

Oracle Utilities Meter Data Management

Installation Guide

Release 2.1.0.0

E38615-01

January 2013

Copyright © 2000, 2013, Oracle and/or its affiliates. All rights reserved.

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

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

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

U.S. GOVERNMENT RIGHTS

Programs, software, databases, and related documentation and technical data delivered to U.S. Government customers are "commercial computer software" or "commercial technical data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, duplication, disclosure, modification, and adaptation shall be subject to the restrictions and license terms set forth in the applicable Government contract, and, to the extent applicable by the terms of the Government contract, the additional rights set forth in FAR 52.227-19, Commercial Computer Software License (December 2007). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

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

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

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

This software or hardware and documentation may provide access to or information on content, products and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third party content, products and services. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third party content, products or services.

Contents

Preface	i-i
Audience	i-i
Related Documents	i-i
Conventions	i-ii
Acronyms	i-ii
Chapter 1	
Introduction	1-1
Installation Overview	1-2
Application Architecture	1-4
Tier 1: Desktop/Client, or Presentation Tier	1-4
Tier 2: Web Application Server, Business Application Server, Batch Server Tier	1-4
Tier 3: Database, or Persistence Tier	1-4
Installation Components	1-4
Installation Types	1-4
Initial Installation	1-5
Demo Installation	1-5
Upgrade Installation	1-5
Media Pack Components	1-6
Documentation Packages	1-6
Installation Packages	1-6
Chapter 2	
Supported Platforms and Hardware Requirements	2-1
Software and Hardware Considerations	2-2
Operating Systems and Application Servers	2-2
Hardware Requirements	2-3
Application Server Memory Requirements	2-3
Additional Notes on Supported Platforms	2-4
Support for Software Patches and Upgrades	2-4
Chapter 3	
Planning the Installation	3-1
Before You Install	3-2
Prerequisite Software List	3-2
Prerequisite Software for Database Server	3-2
Prerequisite Software for Application Server	3-2
Web Browser Requirements	3-2
Installing Prerequisite Software	3-3
AIX 7.1 TL01 SP3 Application Server	3-3
Oracle Linux 5.8/6.2 or Red Hat Linux 5.8/6.2 Application Server	3-15
Oracle Solaris 10 Application Server	3-18
Windows Server 2008 R2 Application Server	3-21
Readiness Checklist	3-22

Chapter 4

Installing Oracle Utilities Meter Data Management - Initial Installation	4-1
Before You Install	4-1
Initial Installation Procedure	4-1
Database Component Installation	4-1
Application Components Installation	4-2
After the Installation	4-9
Operating the Application	4-10

Chapter 5

Installing Oracle Utilities Meter Data Management - Demo Installation	5-1
Before You Install	5-1
Demo Installation Procedure	5-1
Database Component Installation	5-1
Application Components Installation	5-1
Operating the Application	5-9

Chapter 6

Upgrading Oracle Utilities Meter Data Management	6-1
Before You Upgrade	6-1
Upgrade Procedure	6-1
Database Component Upgrade	6-1
Application Components Upgrade	6-2
Operating the Application	6-10
.....	6-10

Chapter 7

Additional Tasks	7-1
Customizing Configuration Files	7-2
Generating the Application Viewer	7-2
Building Javadoc Indexes	7-3
Configuring the Environment for Batch Processing	7-3
Customizing the Logo	7-3
WebLogic Production Server Considerations	7-4
Configure Identity and Trust	7-4
BI Publisher Report Configuration	7-4

Appendix A

Installation Menu Functionality Overview	A-1
Installation Menu Functionality Overview	A-1
Installation Menu Functionality Details	A-1

Appendix B

Installation and Configuration Worksheets	B-1
Application Framework Installation and Configuration Worksheets	B-1
Third Party Software Configuration	B-1
Environment Installation Options	B-4
Environment Description	B-7
WebLogic Business Application Server Configuration	B-8
WebLogic Web Application Server Configuration	B-9
Database Configuration	B-12
General Configuration Options	B-14
Advanced Menu Options	B-15
Service and Measurement Data Foundation Installation and Configuration Worksheets	B-25
WebLogic OSB Configuration	B-26
WebSphere OSB Configuration	B-28
WebLogic SOA Configuration	B-29

WebSphere SOA Configuration	B-31
WebLogic SOA Configuration Plan	B-32
Advanced Menu Options.....	B-33
Appendix C	
Application Framework Prerequisite Patches	C-1
Appendix D	
Common Maintenance Activities	D-1
Appendix E	
Installing User Documentation as a Standalone Application	E-1
Installing User Documentation	E-1
Installing Stand-Alone Online Help	E-1
Customizing Help for Stand-Alone Operation	E-2
Installing Stand-Alone Help Under Web Server.....	E-2
Appendix F	
License and Copyright Notices	F-1
Third-Party Products	F-1
Notice Concerning Usage of ANTLR.....	F-1
Notice Concerning Usage of Apache Software.....	F-1
Notice Concerning Usage of ASM.....	F-4
Notice Concerning Usage of Concurrent	F-5
Notice Concerning Usage of DOM4J	F-5
Notice Concerning Usage of International Components for Unicode (ICU4J)	F-6
Notice Concerning Usage of Jaxen.....	F-6
Notice Concerning Usage of JCIP Annotations	F-7
Notice Concerning Usage of SLF4J.....	F-10
Notice Concerning Usage of Staxmate.....	F-10
Notice Concerning Usage of XMLPULL.....	F-11
Notice Concerning Usage of XMLUnit	F-11
Notice Concerning Usage of XStream	F-12
Notice Concerning Usage of YUI.....	F-12

Preface

This guide describes how to install Oracle Utilities Meter Data Management.

This preface contains these topics:

- **Audience**
- **Related Documents**
- **Conventions**
- **Acronyms**

Audience

Oracle Utilities Meter Data Management Database Installation Guide is intended for system administrators installing Oracle Utilities Meter Data Management.

To use this document you should have:

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

Related Documents

For more information, see these Oracle documents:

- *Oracle Utilities Meter Data Management Quick Install Guide*
- *Oracle Utilities Meter Data Management Release Notes*
- *Oracle Utilities Meter Data Management Configuration Guide*
- *Oracle Utilities Meter Data Management Database Administrator's Guide*
- *Oracle Utilities Meter Data Management User's Guide*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
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:

Acronym	Definition
ADF	Oracle Application Development Framework
EAR	Enterprise Archive
EJB	Enterprise JavaBeans
HTML	HyperText Markup Language
JAR	Java Archive
JDBC	Java database connectivity
JMX	Java Management Extensions
JNDI	Java Naming and Directory Interface
JSP	JavaServer Pages
JVM	Java Virtual Machine.
MPL	Multi Purpose Listener
OUAF	Oracle Utilities Application Framework
OAM	Oracle Access Manager
OIM	Oracle Identity Management
ONS	Oracle Notification Service
Oracle RAC FCF	Oracle Real Application Clusters Fast Connection Failover
RMI	Remote Method Invocation

Acronym	Definition
SOAP	Simple Object Access Protocol
SOA	Service-oriented architecture
SPLEBASE	The location where the application will be installed.
SPLOUTPUT	This location is used for storing batch log files and output from batch jobs
WAR	Web application Archive
WAS	WebSphere
WASND	WebSphere Network Deployment
WLS	WebLogic
XAIApp	XML Application Integration

Chapter 1

Introduction

This chapter provides an overview of the installation of Oracle Utilities Meter Data Management.

- **Installation Overview**
- **Application Architecture**
- **Installation Components**
- **Installation Types**
- **Media Pack Components**

Installation Overview

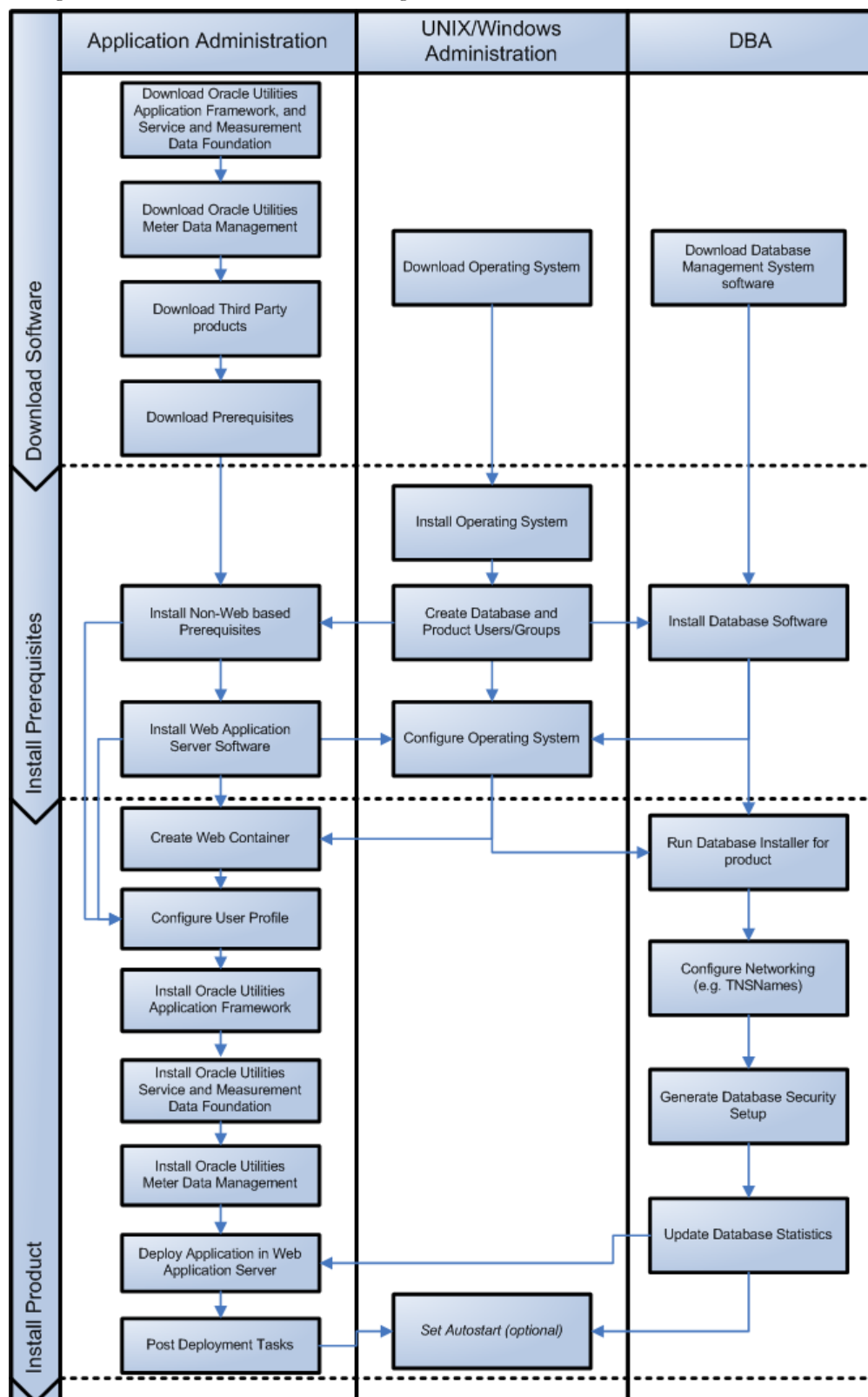
Installing Oracle Utilities Meter Data Management involves the following steps:

1. Review the different tiers of the application architecture as described in the section **Refer to My Oracle Support for up-to-date additional information on Oracle Utilities Meter Data Management installation** of Chapter 1: Introduction.
2. Understand the hardware requirements for installing the application and the supported platforms for the application and database servers as described in the **Chapter 2: Supported Platforms and Hardware Requirements**.

Note: The installation and administration of the database server tier is described in detail in the document *Oracle Utilities Meter Data Management Database Administrator's Guide*.

