-u] [-v] [-x] [-b tools dir] [-p
ouafparms]
USAGE:          -h   displays help of ouafpatch
USAGE:          -u   displays usage of ouafDatabasePatch.cmd
USAGE:          -v   displays version of ouafpatch
USAGE:          -x   password to be passed to ouafpatch
USAGE:          -b   location of the tools bin directory
USAGE:          -p   parameters directly passed to ouafpatch
USAGE:               must be enclosed with quotes: "  "
USAGE:
USAGE:
USAGE:
```

Chapter 9

Upgrading Oracle Utilities Customer To Meter

This chapter provides the instructions to upgrade Oracle Utilities Customer To Meter, including:

- Upgrade Paths
- Before You Upgrade
- Upgrade Procedure
- Post-Upgrade Verifications
- Installing Service Packs and Patches

For information about implementation scenarios, refer to the *Oracle Utilities Customer to Meter Solution Implementation Guidelines* document at https://www.oracle.com/partners/en/products/industries/utilities/customer-solution/secure/implementation-guidelines-4024252.pdf.

Upgrade Paths

The following upgrade paths are applicable to this release:

- From V2.6.0.0.0, V2.6.0.1.0, V2.7.0.0.0, V2.7.0.1.0, V2.7.0.3.0 or V2.8.0.0.0 to V2.9.0.0.0

  Before you can upgrade you must have a prior version installed. If not, follow the procedures described in Installing the Application Server Component of Oracle Utilities Application Framework and Installing Oracle Utilities Customer To Meter in this guide.

Before You Upgrade

Review the list of operating system, application server, and database server combinations supported for this version of Oracle Utilities Customer To Meter in the Supported Platforms section in Supported Platforms and Hardware Requirements.

For further assistance, contact My Oracle Support before you upgrade.

Note: While upgrading a previously installed application server, it is recommended to take a backup before starting the upgrade procedure. The upgrade installation removes the existing environment including the configurations.

Copying and Decompressing Install Media for the Oracle Utilities Customer To Meter Database and Application Components

Refer to the Copying and Decompressing Install Media section in Installing the Application Server Component of Oracle Utilities Application Framework for instructions on copying and decompressing install media.

Setting Permissions for the cistab file in UNIX for the Oracle Utilities Customer To Meter Application Component

Refer to the Set Permissions for the cistab File in UNIX section in Installing the Application Server Component of Oracle Utilities Application Framework for instructions.

Upgrade Procedure

The upgrade installation procedure consists of:

- Upgrading the Database Component
- Upgrading the Application Component

Upgrading the Database Component

Upgrading the Oracle Utilities Customer To Meter database component must be complete before you can upgrade the application component.

Refer to the **Upgrade Install** section in the *Oracle Utilities Customer To Meter Database Administrator's Guide* for instructions to upgrade the database component.

Upgrading the Application Component

A successful upgrade consists of the following steps:

- Upgrading Oracle Utilities Customer Care and Billing to Oracle Utilities Customer To Meter V2.9.0.0.0
- Upgrading Oracle Utilities Meter Data Management to Oracle Utilities Customer To Meter V2.9.0.0.0
- Upgrading Oracle Utilities Operational Device Management to Oracle Utilities Customer To Meter V2.9.0.0.0
- Upgrading Oracle Utilities Customer To Meter to Oracle Utilities Customer To Meter V2.9.0.0.0
-

Upgrading Oracle Utilities Customer Care and Billing to Oracle Utilities Customer To Meter V2.9.0.0.0

This section assumes that only Oracle Utilities Customer Care and Billing exists on top of Oracle Utilities Application Framework. Make sure to perform the following for upgrade.

Upgrading Oracle Utilities Application Framework

For instructions, refer to Installing Oracle Utilities Application Framework.

To upgrade, use the following command:

Unix:

```
ksh ./install.sh -u
```

Windows:

```
install.cmd -u
```

Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes

For instructions, refer to Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes.

Upgrading Oracle Utilities Customer Care and Billing V2.9.0.0.0

For instructions, refer to Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0.

Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches

For instructions, refer to Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches.

Installing Oracle Utilities Meter Data Management V2.5.0.0.0
For instructions, refer to Installing Oracle Utilities Meter Data Management V2.5.0.0.0.

Installing Oracle Utilities Operational Device Management V2.4.0.0.0
For instructions, refer to Installing Oracle Utilities Operational Device Management V2.4.0.0.0.

Installing Oracle Utilities Customer To Meter V2.9.0.0.0
For instructions, refer to Installing Oracle Utilities Customer To Meter V2.9.0.0.0.

Installing Oracle Utilities Customer To Meter V2.8.0.0.0 Post-release Patches
For instructions, refer to Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches.

Upgrading Oracle Utilities Meter Data Management to Oracle Utilities Customer To Meter V2.9.0.0.0
This section assumes that only Oracle Utilities Meter Data Management exists on top of Oracle Utilities Application Framework.

Perform the following to upgrade Oracle Utilities Meter Data Management to Oracle Utilities Customer To Meter.

Upgrading Oracle Utilities Application Framework
For instructions, refer to Installing Oracle Utilities Application Framework.

To upgrade, follow the command:

Unix:

```
ksh ./install.sh -u
```

Windows:

```
install.cmd -u
```

> **Note**: The upgrade install does not clean files of libraries that were removed from the latest version.

Installing Oracle Utilities Application Framework V4.4.0.3.0 Prerequisite Single Fixes
For instructions, refer to Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes.

Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0
For instructions, refer to Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0.

Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches
For instructions, refer to Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches.

Upgrading Oracle Utilities Meter Data Management V2.5.0.0.0
For instructions, refer to Installing Oracle Utilities Meter Data Management V2.5.0.0.0.

Installing Oracle Utilities Operational Device Management V2.4.0.0.0

For instructions, refer to Installing Oracle Utilities Operational Device Management V2.4.0.0.0.

Installing Oracle Utilities Customer To Meter V2.9.0.0.0

For instructions, refer to Installing Oracle Utilities Customer To Meter V2.9.0.0.0.

Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches

For instructions, refer to Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches.

Upgrading Oracle Utilities Operational Device Management to Oracle Utilities Customer To Meter V2.9.0.0.0

This section assumes that only Oracle Utilities Operational Device Management exists on top of Oracle Utilities Application Framework.

Perform the following to upgrade Oracle Utilities Operational Device Management to Oracle Utilities Customer To Meter.

Upgrading Oracle Utilities Application Framework

For instructions, refer to Installing Oracle Utilities Application Framework.

To upgrade, use the following command:

Unix:

```
ksh ./install.sh -u
```

Windows:

```
install.cmd -u
```

Note: The upgrade install does not clean files of libraries that were removed from the latest version.

Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes

For instructions, refer to Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes.

Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0

For instructions, refer to Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0.

Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches

For instructions, refer to Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches.

Installing the Oracle Utilities Meter Data Management V2.5.0.0.0

For instructions, refer to Installing Oracle Utilities Meter Data Management V2.5.0.0.0.

Upgrading Oracle Utilities Operational Device Management V2.4.0.0.0

For instructions, refer to Installing Oracle Utilities Operational Device Management V2.4.0.0.0.

Installing Oracle Utilities Customer To Meter V2.9.0.0.0

For instructions, refer to Installing Oracle Utilities Customer To Meter V2.9.0.0.0.

Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches

For instructions, refer to Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches.

Upgrading Oracle Utilities Customer To Meter to Oracle Utilities Customer To Meter V2.9.0.0.0

This section assumes that only Oracle Utilities Customer To Meter exists on top of Oracle Utilities Application Framework.

Perform the following to upgrade Oracle Utilities Customer To Meter to Oracle Utilities Customer To Meter.

Upgrading Oracle Utilities Application Framework

For instructions, refer to Installing Oracle Utilities Application Framework.

To upgrade, use the following command:

Unix:

```
ksh ./install.sh -u
```

Windows:

```
install.cmd -u
```

Note: The upgrade install does not clean files of libraries that were removed from the latest version.

Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes

For instructions, refer to Installing Oracle Utilities Application Framework V4.5.0.0.0 Prerequisite Single Fixes.

Upgrading Oracle Utilities Customer Care and Billing V2.9.0.0.0

For instructions, refer to Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0.

Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches

For instructions, refer to Installing Oracle Utilities Customer Care and Billing V2.9.0.0.0 Post-release Patches.

Upgrading Oracle Utilities Meter Data Management V2.5.0.0.0

For instructions, refer to Installing Oracle Utilities Meter Data Management V2.5.0.0.0.

Upgrading Oracle Utilities Operational Device Management V2.4.0.0.0

For instructions, refer to Installing Oracle Utilities Operational Device Management V2.4.0.0.0.

Upgrading Oracle Utilities Customer To Meter V2.9.0.0.0

For instructions, refer to Installing Oracle Utilities Customer To Meter V2.9.0.0.0.

Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches

For instructions, refer to Installing Oracle Utilities Customer To Meter V2.9.0.0.0 Post-release Patches.

Creating WebLogic Domain

With Oracle Utilities Application Framework V4.5.0.0.0 a WebLogic native installation is required. Refer to the *Oracle WebLogic 12.2.1.x Configuration Guide for Oracle Utilities Application Framework (Doc ID 2413918.1)* document on My Oracle Support for more information.

Post-Upgrade Verifications

After you complete the upgrade, verify the following:

1. Verify installation logs created under decompressed installer location for any errors.
2. Confirm that the installation logs do not contain any errors.
3. Confirm that all the configurations are correct.

   Refer to the Installation and Configuration Worksheets section in Planning the Installation for details.
4. Confirm that the database is ready.
5. Generate the Application Viewer.
6. Start the application server.

At this point, the installation is complete.

Refer to the *Oracle Utilities Customer To Meter Server Administration Guide* for more information on further configuring and operating the system.

Installing Service Packs and Patches

Periodically, Oracle Utilities releases a service pack of single fixes for its products. A service pack is an update to an existing release that includes solutions to known problems and other product enhancements. A service pack is not a replacement for an installation, but a pack consisting of a collection of changes and additions for it. The service pack may include changes to be applied to the application server, the database, or both. The service pack includes all files necessary for installing the collection of changes, including installation instructions.

Between services packs, Oracle Utilities releases patches to fix individual bugs. For information about installing patches, refer to **Document ID 974985.1** on My Oracle Support.

Service packs and patches can be downloaded from on My Oracle Support.

Appendix A

Application Framework Prerequisite Patches

There are no Oracle Utilities Application Framework prerequisite patches to be installed in this Oracle Utilities Customer To Meter release.

Appendix B

Oracle Utilities Customer To Meter Fixes

The following table lists the product fixes included in this release:

Bug Number	Description
33461688	COPY OF 33381918 - AFTER DISABLING ODM IN C2M, ERROR ISSUED WHEN UPDATING PERSON CONTACT
33520008	COPY OF BUG 33422293 - AFTER DISABLING ODM IN C2M, MANUFACTURER MODEL UPDATE-ADD ERROR FOR NAVIGATION OPTION CODE
33583583	UPDATE X1-TEMPDVDET TO SKIP IF ODM IS NOT INSTALLED
33601750	COPY OF 31318328 - FIELD ACTIVITY PENDING ALERT IN C2M DASHBOARD ALERTS ZONE DOES NOT SHOW LIST OF PENDING FIELD ACTIVITIES
33638480	COPY OF BUG 33638469 - COPY OF BUG 33589695 - SP CHARACTERISTIC VALUE IS BLANK FOR SRCH_CHAR_VAL FIELD ON D1_SP_CHAR WHEN CREATED WITH PREMISE REPLICATOR
33657653	COPY OF BUG 33653640 - FIX COMPLETION ALGORITHM X1-CMPLCCBFA TO CHECK WHETHER CCB FA IS ALREADY COMPLETED
33666626	OUMDM-23768 MIGRATE PERSON
33700139	COPY OF 33647070 - DEVICE ONGOING SYNC REQUEST IS NOT SENDING POSITIVE ACKNOWLEDGMENT (C2M)
33741283	COPY OF 33724784 - DATACONNECT V1+ PREMISE FILE FOR OPOWER IS NOT PER SPEC (C2M)
33754440	OUMDM-23919 MIGRATE SERVICE AGREEMENT
33754595	OUMDM-23920 MIGRATE CONTRACT OPTIONS
33758906	COPY OF BUG 33758512 - UPDATE X1-TRSYRQFLD TO CONVERT MDM SP IDS TO ODM NODE IDS ONLY IF MOVEMENT ACTION IS BLANK
33779479	COPY OF 33859601 - COUNT MISMATCH IN AV VS OUAV IN USAGE EXCEPTIONS - FIX TO BUG 33659915
33780166	OUMDM-22820 MIGRATE METER READ - DELETE REWORK

Bug Number	Description
33781796	CROSS INSTALLED PROCESS MENU IS NOT GROUPED CORRECTLY
33797571	REVIEW / ADJUST MENU LINE SEQUENCES (C2M)
33801780	REPLACE DEPRECATED APPLICATION SERVICE - DEFAULT EXECUTION APPLICATION SERVICE (F1-DFLTAPS) (C2M)
33826153	C2M - USAGE TRANSACTION IN MSCS WITH CUT-OFF DATE = DST CHANGE DATE GOES INTO ERROR
33831434	COPY OF BUG 33557444 - COPY OF BUG 33539138 - WHEN WE TRY TO UPLOAD LEGACY DATA TO CCB AND THEN SYNC TO MDM, WE'RE SEEING SYNC ERRORS WHEN RUNNING THE F1-SYNIL BATCH/CONVERSION INSERT BATCH

Appendix C

Post-release Patches

There are no post-release patches included in this Oracle Utilities Customer to Meter release.