3. Plan your installation as described in the **Chapter 3: Planning the Installation**.
4. Install the database as described in the document *Oracle Utilities Meter Data Management Database Administrator's Guide*.
5. Install all required third-party software as described in the **Installing Prerequisite Software** section in the **Chapter 3: Planning the Installation**.
6. Install the framework for the application.
7. Install the Oracle Utilities Service and Measurement Data Foundation for the application.
8. Install Oracle Utilities Meter Data Management.
9. Follow the installation guidelines described in the **Chapter 7: Additional Tasks**.

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



Refer to My Oracle Support for up-to-date additional information on Oracle Utilities Meter Data Management installation

Application Architecture

The Oracle Utilities Meter Data Management application is deployed on multiple tiers.

Please see the Oracle Utilities Meter Data Management *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 Meter Data Management application. Note also that a desktop machine running Microsoft Windows and the Oracle client is required to perform some of the Oracle Utilities Meter Data Management product installation steps.

Tier 2: Web Application Server, Business Application Server, Batch Server 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 Meter Data Management 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 Meter Data Management 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.

Installation Components

The Oracle Utilities Meter Data Management product installation consists of the following components:

- Database Components:
 - Oracle Utilities Application Framework database
 - Oracle Utilities Service and Measurement Data Foundation database
 - Oracle Utilities Meter Data Management database
- Application Components:
 - Oracle Utilities Application Framework application
 - Oracle Utilities Service and Measurement Data Foundation application
 - Oracle Utilities Meter Data Management application

For a successful installation, you must install ALL of the above components.

Installation Types

The first step in the installation procedure is to determine the installation type that meets your business requirements. The following are the possible installation types:

- **Initial Installation** - A base installation, typically used for a production environment.

- **Demo Installation** - A base installation with pre-populated demo data, typically used for demonstration or training purposes.
- **Upgrade Installation** - An upgrade installation from version 2.0.1.8 or higher to version 2.1.0.0.

The following sections describe these installation types in detail.

Initial Installation

This installation type is applicable when installing Oracle Utilities Meter Data Management for the first time or from scratch. For an initial install, you must install all of the following components:

- Database components:
Refer to the “Initial Install” section of the *Oracle Utilities Meter Data Management Database Administrator's Guide* for more information.
- Application components:
 - Oracle Utilities Application Framework application
 - Oracle Utilities Service and Measurement Data Foundation application
 - Oracle Utilities Meter Data Management application

Refer to chapter “**Installing Oracle Utilities Meter Data Management - Initial Installation**” for the steps involved in installing each of the above components.

Demo Installation

This installation type is applicable when installing a demo application of Oracle Utilities Meter Data Management for demonstration or training purposes. For a demo install, you must install all of the following components:

- Demo Database components:
Refer to the “Demo Install” section of the *Oracle Utilities Meter Data Management Database Administrator's Guide* for more information.
- Application components:
 - Oracle Utilities Application Framework application
 - Oracle Utilities Service and Measurement Data Foundation application
 - Oracle Utilities Meter Data Management application

Refer to chapter “**Installing Oracle Utilities Meter Data Management - Demo Installation**” for the steps involved in installing each of the above components.

Upgrade Installation

This installation type is applicable when upgrading Oracle Utilities Meter Data Management from version 2.0.1.8 or higher to 2.1.0.0. For an upgrade, you must upgrade all of the following components:

- Database components:
Refer to the “Upgrade Install” section of the *Oracle Utilities Meter Data Management Database Administrator's Guide* for more information.
- Application components:
 - Oracle Utilities Application Framework application
 - Oracle Utilities Service and Measurement Data Foundation application

- Oracle Utilities Meter Data Management application

Refer to chapter “**Upgrading Oracle Utilities Meter Data Management**” for the steps involved in upgrading each of the above components.

Media Pack Components

The Oracle Utilities Meter Data Management Media Pack consists of the following packages:

Documentation Packages

- *Oracle Utilities Meter Data Management V2.1.0.0 Release Notes*
- *Oracle Utilities Meter Data Management V2.1.0.0 Quick Install Guide*
- *Oracle Utilities Meter Data Management V2.1.0.0 Install Documentation*
- *Oracle Utilities Meter Data Management V2.1.0.0 User Documentation*
- *Oracle Utilities Meter Data Management V2.1.0.0 Supplemental Documentation*

Installation Packages

- Oracle Utilities Application Framework V4.2.0.0 Multiplatform
- Oracle Utilities Application Framework v4.2.0.0 Single Fix Prerequisite Rollup for SMDF V2.1.0.0
- Oracle Utilities Service and Measurement Data Foundation V2.1.0.0 Multiplatform
- Oracle Utilities Meter Data Management V2.1.0.0 Multiplatform
- Oracle Utilities Meter Data Management V2.1.0.0 Oracle Database
- Oracle Utilities Meter Data Management V2.1.0.0 Reports

Chapter 2

Supported Platforms and Hardware Requirements

This section gives an overview of the tiers on which the product is implemented, and shows each of the operating system/server combinations that the product is certified for. It includes:

- **Software and Hardware Considerations**
- **Operating Systems and Application Servers**
- **Hardware Requirements**
- **Application Server Memory Requirements**
- **Additional Notes on Supported Platforms**
- **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 Meter Data Management be deployed?
- On which Web server product will Oracle Utilities Meter Data Management deploy?
- On which database product will Oracle Utilities Meter Data Management deploy?
- Do you plan to deploy multiple Oracle Utilities Meter Data Management instances on the same physical server?
- How do you plan to deploy Oracle Utilities Meter Data Management?
 - 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 Oracle Utilities Meter Data Management, as described in the rest of this chapter.

Operating Systems and Application Servers

The following table details the operating system and application server combinations on which this version of Oracle Utilities Meter Data Management has been tested and certified.

Operating System and Web Browser (Client)	Operating System (Server)	Chipset	Application Server	Database
Windows XP SP3 (Internet Explorer 8.x)	AIX 7.1 TL01 SP3	POWER 64-bit	WebLogic 10.3.6 WebSphere 8.5	Oracle 11.2.0.1+
	Oracle Enterprise Linux 5.8/6.2 (64-bit) (based on Red Hat Enterprise Linux (64-bit))	x86_64	WebLogic 10.3.6	Oracle 11.2.0.1+
	Sun Solaris 10 Update 8 (64-bit)	SPARC	WebLogic 10.3.6	Oracle 11.2.0.1+
Windows 7 (Internet Explorer 8.x, or 9.x in Compatibility Mode)	Windows Server 2008 R2 (64-bit)	x86_64	WebLogic 10.3.6	Oracle 11.2.0.1+

Hardware Requirements

Client Side Hardware Requirements

Configuration	Processor	Memory (RAM)	Monitor (Display)
Minimum	Pentium IV - 2.0 GHz	1024 MB	1024X768** 16-bit Color
Recommended*	Pentium IV -3.0+ GHz, (or) any Core 2 Duo (or) any Athlon X2	2048 MB	1280X1024** 32-bit Color

* The Recommended configuration supports better performance of the client.

** To reduce the amount of scrolling required for pages that are longer than 768 or 1024 pixels, consider placing a monitor into vertical position (with narrow side on the bottom).

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.

Disk Space Requirements

The approximate disk space requirements in a standard installation are as follows:

Location	Size	Usage
\$SPLBASE	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.
\$SPLAPP	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	1.5 GB minimum	This location is used by the 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	4 GB	The application gets installed from this location. You need enough space to uncompress the files and install the application.

Location	Size	Usage
Oracle data area	4 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.

Additional Notes on Supported Platforms

Oracle Database Server - This version of Oracle Utilities Meter Data Management is certified on Oracle Database Server 11.2.0.1+ and on the operating systems listed in the section above. The following version of the database is supported:

- Oracle Database Enterprise Edition

Oracle VM Support - This version of Oracle Utilities Meter Data Management is supported on Oracle VM 2.2.2 for supported releases of Oracle Linux and Microsoft Windows operating systems.

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

Support for Software Patches and Upgrades

Due to the ongoing nature of software improvement, vendors will issue patches and service packs for the operating systems, application servers and database servers on top of specific versions that Oracle Utilities Meter Data Management has been tested with.

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 Oracle Utilities Meter Data Management production environment.

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

Always contact Oracle Utilities Meter Data Management support prior to applying vendor updates that do not guarantee backward compatibility.

Chapter 3

Planning the Installation

This chapter provides information for planning an Oracle Utilities Meter Data Management installation, including:

- **Before You Install**
- **Prerequisite Software List**
- **Installing Prerequisite Software**
- **Readiness Checklist**

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Utilities Meter Data Management installation.

Prerequisite Software List

Before you install Oracle Utilities Meter Data Management, you must install prerequisite software.

Refer to the respective installation documentation of the software for instructions on downloading and installing.

Prerequisite Software for Database Server

The prerequisite software for the database component of Oracle Utilities Meter Data Management is as follows:

Oracle Database Server 11.2.0.1+: This is required for installing the database component of the Oracle Utilities Meter Data Management product. The following version of the database server is supported:

- Oracle Database Enterprise Edition

Prerequisite Software for Application Server

The prerequisite software for the application component of Oracle Utilities Meter Data Management is as follows:

- Oracle Database 11g Release 2 Client
- JDK 1.6.0_20 (64-bit)
- Oracle WebLogic 11gR1 (10.3.6)
- Hibernate 4.1.0

Web Browser Requirements

The following operating system / web browser software are supported:

- Windows XP SP3 or higher with Internet Explorer 8.x
- Windows 7 (32-bit or 64-bit) with Internet Explorer 8.x or 9.x

Note: Internet Explorer 9.x must be in Compatibility Mode.

Installing Prerequisite Software

This section describes the software that needs to be installed for each of the supported operating system and application server combinations, including:

- **AIX 7.1 TL01 SP3 Application Server**
- **Oracle Linux 5.8/6.2 or Red Hat Linux 5.8/6.2 Application Server**
- **Oracle Solaris 10 Application Server**
- **Windows Server 2008 R2 Application Server**

AIX 7.1 TL01 SP3 Application Server

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

Supported Application Servers

Operating System	Chipset	Application Server
AIX 7.1 TL01 SP3	POWER 64-bit	Oracle WebLogic 11gR1 (10.3.6) 64-bit version WebSphere Basic (8.5) 64-bit version

Web/Application Server Tier

AIX 7.1 TL01 SP3 Operating System Running on Power5 and Power6 Architecture

UNIX Administrator User ID

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

Description	Default Value	Customer Defined Value
Oracle Utilities Meter Data Management Administrator User ID	cissys	
Oracle Utilities Meter Data Management 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 user id is the only one given access to the installed files.

1. Create a group called cisusr (user group).
2. Create a user called cissys, and a 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 exist 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 022 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 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
cisoper	-----	Low level operator. This user will only be able to read logs files and collect information for debugging and investigative purposes. Care should be taken in production to disable debugging as debugging information could contain potential sensitive data which this user should not have privy to.

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.

Oracle Database 11g Release 2 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 version 6.0 SR8 64-bit

Installation of Java is a prerequisite for 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 userid (cissys), ensure 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 Meter Data Management.

To install Hibernate:

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/
```

Click the “4.1.0.Final” link to download the zip file.

3. Extract the contents of the archive file:

```
jar xvf 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.

4. Copy the jar files to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following commands:

```
copy hibernate-release-4.1.0.Final/lib/optional/
ehcache/ehcache-core-2.4.3.jar $HIBERNATE_JAR_DIR
copycopy hibernate-release-4.1.0.Final/lib/optional/
ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
jboss-logging-3.1.0.CR2.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
```

Oracle WebLogic 11gR1 (10.3.6) 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 11gR1 (10.3.6).

IBM WebSphere Basic (8.5) 64-bit

WebSphere must be purchased and downloaded from IBM. It must be installed and configured prior to the MDM installation. This web application server will run as a 64-bit application.

A single WebSphere server represents a single Oracle Utilities Meter Data Management environment. You can install multiple environments on a single WebSphere Installation by creating additional WebSphere servers.

The following section describes tasks that you should complete before you install the Oracle Utilities Application Framework. It also describes configuration tasks you should complete after installing Oracle Utilities Meter Data Management. It includes the following:

Configuring WebSphere Application Server

Note: This section applies only to installations using WebSphere as an application server. This section describes tasks that you should complete before you install the Oracle Utilities Application Framework. It also describes configuration tasks you should complete after installing Oracle Utilities Meter Data Management.

Preinstallation Tasks

This section describes tasks that you should complete to configure a WebSphere Basic application server before you install the Oracle Utilities Application Framework.

When working within the WebSphere console make sure to apply and save your changes to the Master Configuration when appropriate.

Setting of WebSphere Security

There are several security configuration options within WebSphere. In a production environment you must use the security implementation appropriate for your security requirements. During the QA cycle we used the User account repository of the Federated repository. The following procedures describe how to apply these security settings.

Note: Refer to the IBM WebSphere Application Server documentation for more details.

1. Start the WebSphere Administrative Console and log in.
2. Go to **Security, Global security.**
 - Check **Enable administrative security.**
 - Check **Enable application security.**
 - Select **Federated repositories** from the Available realm definitions
3. Click **Apply.**

Setting WebSphere Application Groups

1. Start the WebSphere Administrative Console and log in.
2. Go to **Users and Groups - Manage Groups.**
Create the group name of cisusers (default group).
3. Click **Create.**

Setting WebSphere Application Users

1. Start the WebSphere Administrative Console and log in.
2. Go to **Users and Groups - Manage Users.**
 - Create the user Id of SYSUSER (example user)
 - Add the Group Membership of cisusers (created in the previous step) to the user.

3. Click **Create**.

Setting WebSphere JNDI Users

1. Start the WebSphere Administrative Console and log in.
2. Go to **Users and Groups, Manage Users**.
 - Create the user id of JNDI (example user).
3. Click **Create**.

Setting WebSphere JNDI Users - CORBA Naming Service Users

1. Start the WebSphere Administrative Console and log in.
2. Go to **Environment, Naming, CORBA Naming Service Users**.
 - Add the user id of JNDI (example user).
 - Highlight all of the Roles (Cos Naming Read, Cos Naming Write, Cos Naming Create, Cos Naming Delete)
3. Click **Apply**.

Note: Prior to this step you will need to restart the server¹ since when adding CORBA Naming Service Users, the User is not recognized.

4. Note the values for JNDI User and Password. The Oracle Utilities Application Framework will prompt you for this information during the installation.

Creation of Additional Servers in WebSphere - Sample Script

You must also provide the name of servers during OUAF installation. You can use the following sample script to create additional servers using the wsadmin.sh tool.

Note: There are several other ways to accomplish this task.

1. Initialize a wsadmin.sh session:

```
<$WAS_HOME>/bin/wsadmin.sh -host localhost -port
<SoapConnectorPort> -conntype SOAP -username
<webSphereUserName> -password <webSphereUserPassword>
```

Note: Substitute \$WAS_HOME, webSphereUserName, SoapConnectorPort, webSphereUserPassword, with values that are appropriate for your installation:

For example:

```
/ouaf/IBM/WebSphere70/AppServer/bin/wsadmin.sh -host
localhost -port
8889 -conntype SOAP
```

2. Create the server instance:

```
<wsadmin> $AdminTask createApplicationServer
<nodeName> {-name <serverName>}
```

Setting General Server Properties

1. Connect to the WebSphere administrative console.
2. Select **Servers, Server Types, WebSphere application servers**, and then select **Application Servers**.
3. Select your server name.
4. Under the section General Properties.
 - Deselect **Parallel start**.
 - Deselect **Run in development mode**.

5. Click **OK**.
6. Click **Save** to commit the setting.

Enabling SOAP Communication with WebSphere

The OUAF configuration scripts communicate with WebSphere as a SOAP client by using Jython commands to perform environment maintenance (for example, stop, start, deploy, undeploy).

To enable SOAP communication with WebSphere:

1. In a text editor, open the following file:
`$WAS_HOME/profiles/<PROFILE_NAME>/properties/soap.client.props`

Edit the property lines as follows:

- `com.ibm.SOAP.requestTimeout=0`
- `com.ibm.SOAP.loginUserId=< WebSphere_User_Id >`
- `com.ibm.SOAP.loginPassword=< WebSphere_Password >`

Note: Refer to IBM WebSphere Application Server documentation for more details.

2. If you want to encode the password in the `soap.client.props` file, then run the `PropFilePasswordEncoder` command from the `$WAS_HOME/profiles/<PROFILE_NAME>/bin` directory.

This command is specific to IBM WebSphere Application Server. It encodes passwords located in plain-text property files.

3. Save and close the file.

Creation of Additional Servers in WebSphere - Sample Script

You must also provide the name of servers during the installation. You can use the following sample script to create additional servers using the `wsadmin.sh` tool.

Note: There are several other ways to accomplish this task.

1. Initialize a `wsadmin.sh` session:

```
<$WAS_HOME>/bin/wsadmin.sh -host localhost -port <SoapConnectorPort> -conntype SOAP -username <webSphereUserName> -password <webSphereUserPassword>
```

Note: Substitute `$WAS_HOME`, `webSphereUserName`, `SoapConnectorPort`, `webSphereUserPassword`, with values that are appropriate for your installation:

For example: `/ouaf/IBM/WebSphere70/AppServer/bin/wsadmin.sh -host localhost -port 8889 -conntype SOAP`

2. Create the server instance:

```
wsadmin> $AdminTask createApplicationServer <nodeName> {-name <serverName>}
```

Obtaining the Bootstrap Port and WC_defaulthost

You must also provide these port numbers during OUAF installation. Obtain the bootstrap port number and the `WC_defaulthost` by using the WebSphere administrative console.

Note: The WebSphere application server1 must be running to obtain the bootstrap port number and the `WC_defaulthost` port number.

To view the bootstrap port number and the `WC_defaulthost`:

1. Log on to the WebSphere administrative console.
2. Select **Servers, Server Types, WebSphere application servers, <server_name>** and then select **Ports** under **Communications**.

The bootstrap port is displayed as `BOOTSTRAP_ADDRESS`.

The `WC_defaulthost` is displayed as `WC_defaulthost`.

3. Note the values for `WC_defaulthost` and `BOOTSTRAP_ADDRESS`. The Oracle Utilities Application Framework will prompt you for this information during the installation.

Set Up a Virtual Host for the Server

1. Select **Environment, Virtual Host, default_host**, and then select **Host Alias**.
2. Click **New**.

Enter the following:

- **Host Name:** *
- **Port:** `WC_defaulthost` Port Number

Obtaining the WebSphere Node Name

You must also provide the node name during the installation. Obtain the node name by using the WebSphere administrative console.

Note: The WebSphere application server must be running to obtain the bootstrap port number.

To obtain the node name:

1. Connect to the WebSphere administrative console.
2. Select **Servers, Server Types, WebSphere application servers, <server_name>**.

Note: Take note of the value for the Node Name.

Installing Oracle Utilities Application Framework as a Non-Root User with IBM WebSphere Installed as Root

Installing Oracle Utilities Application Framework as a non-root user on a WebSphere application server running on AIX requires certain permissions. Prior to the installation, verify that the operating system user account installing the framework has write and execute permissions on the directories in which WebSphere will be installed.

Postinstallation Tasks

This sections describes tasks that you should complete after you have installed Oracle Utilities Meter Data Management on a WebSphere application server.

Setting Environment Entries

1. Connect to the WebSphere administrative console.
2. Select **Servers, Server Types, WebSphere application servers**.
3. Select the server name.
4. Go to **Server Infrastructure**, and then click **Java and Process Management**.
5. Select **Process Definition**.
6. Go to **Environment Entries**.
7. Click **New** and add the following Environment Entries:

Name: `SPLENVIRON`

Value: `<$SPLENVIRON>`

Note: Substitute `$SPLENVIRON` with appropriate values for your installation.

Name: `SPLEBASE`

Value: `< $SPLEBASE >`

Note: Substitute \$SPLEBASE with appropriate values for your installation.

Name: LIBPATH

Value: <\$SPLEBASE >/runtime

Note: Substitute \$SPLEBASE with appropriate values for your installation.

Note: You will need to restart the server_name before you attempt to start the application on the server.

8. Click **OK**.
9. Click **Save** to commit the setting.

Setting JVM Memory and Arguments

For Oracle Utilities Application Framework, JVM memory settings must be changed for production environments and/or when processing large volume in a nonproduction environment.

Perform the following steps to set the JVM memory size. The WebSphere application server must be running to set the memory size.

To set the JVM memory size:

1. Connect to the WebSphere administrative console.
2. Select **Servers, Server Types, WebSphere application servers**.
3. Select the server name.
4. Go to **Server Infrastructure**, and then click **Java and Process Management**.
5. Select **Process Definition**.
6. Go to **Additional Properties**, and then click **Java Virtual Machine**.
7. Enter 1024 for **Minimum Heap Size**.
8. Enter 1024 for **Maximum Heap Size**.
9. Enter -Djava.security.auth.login.config=<\$SPLEBASE>/splapp/config/java.login.config for Generic JVM arguments.

Note: Substitute \$SPLEBASE with appropriate values for your installation.

You will need to restart the server_Name before you attempt to start the application on the server.

10. Click **OK**.
11. Click **Save** to commit the setting.

Setting Server Custom Properties

The following custom properties have been need in the past to enable WebSphere Classloader to load the correct xalan.jar file.

To set the Custom Properties:

1. Connect to the WebSphere administrative console.
2. Select **Servers, Server Types, WebSphere application servers**.
3. Select the server name.
4. Go to **Server Infrastructure**, and then click **Java and Process Management**.
5. Select **Process Definition**.
6. Go to **Additional Properties**, and then click **Java Virtual Machine**.
7. Go to **Additional Properties**, and then click **Custom Properties**.

8. Click **New**.

Enter the following information:

- **Name:** javax.xml.transform.TransformerFactory
- **Value:** org.apache.xalan.processor.TransformerFactoryImpl

9. Click **OK**.

10. Click **Save** to commit the setting.

Setting the Web Container Custom Properties

To set the Web Container Custom Properties:

1. Connect to the WebSphere administrative console.
2. Select **Servers, Server Types, WebSphere application servers**.
3. Select the server name.
4. Go to **Container Settings**, and then click **Web Container Settings**.
5. Select **Web container**.
6. Go to **Additional Properties**, and then click **Custom properties**.
7. Click **New**.

Enter the following information:

- **Name:** com.ibm.ws.webcontainer.invokefilterscompatibility
- **Value:** true

8. Click **OK**.

9. Click **Save** to commit the setting.

Starting and Stopping WebSphere Servers

To start WebSphere on AIX use the `$WAS_HOME/profiles/<profile_name>/bin/startServer.sh` script. For example, run:

```
$WAS_HOME/profiles/<profile_name>/bin/startServer.sh <server_name>
```

To stop WebSphere on AIX, use the `$WAS_HOME/profiles/<profile_name>/bin/stopServer.sh` script. For example, run:

```
$WAS_HOME/profiles/<profile_name>/bin/stopServer.sh <server_name>
```

Note: The Oracle Utilities Application Framework script **spl.sh** does not stop or start the IBM WebSphere servers. It only stops and starts the Oracle Utilities Application Framework-based applications.

Deployment Using Supplied Script

The application deployment script is `initialSetup.sh.-d`, located in `$SPLEBASE/bin` (this script deploys both the `SPLService.ear` and `SPLWeb.ear`)

Note: Before running the script ensure you have initialized the environment by running `splenv.sh`

Deployment via the Admin Console

Follow these steps to deploy the application using the Admin Console:

Deployment Overview

The application needs to be deployed in the following order:

1. `SPLService.ear`

2. SPLWeb.ear

Note: The SPLService.ear must be successfully deployed before deploying SPLWeb.ear

Deploy SPLService.ear

1. Select the ear file to deploy.
 - Select **Applications, Install New Application**.
 - Select **Remote file system**.
 - Browse to the SPLService.ear or enter the full path to the file.
 - The ear files can be found under \$SPLEBASE/splapp/applications.
 - Click **Next**.
2. Select **Option Fast Path - Prompt only when additional information is required**. Click **Next**.
3. On the Select installation options page ensure that **Deploy enterprise beans** is checked. Click **Next**.
4. Assign the module to the WebSphere server instance.

When deploying an application from the console make sure you select the correct server and click **Apply**.
5. Review the summary page. Review the installation options.
6. Click **Finish**. The application will then deploy. The deployment process takes about 5 minutes.
7. Click **Save**. The save process can take more than 20 minutes.

Deploying SPLWeb.ear

1. Select the ear file to deploy.
 - Select **Applications, Install New Application**.
 - Select **Remote file system**.
 - Browse to the SPLWeb.ear or enter the full path to the file.
 - The ear files can be found under \$SPLEBASE/splapp/applications.
 - Click **Next**.
2. Select **Option Fast Path - Prompt only when additional information is required**. Click **Next**.
3. Assign the module to the WebSphere server instance.

When deploying an application from the console make sure you select the correct server and click **Apply**.
4. Review the summary page. Review the installation options.
5. Click **Finish**. The application will then deploy. The deployment process takes about 5 minutes.
6. Click **Save**. The save process can take about more than 20 minutes.

Configure the Applications

You need to apply these steps to both the SPLWeb and SPLService applications unless specified.

1. Set the startup order of the applications (this applies only to SPLWeb):
 - Select the SPLWeb application from **Applications, Enterprise Applications**.

- Select **Startup behavior**.
 - Change the startup order to 2.
 - Click **OK**.
 - Click **OK** and Save directly to master configuration.
2. Set the class loading order (for both SPLService.ear and SPLWeb.ear): Select Class loading and update detection.
 - Set Polling interval to 0.
 - Under Class loader order select Classes loaded with application class loader first. Click **OK** and Save to master configuration.
 3. Set the module starting weight:
 - **SPLService only:** Set the Starting weight to 1.
 - **SPLWeb only:** For each module (.war) set the Starting weight to 10000 and change the Class loader order to Classes loaded with application class loader first
 4. Set EJB JNDI names (this applies only to SPLService). Select Enterprise Java Bean Properties and enter the following values:
 - **EJB module:** SPLServiceBean
 - JNDI name for all interfaces
 - **Target Resource JNDI Name:** [Web Context Root]/servicebean
 - **EJB module:** TUGBULiteServiceBean
 - JNDI name for all interfaces
 - **Target Resource JNDI Name:** [Web Context Root]/liteservicebean
 5. Click **Ok**.

Configure Application Security

After using the supplied script to deploy the application to WebSphere you will need to configure each application's security before starting the application.

Using the WebSphere administration console select **Applications, Application Types, WebSphere enterprise applications, <Business Server Application Name>, <server name>** (for example, SPLService-server2), **Security role to user/group mapping**.

For role cisusers:

- Check **Select** and the click **Map Users:**
- Search for SYSUSER and add to the Selected users list.
- Click **OK**.

Note: Repeat the process for <Web Server Application Name>-<server name> (for example, SPLWeb-server2).

Restart the WebSphere Server

It is recommended to stop and then restart the WebSphere server.

If the application is deployed in server1 you can use the admin console to stop and start the server. If the application is deployed in another server you will need to use the scripts that are supplied with WebSphere (stopServer.sh, startServer.sh).

Note: WebSphere admin console runs under server1.

Application URL

The Web link to the WebSphere application will be:

`http://<hostname>:<WC_default_port>/<context_root>/loginPage.jsp`

For example, `http://oracle.test:9081/ouaf/loginPage.jsp`

Oracle Linux 5.8/6.2 or Red Hat Linux 5.8/6.2 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	Chipset	Application Server
Oracle Enterprise Linux 5.8/6.2 (64-bit) (based on Red Hat Enterprise Linux (64-bit))	x86_64	Oracle WebLogic 11gR1(10.3.6) 64-bit version

Oracle Linux 5.8/6.2 or Red Hat Enterprise Linux 5.8/6.2 Operating System Running on x86_64 64-bit Architecture

UNIX Administrator User ID

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

Description	Default Value	Customer Defined Value
Oracle Utilities Meter Data Management Administrator User ID	cissys	
Oracle Utilities Meter Data Management 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 exist 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 022 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 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
cisoper	-----	Low level operator. This user will only be able to read logs files and collect information for debugging and investigative purposes. Care should be taken in production to disable debugging as debugging information could contain potential sensitive data which this user should not have privy to.

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.

Oracle Client 11.2.0.1 — 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 Version 6.0 Update 20 or Later, 64-bit

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

<http://www.oracle.com/technetwork/java/archive-139210.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 userid 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 Meter Data Management.

To install Hibernate:

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/>
 Click the "4.1.0.Final" link to download the zip file.
3. Extract the contents of the archive file:

```
jar xvf 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.

4. Copy the jar files to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following commands:

```
copy hibernate-release-4.1.0.Final/lib/optional/
    ehcache/ehcache-core-2.4.3.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/optional/
    ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
    hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
    hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
    hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
    javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
    jboss-logging-3.1.0.CR2.jar $HIBERNATE_JAR_DIR
copy hibernate-release-4.1.0.Final/lib/required/
    jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
```

Oracle WebLogic 11gR1 (10.3.6) 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 11gR1 (10.3.6).

Oracle Solaris 10 Application Server

This section describes the software requirements for operating the application using the Oracle Solaris 10 application server.

Supported Application Servers

Operating System	Chipset	Application Server
Oracle Solaris 10 Update 8 (64-bit)	SPARC	Oracle WebLogic 11gR1 (10.3.6) 64-bit version

Oracle Solaris 10 Update 9 Operating System Running on SPARC-based 64-bit Architecture

UNIX Administrator User ID

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

Description	Default Value	Customer Defined Value
Oracle Utilities Meter Data Management Administrator User ID	cissys	
Oracle Utilities Meter Data Management 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 exist 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 022 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 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
cisoper	-----	Low level operator. This user will only be able to read logs files and collect information for debugging and investigative purposes. Care should be taken in production to disable debugging as debugging information could contain potential sensitive data which this user should not have privy to.

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.

Oracle Client 11.2.0.1 — 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 Version 6.0 Update 20 or Later, 64-bit

This software is only required for Oracle WebLogic installations.

At the time of release, the Oracle Java packages used in the test cycle were downloaded from:

<http://www.oracle.com/technetwork/java/archive-139210.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 userid 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 Meter Data Management.

To install Hibernate:

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/>

Click the “4.1.0.Final” link to download the zip file.

3. Extract the contents of the archive file:

```
jar xvf 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.

4. Copy the jar files to your Hibernate jar directory (\$HIBERNATE_JAR_DIR) using the following commands:

```
copy hibernate-release-4.1.0.Final/lib/optional/  
    ehcache/ehcache-core-2.4.3.jar $HIBERNATE_JAR_DIR  
copy hibernate-release-4.1.0.Final/lib/optional/  
    ehcache/hibernate-ehcache-4.1.0.Final.jar $HIBERNATE_JAR_DIR  
copy hibernate-release-4.1.0.Final/lib/required/  
    hibernate-commons-annotations-4.0.1.Final.jar $HIBERNATE_JAR_DIR  
copy hibernate-release-4.1.0.Final/lib/required/  
    hibernate-core-4.1.0.Final.jar $HIBERNATE_JAR_DIR  
copy hibernate-release-4.1.0.Final/lib/required/  
    hibernate-jpa-2.0-api-1.0.1.Final.jar $HIBERNATE_JAR_DIR  
copy hibernate-release-4.1.0.Final/lib/required/  
    javassist-3.15.0-GA.jar $HIBERNATE_JAR_DIR  
copy hibernate-release-4.1.0.Final/lib/required/  
    jboss-logging-3.1.0.CR2.jar $HIBERNATE_JAR_DIR  
copy hibernate-release-4.1.0.Final/lib/required/  
    jboss-transaction-api_1.1_spec-1.0.0.Final.jar $HIBERNATE_JAR_DIR
```

Oracle WebLogic 11gR1 (10.3.6) 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 11gR1 (10.3.6).

Windows Server 2008 R2 Application Server

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

Supported Application Servers

Operating System	Chipset	Application Server
Windows Server 2008 R2 (64-bit)	x86_64	Oracle WebLogic 11gR1 (10.3.6) 64-bit version

Oracle Client 11.2.0.1 — 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 version 6.0 Update 20 or Later, 64-bit

This software is required for the Oracle WebLogic Installation.

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

<http://www.oracle.com/technetwork/java/archive-139210.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 userid 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 Meter Data Management.

To install Hibernate:

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/>

Click the “4.1.0.Final” link to download the zip file.

3. Extract the contents of the archive file:

```
jar xvf 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.

4. Copy the jar files to your Hibernate jar directory (%HIBERNATE_JAR_DIR%) using the following commands:

```
copy hibernate-release-4.1.0.Final/lib/optional/ehcache/ehcache-core-2.4.3.jar %HIBERNATE_JAR_DIR%
copy hibernate-release-4.1.0.Final/lib/optional/ehcache/hibernate-ehcache-4.1.0.Final.jar %HIBERNATE_JAR_DIR%
```

```

copy hibernate-release-4.1.0.Final/lib/required/
  hibernate-commons-annotations-4.0.1.Final.jar
%HIBERNATE_JAR_DIR%
copy hibernate-release-4.1.0.Final/lib/required/
  hibernate-core-4.1.0.Final.jar %HIBERNATE_JAR_DIR%
copy hibernate-release-4.1.0.Final/lib/required/
  hibernate-jpa-2.0-api-1.0.1.Final.jar %HIBERNATE_JAR_DIR%
copy hibernate-release-4.1.0.Final/lib/required/
  javassist-3.15.0-GA.jar %HIBERNATE_JAR_DIR%
copy hibernate-release-4.1.0.Final/lib/required/
  jboss-logging-3.1.0.CR2.jar %HIBERNATE_JAR_DIR%
copy hibernate-release-4.1.0.Final/lib/required/
  jboss-transaction-api_1.1_spec-1.0.0.Final.jar
%HIBERNATE_JAR_DIR%

```

Oracle WebLogic 11gR1 (10.3.6) 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 11gR1 (10.3.6).

Readiness Checklist

The following checklist guides you through the installation process of Oracle Utilities Meter Data Management. The details for each step are presented in subsequent chapters.

1. Confirm that the recommended hardware is ready. Refer to **Supported Platforms and Hardware Requirements** for more details.
2. Install prerequisite software. Refer to the **Prerequisite Software List** for more details.
3. Ensure that you have downloaded the Oracle Utilities Meter Data Management V2.1.0.0 components.
4. Go through the **Installation and Configuration Worksheets** to understand the configuration menu.
5. Determine the type of the installation:
 - **Initial Installation** - For initial installation follow the instructions mentioned in the chapter **Installing Oracle Utilities Meter Data Management - Initial Installation**.
 - **Demo Installation** - For demo installation follow the instructions mentioned in the chapter **Installing Oracle Utilities Meter Data Management - Demo Installation**.
 - **Upgrade Installation** - For upgrade installation from V2.0.1.8 or higher to V2.1.0.0, follow the instructions mentioned in the chapter **Upgrading Oracle Utilities Meter Data Management**.
6. Perform post-installation tasks.

Chapter 4

Installing Oracle Utilities Meter Data Management - Initial Installation

This chapter provides instructions for installing Oracle Utilities Meter Data Management from scratch. This chapter includes:

- **Before You Install**
- **Initial Installation Procedure**
- **After the Installation**
- **Operating the Application**

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Utilities Meter Data Management.

Initial Installation Procedure

The initial installation procedure consists of:

- **Database Component Installation**
- **Application Components Installation**

Database Component Installation

Installation of the database component of Oracle Utilities Meter Data Management must be complete before you can proceed with the following sections. Refer to the section “**Initial Install**” of the *Oracle Utilities Meter Data Management Database Administrator's Guide*, which provides instructions on installing the database component.

Application Components Installation

A successful installation consists of the following steps:

- **Installing the Oracle Utilities Application Framework Application Component**
- **Installing Oracle Utilities Service and Measurement Data Foundation Application Component**
- **Installing the Oracle Utilities Meter Data Management Application Component**

Installing the Oracle Utilities Application Framework Application Component

This section describes how to install the application component of Oracle Utilities Application Framework, including:

- **Copying and Decompressing Install Media**
- **Setting Permissions for the cistab file in UNIX**
- **Installing the Application Component**

Copying and Decompressing Install Media

The Oracle Utilities Application Framework installation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework environments operated by different Oracle Utilities administrator user ids, you must complete each of the following installation steps for each administrator userid.

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

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download the Oracle Utilities Application Framework V4.2.0.0.0 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-V4.2.0.0.0-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-V4.2.0.0.0-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.V4.2.0.0.0” is created. It contains the installation software for the Oracle Utilities framework application server.

Setting 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.V4.2.0.0.0.0 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 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 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.

If you are reinstalling an existing environment, only the validation of /etc/cistab entry is done by the install utility, no new registration occurs. The install utility interactively instructs you about every step that needs to occur in each specific case.

If you are planning to upgrade an existing environment it is your responsibility to take a backup prior to the installation process. The installation utility does not create a backup of existing environment.

Installing the Application Component

This section outlines the steps for installing the application component of Oracle Utilities Application Framework.

1. Login to the Application Server host as administrator (the default is cissys on UNIX) or as a user with Administrator privileges (on Windows).
2. Change directory to the <TEMPDIR>/FW.V4.2.0.0.0.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

UNIX:

```
export ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION>
export PERL_HOME=${ORACLE_CLIENT_HOME}/perl
export PATH=${PERL_HOME}/bin:$PATH
export PERL5LIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
    Installer Decompressed location/bin/perl>
export PERLLIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
    Installer Decompressed location/bin/perl>
export LD_LIBRARY_PATH=${ORACLE_CLIENT_HOME}/lib:$LD_LIBRARY_PATH
```

Windows:

```
set ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION>
set PERL_HOME=%ORACLE_CLIENT_HOME%\perl
set PATH=%PERL_HOME%\bin;%PATH%
```

4. Start the application installation utility by executing the appropriate script:

UNIX:

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

Windows:

```
install.cmd
```

5. The Oracle Utilities Application Framework specific menu appears.
6. Follow the messages and instructions that are produced by the application installation utility.

7. Select each menu item to configure the values. For detailed description of the values, refer to **Appendix B: Installation and Configuration Worksheets**.
8. Below are the mandatory list of configurable items along with descriptions for a few items. Where you see <Mandatory>, enter values suitable to your environment. You can assign default values to the rest of the menu items.

```
*****
* Environment Installation Options *
*****

1. Third Party Software Configuration
   Oracle Client Home Directory: <Mandatory>
   Web Java Home Directory:      <Mandatory>
   Child JVM Home Directory:
   COBOL Home Directory:
   Hibernate JAR Directory: <Mandatory>
   ONS JAR Directory:
   Web Application Server Home Directory: <Mandatory>
   ADF Home Directory:
   OIM OAM Enabled Environment:

50. Environment Installation Options
    Environment Mount Point: <Mandatory> - Install Location
    Log Files Mount Point: <Mandatory> - ThreadPoolWorker Logs Location

    Environment Name: <Mandatory>
    Web Application Server Type:                                WLS
    Install Application Viewer Module:                          true
```

Each item in the above list should be configured for a successful install.

Choose option (1,50, <P> Process, <X> Exit):

9. Once you enter 'P' after entering mandatory input values in the above menu, the system populates another configuration menu.

```
*****
* Environment Configuration *
*****

1. Environment Description
   Environment Description:      <Mandatory>

2. Business Application Server Configuration
   Business Server Host:        <Mandatory> - Hostname on which application being installed
   WebLogic Server Name:        myserver
   Business Server Application Name: SPLService
   MPL Admin Port Number:       <Mandatory> - Multipurpose Listener Port
   MPL Automatic startup:       false

3. Web Application Server Configuration
   Web Server Host:             <Mandatory>
   Web Server Port Number:      <Mandatory>
   Web Context Root:            ouaf
   WebLogic JNDI User ID:       <Mandatory>
   WebLogic JNDI Password:      <Mandatory>
   WebLogic Admin System User ID: <Mandatory>
   WebLogic Admin System Password: <Mandatory>
   WebLogic Server Name:        myserver
   Web Server Application Name:  SPLWeb
```

```

Application Admin User ID:      <Mandatory>
Application Admin Password:    <Mandatory>
Expanded Directories:         false
Application Viewer Module:     true

```

4. Database Configuration

```

Application Server Database User ID:  <Mandatory>
Application Server Database Password: <Mandatory>
MPL Database User ID:                <Mandatory>
MPL Database Password:               <Mandatory>
XAI Database User ID:                <Mandatory>
XAI Database Password:               <Mandatory>
Batch Database User ID:              <Mandatory>
Batch Database Password:             <Mandatory>
Database Name:                      <Mandatory>
Database Server:                    <Mandatory>
Database Port:                      <Mandatory>
ONS Server Configuration:
Database Override Connection String:
Oracle Client Character Set NLS_LANG:

```

5. General Configuration Options

```

Batch RMI Port:                  <Mandatory> - RMI port
                                   for batch
Batch Mode:                      <Mandatory> - CLUSTERED
                                   or DISTRIBUTED
Coherence Cluster Name:         <Mandatory> - Unique
                                   name for batch
Coherence Cluster Address:      <Mandatory> - Unique
                                   Multicast address
Coherence Cluster Port:         <Mandatory> - Unique
                                   port for batch cluster
Coherence Cluster Mode:         <Mandatory> - prod

```

Each item in the above list should be configured for a successful install.

Choose option (1,2,3,4,5, <P> Process, <X> Exit):

10. When you are done with the parameter setup, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
11. Once the install has finished, the installation log location appears on the screen. If the log does not list any error messages, the installation of the application component of Oracle Utilities Application Framework is complete. You can now install Oracle Utilities Service and Measurement Data Foundation as described in the following section.

Installing Oracle Utilities Service and Measurement Data Foundation Application Component

This section describes how to install the application component of Oracle Utilities Service and Measurement Data Foundation, including:

- **Installing Prerequisite Patches**
- **Copying and Decompressing Install Media**
- **Installing Oracle Utilities Service and Measurement Data Foundation**

Installing Prerequisite Patches

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Utilities Service and Measurement Data Foundation 2.1.0.0.

Download the Oracle Utilities Application Framework V4.2.0.0 Single Fix Prerequisite Rollup for SMDF V2.1.0.0 from Oracle Software Delivery Cloud.

The patches are available as a convenience rollup, MDM-V2.1.0.0.0-FW-PREREQ-MultiPlatform.zip, which is included in the downloaded Media Pack. Please refer to the instructions contained inside the rollup directory for steps to install the patches in a single group. These patches are also available for download separately from My Oracle Support.

See **Appendix C** for a list of the patches contained in the rollup.

Copying and Decompressing Install Media

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

The Oracle Utilities Service and Measurement Data Foundation is delivered as a separate installation package. Please refer to the chapter **Supported Platforms and Hardware Requirements** for installation details regarding the database and operating system versions supported for the Service and Measurement Data Foundation. Also see the section **Installing Prerequisite Software** for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in 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 Meter Data Management application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
3. Copy the file SMDF-V2.1.0.0.0-MultiPlatform.jar 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 SMDF-V2.1.0.0.0-MultiPlatform.jar
```

For Windows installations, 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 MDF.V2.1.0.0.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installing Oracle Utilities Service and Measurement Data Foundation

This section outlines the steps for installing the Service and Measurement Data Foundation:

Preparing for the Installation -

1. Log on as Oracle Utilities Service and Measurement Data Foundation Administrator (default cissys).
2. Initialize the Framework environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

UNIX:

```
$SPLEBASE/bin/spl.sh stop
```

Windows:

```
%SPLEBASE%\bin\spl.cmd stop
```

Installing the Application -

1. Change to the <TEMPDIR>/MDF.V2.1.0.0.0 directory.
2. Execute the 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 Service and Measurement Data Foundation Application appears.

3. Select menu item 8 to configure OSB.
Use the completed OSB configuration worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.
4. Select menu item 9 to configure SOA.
Use the completed SOA configuration worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.
5. Select menu item 10 to configure the SOA Configuration Plan.
Use the completed SOA Configuration Plan (MDF) worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.
6. When you are done with the parameter setup, choose option P to proceed with the installation.
7. Change to the <TEMPDIR>/MDF.V2.1.0.0.0 directory.
8. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

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

Installation of Oracle Utilities Service and Measurement Data Foundation Application Server is complete if no errors occurred during installation.

Installing the Oracle Utilities Meter Data Management Application Component

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

- **Copying and Decompressing Install Media**
- **Installing the Application Component**

Copying and Decompressing Install Media

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

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

1. Log in to the application server host 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. Download the Oracle Utilities Meter Data Management V2.1.0.0.0 Multiplatform 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 Meter Data Management application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
4. Copy the file MDM-V2.1.0.0.0-MultiPlatform.jar 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 MDM-V2.1.0.0.0-MultiPlatform.jar
```

For Windows installations, 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 MDM.V2.1.0.0.0 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 Application Component

Follow the steps below to install Oracle Utilities Meter Data Management application component:

1. Log in to the application server host as Oracle Utilities Meter Data Management Administrator (default cissys).
2. Change directory:

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

where <install_dir> is the location where the Oracle Utilities Service and Measurement Data Foundation 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. If the environment is running, stop it by running the appropriate command:

UNIX:

```
./spl.sh stop
```

Windows:

```
spl.cmd stop
```


5. Change to the <TEMPDIR>/MDM.V2.1.0.0.0 Directory.
6. Execute the install script:

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

UNIX:

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

Windows:

```
install.cmd
```

Choose option P to proceed with the installation.

7. Change to the <TEMPDIR>/MDMV2.1.0.0.0 directory.
8. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

Note: On UNIX, ensure that you have the proper execute permissions on postinstall.sh

Installation of Oracle Utilities Meter Data Management Server is complete if no errors occurred during the installation.

9. Start up the environment. Run the following command:

UNIX:

```
spl.sh start
```

Windows:

```
spl.cmd start
```

Follow the message on the screen and review the logs in \$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: The first time you start Oracle Utilities Meter Data Management, you need to log into the Weblogic console and give system access to cisusers role. The Weblogic console application can be accessed through the following URL:
http://<hostname>:<portname>/console

After the Installation

After completing the installation, verify the following:

1. Verify installation logs created under decompressed installer location for any errors.
2. Confirm installation logs do not contain any errors.
3. Confirm all the configurations are correct. Refer to **Appendix B: Installation and Configuration Worksheets** for details.
4. Confirm that the database is ready.

5. Start the application server. For instructions, refer to **Appendix D: Common Maintenance Activities**.
6. To operate the application, refer to the following section.

Operating the Application

At this point your installation and custom integration process is complete. Be sure to read the Oracle Utilities Meter Data Management *Server Administration Guide* for more information on further configuring and operating the system.

Chapter 5

Installing Oracle Utilities Meter Data Management - Demo Installation

This chapter provides instructions for setting up a demo application of Oracle Utilities Meter Data Management useful for demonstration or training purposes. This chapter includes:

- **Before You Install**
- **Demo Installation Procedure**
- **Operating the Application**

Before You Install

Refer to My Oracle Support for up-to-date additional information on Oracle Utilities Meter Data Management.

Demo Installation Procedure

The demo installation procedure consists of:

- **Database Component Installation**
- **Application Components Installation**

Database Component Installation

Installation of the database component of Oracle Utilities Meter Data Management must be complete before you can proceed with the following sections. Refer to the section “**Demo Install**” of the *Oracle Utilities Meter Data Management Database Administrator's Guide*, which provides instructions on installing the database component with pre-populated demo data.

Application Components Installation

A successful installation consists of the following steps:

- **Installing the Oracle Utilities Application Framework Application Component**
- **Installing Oracle Utilities Service and Measurement Data Foundation Base Application Component**
- **Installing the Oracle Utilities Meter Data Management Application Component**

Installing the Oracle Utilities Application Framework Application Component

This section describes how to install the application component of Oracle Utilities Application Framework, including:

- **Copying and Decompressing Install Media**
- **Setting Permissions for the cistab file in UNIX**
- **Installing the Application Component**

Copying and Decompressing Install Media

The Oracle Utilities Application Framework installation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework environments operated by different Oracle Utilities administrator user ids, you must complete each of the following installation steps for each administrator userid.

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

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. 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.

3. Copy the file FW-V4.2.0.0.0-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.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf FW-V4.2.0.0.0-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.V4.2.0.0.0” is created. It contains the installation software for the Oracle Utilities framework application server.

Setting 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.V4.2.0.0.0 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 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 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.

If you are reinstalling an existing environment, only the validation of /etc/cistab entry is done by the install utility, no new registration occurs. The install utility interactively instructs you about every step that needs to occur in each specific case.

If you are planning to upgrade an existing environment it is your responsibility to take a backup prior to the installation process. The installation utility does not create a backup of existing environment.

Installing the Application Component

This section outlines the steps for installing the application component of Oracle Utilities Application Framework.

1. Login to the Application Server host as administrator (the default is cissys on UNIX) or as a user with Administrator privileges (on Windows).
2. Change directory to the <TEMPDIR>/FW.V4.2.0.0.0 directory.
3. Set the ORACLE_CLIENT_HOME and PATH variables as Oracle Client Perl is required to run the installer.

UNIX:

```
export ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION>
export PERL_HOME=${ORACLE_CLIENT_HOME}/perl
export PATH=${PERL_HOME}/bin:$PATH
export PERL5LIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
    Installer Decompressed location/bin/perl>
export PERLLIB=${PERL_HOME}/lib:${PERL_HOME}/lib/site_perl:<OUAF
    Installer Decompressed location/bin/perl>
export LD_LIBRARY_PATH=${ORACLE_CLIENT_HOME}/lib:$LD_LIBRARY_PATH
```

Windows:

```
set ORACLE_CLIENT_HOME=<ORACLE CLIENT INSTALL LOCATION>
set PERL_HOME=%ORACLE_CLIENT_HOME%\perl
set PATH=%PERL_HOME%\bin;%PATH%
```

4. Start the application installation utility by executing the appropriate script:

UNIX:

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

Windows:

```
install.cmd
```

5. The Oracle Utilities Application Framework specific menu appears.
6. Follow the messages and instructions that are produced by the application installation utility.
7. Select each menu item to configure the values. For detailed description of the values, refer to **Appendix B: Installation and Configuration Worksheets**.
8. Below are the mandatory list of configurable items along with descriptions for a few items. Where you see <Mandatory>, enter values suitable to your environment. You can assign default values to the rest of the menu items.

```
*****
* Environment Installation Options *
*****
```

1. Third Party Software Configuration
 - Oracle Client Home Directory: <Mandatory>
 - Web Java Home Directory: <Mandatory>
 - Child JVM Home Directory:

```

COBOL Home Directory:
Hibernate JAR Directory: <Mandatory>
ONS JAR Directory:
Web Application Server Home Directory: <Mandatory>
ADF Home Directory:
OIM OAM Enabled Environment:

```

50. Environment Installation Options

```

Environment Mount Point: <Mandatory> - Install Location
Log Files Mount Point:<Mandatory> - ThreadPoolWorker Logs
                                Location

Environment Name:<Mandatory>
Web Application Server Type:
Install Application Viewer Module:

```

Each item in the above list should be configured for a successful install.

Choose option (1,50, <P> Process, <X> Exit):

9. Once you enter 'P' after entering mandatory input values in the above menu, the system populates another configuration menu.

```

*****
* Environment Configuration *
*****

```

1. Environment Description

```

Environment Description:      <Mandatory>

```

2. Business Application Server Configuration

```

Business Server Host:        <Mandatory> - Hostname on which
                                application being installed

WebLogic Server Name:        myserver
Business Server Application Name: SPLService
MPL Admin Port Number:       <Mandatory> - Multipurpose Listener
                                Port

MPL Automatic startup:       false

```

3. Web Application Server Configuration

```

Web Server Host:             <Mandatory>
Web Server Port Number:      <Mandatory>
Web Context Root:            ouaf
WebLogic JNDI User ID:       <Mandatory>
WebLogic JNDI Password:      <Mandatory>
WebLogic Admin System User ID: <Mandatory>
WebLogic Admin System Password: <Mandatory>
WebLogic Server Name:        myserver
Web Server Application Name:  SPLWeb
Application Admin User ID:    <Mandatory>
Application Admin Password:   <Mandatory>
Expanded Directories:        false
Application Viewer Module:    true

```

4. Database Configuration

```

Application Server Database User ID: <Mandatory>
Application Server Database Password: <Mandatory>
MPL Database User ID:                <Mandatory>
MPL Database Password:               <Mandatory>
XAI Database User ID:                <Mandatory>
XAI Database Password:               <Mandatory>
Batch Database User ID:              <Mandatory>

```

```

Batch Database Password:          <Mandatory>
Database Name:                    <Mandatory>
Database Server:                  <Mandatory>
Database Port:                   <Mandatory>
ONS Server Configuration:
Database Override Connection String:
Oracle Client Character Set NLS_LANG:

```

5. General Configuration Options

```

Batch RMI Port:                   <Mandatory> - RMI port
                                   for batch
Batch Mode:                       <Mandatory> - CLUSTERED
                                   or DISTRIBUTED
Coherence Cluster Name:           <Mandatory> - Unique
                                   name for batch
Coherence Cluster Address:        <Mandatory> - Unique
                                   multicast address
Coherence Cluster Port:           <Mandatory> - Unique
                                   port for batch cluster
Coherence Cluster Mode:           <Mandatory> - prod

```

Each item in the above list should be configured for a successful install.

Choose option (1,2,3,4,5, <P> Process, <X> Exit):

10. When you are done with the parameter setup, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
11. Once the install has finished, the installation log location appears on the screen. If the log does not list any error messages, the installation of the application component of Oracle Utilities Application Framework is complete. You can now install Oracle Utilities Service and Measurement Data Foundation as described in the following section.

Installing Oracle Utilities Service and Measurement Data Foundation Base Application Component

This section describes how to install the application component of Oracle Utilities Service and Measurement Data Foundation, including:

- **Installing Prerequisite Patches**
- **Copying and Decompressing Install Media**
- **Installing Oracle Utilities Service and Measurement Data Foundation**

Installing Prerequisite Patches

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Utilities Service and Measurement Data Foundation 2.1.0.0.

Download the Oracle Utilities Application Framework V4.2.0.0 Single Fix Prerequisite Rollup for SMDF V2.1.0.0 from Oracle Software Delivery Cloud.

The patches are available as a convenience rollup, MDM-V2.1.0.0-FW-PREREQ-MultiPlatform.zip, which is included in the downloaded Media Pack. Please refer to the instructions contained in the readme.txt inside the rollup directory for steps to install the patches in a single group. These patches are also available for download separately from My Oracle Support.

See **Appendix C** for a list of the patches contained in the rollup.

Copying and Decompressing Install Media

The Oracle Utilities Service and Measurement Data Foundation Base installation file is delivered in jar format for both UNIX and Windows platforms. Oracle Utilities Service and Measurement

Data Foundation is delivered as a separate installation package. Please refer to the Supported Platforms section for installation details regarding the database and operating system versions supported by the product. Also see the section Installing for prerequisite third-party software installation instructions.

1. Log in to the application 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 Meter Data Management application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
3. Copy the file SMDF-V2.1.0.0.0-MultiPlatform.jar 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 SMDF-V2.1.0.0.0-MultiPlatform.jar
```

For Windows installations, 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 MDFV2.1.0.0.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Installing Oracle Utilities Service and Measurement Data Foundation

Follow the steps below to install the application component of Oracle Utilities Service and Measurement Data Foundation Base:

Preparing for the Installation

1. Log on as Oracle Utilities Service and Measurement Data Foundation Administrator (default cissys).
2. Initialize the Framework environment that you want to install the product into.

UNIX:

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

Windows:

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

3. Stop the environment if running.

UNIX:

```
$SPLEBASE/bin/spl.sh stop
```

Windows:

```
%SPLEBASE%\bin\spl.cmd stop
```

Installing the Application

1. Change to the <TEMPDIR>/MDFV2.1.0.0.0 directory.
2. Execute the 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 Service and Measurement Data Foundation Application appears.

3. Select menu item 8 to configure OSB.

Use the completed OSB configuration worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.

4. Select menu item 9 to configure SOA.

Use the completed SOA configuration worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.

5. Select menu item 10 to configure the SMDF SOA Configuration Plan.

Use the completed SOA Configuration Plan (SMDF) worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.

6. When you are done with the parameter setup, choose option P to proceed with the installation.

7. Change to the `<TEMPDIR>/MDF.V2.1.0.0.0` directory.

8. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

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

Installation of Oracle Utilities Service and Measurement Data Foundation Application Server is complete if no errors occurred during installation.

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 on installing patches, refer to knowledge base article ID 974985.1 on My Oracle Support.

Service packs and patches can be downloaded from My Oracle Support (<https://support.oracle.com/>).

Installing the Oracle Utilities Meter Data Management Application Component

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

- **Preinstallation Tasks**
- **Installation Prerequisite**
- **Copying and Decompressing Install Media**
- **Preparing for the Installation**
- **Installing the Application**

To proceed with the Oracle Utilities Meter Data Management installation you need to be connected to the target Oracle Utilities Service and Measurement Data Foundation application environment. See the detailed installation instructions in the following section.

You *must* initialize the Service and Measurement Data Foundation environment. For detailed instructions see the Preparing for the Installation section.

Preinstallation Tasks

This section describes the steps that should be taken before installing Oracle Utilities Meter Data Management.

Installation Prerequisite

The Oracle Utilities Service and Measurement Data Foundation 2.1.0.0 application must be installed prior to installing Oracle Utilities Meter Data Management 2.1.0.0.

Copying and Decompressing Install Media

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

Oracle Utilities Meter Data Management is delivered as a separate installation package. Please refer to the **Supported Platforms and Hardware Requirements** chapter for versions and installation details regarding the database and operating system. Also see the **Installing Prerequisite Software** section in the Chapter 3: Planning the Installation for prerequisite third-party software installation instructions.

Download the installation package and proceed as follows:

1. Log in to the host server as the Oracle Utilities Service and Measurement Data Foundation administrator user ID (default cissys). This is the same user ID that was used to install the Oracle Utilities Service and Measurement Data Foundation.
2. Create a <TEMPDIR> directory on the host server, which is independent of any current or other working Oracle Utilities Meter Data Management application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Service and Measurement Data Foundation.
3. Copy the file MDM-V2.1.0.0.0-MultiPlatform.jar 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.
4. Decompress the file:

```
cd <TEMPDIR>
jar -xvf MDM-V2.1.0.0.0-MultiPlatform.jar
```

For Windows installations, 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 MDM.V2.1.0.0.0 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. Log on as Oracle Utilities Meter Data Management Administrator (default cissys).
2. Initialize the Framework environment that you want to install the product into.

UNIX:

```
$SPLBASE/bin/splenvron.sh -e $SPLENVIRON
```

Windows:

```
%SPLBASE%\bin\splenvron.cmd -e %SPLENVIRON%
```

3. Stop the environment if running.

UNIX:

```
$SPLEBASE/bin/spl.sh stop
```

Windows:

```
%SPLEBASE%\bin\spl.cmd stop
```

Installing the Application

1. Change to the <TEMPDIR>/MDM.V2.1.0.0.0 directory.
2. Execute the install script:

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

UNIX:

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

Windows:

```
install.cmd
```

Choose option P to proceed with the installation.

3. Change to the <TEMPDIR>/MDMV2.1.0.0.0 directory.
4. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

Note: On UNIX, ensure that you have the proper execute permissions on postinstall.sh

Installation of Oracle Utilities Oracle Utilities Meter Data Management Server is complete if no errors occurred during the installation.

5. Start up the environment. Run the following command:

UNIX:

```
spl.sh start
```

Windows:

```
spl.cmd start
```

Follow the message on the screen and review the logs in \$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: The first time you start Oracle Utilities Meter Data Management, you need to log into the Weblogic console and give system access to cisusers role. The Weblogic console application can be accessed through the following URL:
http://<hostname>:<portname>/console

Operating the Application

At this point your installation and custom integration process is complete.

Be sure to read the *Oracle Utilities Meter Data Management Server Administration Guide* for more information on further configuring and operating the system.

Chapter 6

Upgrading Oracle Utilities Meter Data Management

This chapter provides instructions for upgrading Oracle Utilities Meter Data Management from version 2.0.1.8 or higher to version 2.1.0.0. This chapter includes:

- **Before You Upgrade**
- **Upgrade Procedure**
- **Operating the Application**

Before You Upgrade

Review the list of operating system, application server and database server combinations that this version of Oracle Utilities Meter Data Management is certified to operate on, in the **Chapter 2: Supported Platforms and Hardware Requirements**.

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

Note: If you are upgrading a previously installed application server, it is recommended that you make a backup before you start the upgrade procedure. The upgrade installation will remove your existing environment including your configurations.

Upgrade Procedure

The upgrade installation procedure consists of:

- **Database Component Upgrade**
- **Application Components Upgrade**

Database Component Upgrade

Upgrade of the database component of Oracle Utilities Meter Data Management must be complete before you can proceed with the following sections. Refer to the section “**Upgrade Install**” of the *Oracle Utilities Meter Data Management Database Administrator's Guide*, which provides instructions on upgrading the database component.

Application Components Upgrade

A successful upgrade consists of the following steps:

- **Upgrading the Oracle Utilities Application Framework Application Component**
- **Upgrading the Oracle Utilities Service and Measurement Data Foundation Application Component**
- **Upgrading the Oracle Utilities Meter Data Management Application Component**

Upgrading the Oracle Utilities Application Framework Application Component

This section describes how to upgrade the application component of Oracle Utilities Application Framework, including:

- **Copying and Decompressing Install Media**
- **Setting Permissions for the cistab file in UNIX**
- **Upgrading the Application Component**

Copying and Decompressing Install Media

The Oracle Utilities Application Framework installation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework environments operated by different Oracle Utilities administrator user ids, you must complete each of the following installation steps for each administrator userid.

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

1. Log in to the application server host with the Oracle Utilities Application Framework administrator user ID.
2. Download the Oracle Utilities Application Framework V4.2.0.0 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-V4.2.0.0-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-V4.2.0.0-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.V4.2.0.0” is created. It contains the installation software for the Oracle Utilities framework application server.

Setting 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.V4.2.0.0.0 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 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 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.

If you are reinstalling an existing environment, only the validation of /etc/cistab entry is done by the install utility, no new registration occurs. The install utility interactively instructs you about every step that needs to occur in each specific case.

If you are planning to upgrade an existing environment it is your responsibility to take a backup prior to the upgrade process. The installation utility does not create a backup of existing environment.

Upgrading the Application Component

This section outlines the steps for upgrading the application component of Oracle Utilities Application Framework.

1. Login to the Application Server host as administrator (the default is cissys on UNIX) or as a user with Administrator privileges (on Windows).

2. Change directory to the bin folder.

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

where <install_dir> is the location where the Oracle Utilities Service and Measurement Data Foundation Base application component is installed.

3. Initialize the environment by running the appropriate command:

UNIX:

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

Windows:

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

4. Change directory to the <TEMP_DIR>/FWV4.2.0.0.0 directory.

NOTE: While installing the FW V4.2.0.0 from the previous environment V2.0.1.8 (or higher) to V2.1.0.0, the install utility removes the existing environment and re-creates the environment. Make a backup before you proceed with installing FW V4.2.0.0 to retain any configurations for future reference.

5. Start the application installation utility by executing the appropriate script:

UNIX:

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

Windows:

```
install.cmd
```

6. The Oracle Utilities Application Framework specific menu appears.

7. Follow the messages and instructions that are produced by the application installation utility.
8. Select each menu item to configure the values. For detailed description of the values, refer to **Appendix B: Installation and Configuration Worksheets**.
9. Below is the mandatory list of configurable items along with descriptions for a few items. Where you see <Mandatory>, enter values suitable to your environment. You can assign default values to the rest of the menu items.

```
*****
* Environment Installation Options *
*****

1. Third Party Software Configuration
   Oracle Client Home Directory: <Mandatory>
   Web Java Home Directory:      <Mandatory>
   Child JVM Home Directory:
   COBOL Home Directory:
   Hibernate JAR Directory: <Mandatory>
   ONS JAR Directory:
   Web Application Server Home Directory: <Mandatory>
   ADF Home Directory:
   OIM OAM Enabled Environment:

50. Environment Installation Options
    Environment Mount Point: <Mandatory> - Install Location
    Log Files Mount Point: <Mandatory> - ThreadPoolWorker Logs Location

    Environment Name: <Mandatory>
    Web Application Server Type:                                WLS
    Install Application Viewer Module:                          true
```

Each item in the above list should be configured for a successful install.

Choose option (1,50, <P> Process, <X> Exit):

10. Once you enter 'P' after entering mandatory input values in the above menu, the system populates another configuration menu.

```
*****
* Environment Configuration *
*****

1. Environment Description
   Environment Description:      <Mandatory>

2. Business Application Server Configuration
   Business Server Host:        <Mandatory> - Hostname on which application being installed
   WebLogic Server Name:        myserver
   Business Server Application Name: SPLService
   MPL Admin Port Number:       <Mandatory> - Multipurpose Listener Port
   MPL Automatic startup:       false

3. Web Application Server Configuration
   Web Server Host:             <Mandatory>
   Web Server Port Number:      <Mandatory>
   Web Context Root:            ouaf
   WebLogic JNDI User ID:       <Mandatory>
   WebLogic JNDI Password:      <Mandatory>
   WebLogic Admin System User ID: <Mandatory>
   WebLogic Admin System Password: <Mandatory>
```

```

WebLogic Server Name:          myserver
Web Server Application Name:    SPLWeb
Application Admin User ID:      <Mandatory>
Application Admin Password:     <Mandatory>
Expanded Directories:           false
Application Viewer Module:      true

```

4. Database Configuration

```

Application Server Database User ID:  <Mandatory>
Application Server Database Password: <Mandatory>
MPL Database User ID:                 <Mandatory>
MPL Database Password:                <Mandatory>
XAI Database User ID:                 <Mandatory>
XAI Database Password:                <Mandatory>
Batch Database User ID:               <Mandatory>
Batch Database Password:              <Mandatory>
Database Name:                       <Mandatory>
Database Server:                     <Mandatory>
Database Port:                       <Mandatory>
ONS Server Configuration:
Database Override Connection String:
Oracle Client Character Set NLS_LANG:

```

5. General Configuration Options

```

Batch RMI Port:                    <Mandatory> - RMI port
                                   for batch
Batch Mode:                        <Mandatory> - CLUSTERED
                                   or DISTRIBUTED
Coherence Cluster Name:           <Mandatory> - Unique
                                   name for batch
Coherence Cluster Address:        <Mandatory> - Unique
                                   multicast address
Coherence Cluster Port:           <Mandatory> - Unique
                                   port for batch cluster
Coherence Cluster Mode:           <Mandatory> - prod

```

Each item in the above list should be configured for a successful install.

Choose option (1,2,3,4,5, <P> Process, <X> Exit):

11. When you are done with the parameter setup, proceed with the option P. The utility writes the configured parameters and their values into the configuration file.
12. Once the upgrade install has finished, the installation log location appears on the screen. If the log does not list any error messages, the upgrade installation of the application component of Oracle Utilities Application Framework is complete. You can now upgrade Oracle Utilities Service and Measurement Data Foundation as described in the following section.

Upgrading the Oracle Utilities Service and Measurement Data Foundation Application Component

This section describes how to upgrade the application component of Oracle Utilities Service and Measurement Data Foundation, including:

- **Installing Prerequisite Patches**
- **Copying and Decompressing Install Media**
- **Upgrading the Application Component**

Installing Prerequisite Patches

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Utilities Service and Measurement Data Foundation 2.1.0.0.

Download the Oracle Utilities Application Framework V4.2.0.0 Single Fix Prerequisite Rollup for SMDF V2.1.0.0 from Oracle Software Delivery Cloud.

The patches are available as a convenience rollup, MDM-V2.1.0.0.0-FW-PREREQ-MultiPlatform.zip, which is included in the downloaded Media Pack. Please refer to the instructions contained in the readme.txt inside the rollup directory for steps to install the patches in a single group. These patches are also available for download separately from My Oracle Support.

See Appendix C for a list of the patches contained in the rollup.

Copying and Decompressing Install Media

The Oracle Utilities Service and Measurement Data Foundation file is delivered in jar format for both UNIX and Windows platforms. If you are planning to install multiple Oracle Utilities Application Framework environments operated by different Oracle Utilities Administrator user ids, you must complete each of the following installation steps for each Administrator userid.

1. Log in to the application 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. Download the Oracle Utilities Service and Measurement Data Foundation V2.1.0.0 Multiplatform from Oracle Software Delivery Cloud.
3. Create a <TEMPDIR> directory on the application server, which is independent of any current or other working Oracle Utilities Meter Data Management application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
4. Copy the file SMDF-V2.1.0.0.0-MultiPlatform.jar 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.
5. Decompress the file:

```
cd <TEMPDIR>
jar -xvf SMDF-V2.1.0.0.0-MultiPlatform.jar
```

For Windows installations, 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 MDF.V2.1.0.0.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Upgrading the Application Component

Follow the steps below to install the application component of Oracle Utilities Service and Measurement Data Foundation:

1. Log on as Oracle Utilities Service and Measurement Data Foundation Administrator (default cissys).
2. Initialize the Framework environment that you want to install the product into.

UNIX:

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

Windows:

3. Stop the environment if it is running.

UNIX:

```
$SPLEBASE/bin/spl.sh stop
```

Windows:

```
%SPLEBASE%\bin\spl.cmd stop
```

Installing the Application -

1. Change to the <TEMPDIR>/MDFV2.1.0.0.0 directory.
2. Execute the 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 Service and Measurement Data Foundation Application appears.

3. Select menu item 8 to configure OSB.

Use the completed OSB configuration worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.

4. Select menu item 9 to configure SOA.

Use the completed SOA configuration worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.

5. Select menu item 10 to configure the SOA Configuration Plan.

Use the completed SOA Configuration Plan (MDF) worksheet to assist you in this step. See the **Appendix B: Installation and Configuration Worksheets**.

When you are done with the parameter setup, choose option P to proceed with the installation.

6. Change to the <TEMPDIR>/MDFV2.1.0.0.0 directory.
7. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

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

Installation of Oracle Utilities Service and Measurement Data Foundation Application Server is complete if no errors occurred during installation.

Upgrading the Oracle Utilities Meter Data Management Application Component

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

- **Copying and Decompressing Install Media**
- **Upgrading the Application Component**

Copying and Decompressing Install Media

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

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

1. Log in to the application server host 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. Download the Oracle Utilities Meter Data Management V2.1.0.0.0 Multiplatform 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 Meter Data Management application environment. This can be the same <TEMPDIR> used during the installation of the Oracle Utilities Application Framework.
4. Copy the file MDM-V2.1.0.0.0-MultiPlatform.jar 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 MDM-V2.1.0.0.0-MultiPlatform.jar
```

For Windows installations, 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 MDM.V2.1.0.0.0 is created. The contents of the installation directory are identical for both platforms. The directory contains the install software for the application product.

Upgrading the Application Component

Follow the steps below to install Oracle Utilities Meter Data Management application component:

1. Log in to the application server host as Oracle Utilities Meter Data Management Administrator (default cissys).
2. Change directory:

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

where <install_dir> is the location where the Oracle Utilities Service and Measurement Data Foundation 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. If the environment is running, stop it by running the appropriate command:

UNIX:

```
./spl.sh stop
```

Windows:

```
spl.cmd stop
```

5. Change to the <TEMPDIR>/MDM.V2.1.0.0.0 Directory.

6. Execute the install script:

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

UNIX:

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

Windows:

```
install.cmd
```

Choose option P to proceed with the installation.

7. Change to the <TEMPDIR>/MDMV2.1.0.0.0 directory.

8. Execute the following command:

UNIX:

```
ksh ./postinstall.sh
```

Windows:

```
postinstall.cmd
```

Note: On UNIX, ensure that you have the proper execute permissions on postinstall.sh

Installation of Oracle Utilities Oracle Utilities Meter Data Management Server is complete if no errors occurred during the installation.

9. Start up the environment. Run the following command:

UNIX:

```
spl.sh start
```

Windows:

```
spl.cmd start
```

Follow the message on the screen and review the logs in \$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: The first time you start Oracle Utilities Meter Data Management, you need to log into the Weblogic console and give system access to cisusers role. The Weblogic console application can be accessed through the following URL:
http://<hostname>:<portname>/consoleAfter the Upgrade

After you complete the upgrade installation, verify the following:

1. Verify installation logs created under decompressed installer location for any errors.
2. Confirm installation logs do not contain any errors.
3. Confirm all the configurations are correct. Refer to **Appendix B: Installation and Configuration Worksheets** for details.

-
4. Confirm that the database is ready.
 5. Start the application server. For instructions, refer to **Appendix D: Common Maintenance Activities**.
 6. To operate the application, refer to the following section.

Operating the Application

At this point your installation and custom integration process is complete. Be sure to read the Oracle Utilities Meter Data Management *Server Administration Guide* for more information on further configuring and operating the system.

Chapter 7

Additional Tasks

This section describes tasks that should be completed after installing Oracle Utilities Meter Data Management, including:

- **Customizing Configuration Files**
- **Generating the Application Viewer**
- **Building Javadoc Indexes**
- **Configuring the Environment for Batch Processing**
- **Customizing the Logo**
- **WebLogic Production Server Considerations**
- **BI Publisher Report Configuration**

Customizing Configuration Files

You may wish to make customer modifications to various configuration files. To do so, you should locate the configuration file you want to customize and edit it manually.

Configuration files are generated from delivered templates in the Oracle Utilities installation and are populated by values entered by the installation utility during the configuration process. In future upgrades of Oracle Utilities application software versions, some templates may be changed to reflect new software version requirements. In this case, the upgrade process will back up your customized configuration file and will regenerate a configuration file based on a new template. You will need to review the new configuration file and apply your customized changes back if still applicable for the new version.

For configuration files that are located in a Web application (for example, web.xml, hibernate.properties), of the Web application during installation process, you will not be able to edit the configuration files directly.

You will need to follow the procedure:

- Locate the configuration file you want to customize in the directory \$SPLEBASE/etc/conf.
- Apply your changes.
- Update application war file with the latest changes by executing the command:

UNIX: \$SPLEBASE/bin/initialSetup.sh

Windows: %SPLEBASE%\bin\initialSetup.cmd

Generating the Application Viewer

You may extend Application Viewer capabilities within an environment by generating additional items. The additional items that can be generated include algorithm type and related algorithm information, maintenance object information and data dictionary information.

This section details the steps necessary to generate the additional items.

1. Shut down the environment.
2. Initialize a command shell:

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

For 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 variables:

%SPLEBASE% with the Full directory name that you installed the application into
and

%SPLENVIRON% with the name you gave to the environment at installation time.

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

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

For example:

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

For Unix:

You will need to logon to your UNIX box as the Oracle Utilities Administrator (default cissys) and open a shell prompt.

In the below example you should replace the variables

\$SPLEBASE with the Full directory name that you installed the application into
and

\$SPLENVIRON with the name you gave to the environment at installation time.

To initialize the environment type:

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

For example:

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

3. Execute the script to generate all information

Execute the following command for your operating system

UNIX:

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

Windows:

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

4. Restart your application

Building Javadoc Indexes

The following script allows rebuilding the Javadocs indexes in the appViewer java module. This is necessary after Customer Modifications have been applied to an environment. (This needs to be run only if the Customer Modification includes Java Code.)

Windows:

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

UNIX:

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

Configuring the Environment for Batch Processing

See the *Batch Server Administration Guide* for information on configuring the environment for batch processing.

Customizing the Logo

The customer may want to replace the Oracle Utilities logo image on the Main menu with another logo image. To do this, put the logo <customer_logo_file>.gif 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>/<Web Context>/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:

For Windows: `http://<host name>:<port>/<Web Context>/cm/<customer_logo_file>.gif`

For UNIX: `http://<host name>:<port>/<Web Context>/cm/<customer_logo_file>.gif`

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.

WebLogic Production Server Considerations

By default, WebLogic Server is configured with two keystores, to be used for development only. These keystores should not be used in a production environment.

Configure Identity and Trust

Private keys, digital certificates, and trusted certificate authority certificates establish and verify identity and trust in the WebLogic Server environment. WebLogic Server is configured with a default identity keystore DemoIdentity.jks and a default trust keystore DemoTrust.jks. In addition, WebLogic Server trusts the certificate authorities in the cacerts file in the JDK. This default keystore configuration is appropriate for testing and development purposes. However, these keystores should not be used in a production environment.

To configure identity and trust for a server:

1. Obtain digital certificates, private keys, and trusted CA certificates from the CertGen utility, Sun Microsystems's keytool utility, or a reputable vendor such as Entrust or Verisign. You can also use the digital certificates, private keys, and trusted CA certificates provided by the WebLogic Server kit. The demonstration digital certificates, private keys, and trusted CA certificates should be used in a development environment only.
2. Store the private keys, digital certificates, and trusted CA certificates. Private keys and trusted CA certificates are stored in a keystore.
3. Configure the identity and trust keystores for a WebLogic Server instance on the Configuration: Keystores page.

By default, WebLogic Server is configured with two keystores, to be used for development only.

- DemoIdentity.jks: Contains a demonstration private key for WebLogic Server. This keystore establishes an identity for WebLogic Server.
- DemoTrust.jks: Contains a list of certificate authorities trusted by WebLogic Server. This keystore establishes trust for WebLogic Server.

These keystores are located in the WL_HOME\server\lib directory and the JAVA_HOME\jre\lib\security directory. For testing and development purposes, the keystore configuration is complete. Use the steps in this section to configure identity and trust keystores for production use.

Refer to the WebLogic documentation to configure identity and trust keystores for production use (Secure servers and resources > Configure identity and trust/Set up SSL)

Note: Depending on your choice of implementation you may need to change some configuration files. These files are managed by templates and will be overwritten if the procedures documented in "Customizing Configuration Files" are not followed.

BI Publisher Report Configuration

This section describes the steps required to configure Oracle Utilities Meter Data Management and Oracle BI Publisher to support a reporting solution that uses Oracle BI Publisher.

This release of Oracle Utilities Meter Data Management has a separate bundle with a sample BI Publisher 11g report.

Unzip Oracle Utilities Customer Care and Billing Report Files

1. Unzip the MDM-V2.1.0.0-Reports.zip file from the installation media into an <TEMPDIR> directory. We'll refer to this directory as the reports extract folder.
2. For both UNIX and Windows platforms, a sub-directory named BIPublisher11g is created. The contents of the installation directory are identical for both platforms.

Note: By default, the reports provided are read only. You will need to reset the permissions on the files before making any changes, for example, to configure the default data source.

Publish the Sample Reports in Oracle BI Publisher Enterprise

The installation media contains sample reports provided with the system. The report files are in the reports extract folder under <TEMPDIR>\BIPublisher11g\reportFiles

Install Oracle BI Publisher Enterprise. This section assumes that you have already installed Oracle BI Publisher Enterprise.

To configure the BI Publisher reports, follow these steps:

1. Create a folder named D2_VEEEME in the <BI_Repository_Path>\Reports folder
2. Copy D2_VEEEME.xdo and D2_VEEEME.xdm folders to <BI_Repository_Path>\Reports\D2_VEEEME folder

Note: To check for the location of your <BI_Repository_Path>, log in to the BI console as an Administrator and go to **Administration, Server Configuration**. If the repository type is File System, the path will be seen in Catalog region. If the repository type is not File System you cannot load the sample reports.

3. Login as Administrator to BI Publisher server
4. Go to the **Administration** tab
 - a. In the **JDBC Connection** section under **Data Sources**, add a new data source using **Add Data Source**.
 - b. Create a new Data Source named **D2 201 Dev** with connection details pointing to the D2 201 Dev database.
 - c. Test Connection to make sure the Database connection is successful and save changes using **Apply**.

Note: Make sure the Data Source Name (i.e, D2 201 Dev) is created with the same name else the reports won't show up.
5. Go to the **Catalog** Tab
 - a. Click **New->Report** from dropdown list and select "Use Existing Data Model" option to create new reports using existing data model and then select Data Model from the Shared folders Catalog (e.g. /Shared Folders/D2_VEEEME/D2_VEEEME.xdm).
 - b. Click **Next** and select "Use Report Editor" option. Click **Finish**.
 - c. Select My Folder and save report name as D2_VEEEME
6. Go to the **Catalog** tab, select D2_VEEEME Report under My folders and click **Open**. Once the report is open, click **Actions** and Export Data as XML. Save it.
7. Go to the **Catalog** tab, select **My Folders** and click on **Edit Report** (i.e. D2_VEEEME) and then click on Data Model D2_VEEEME. Under **Attachment** click on "Upload Sample data" and browse the xml file saved from above and then upload it. Click on **Save** and return.
8. Click **Add New Layout**. Under **Upload or Generate Layout**, click **Upload** and give Layout Name as D2_VEEEME.rtf.

Browse Template File to

<BI_Repository_Path>\Reports\D2_VEEEME\D2_VEEEME.xdo folder and select D2_VEEEME.rtf file. Select type as RTF template and Locale as **English** and click on **Upload**.

9. Click **View Report** to see reports.

Note: Please follow the same steps for configuring other report except for step 4.

Appendix A

Installation Menu Functionality Overview

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 within that group 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.

Note: When working with the menu you will see 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.

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 '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.

In the worksheets there are three different types of values given:

- Default Values are the values that will be defaulted when running the installation utility.
- Security Values denote values that should be changed when in production.
- Example Values are values that can be used for a default installation.

Note: The production environment should not be run with default values. See the Oracle Utilities Meter Data Management *Server Administration Guide* for additional information about configuring these values.

When you enter passwords you will not see the password characters on the screen because they are entered in silent mode. Passwords are encrypted when the values are entered.

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

The following prompt will appear 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

When the application server choice is WebLogic, the Oracle Utilities Application Framework installation uses the Oracle WebLogic API to encrypt the User ID and password that perform admin functions for the WebLogic application servers. Please refer to the Oracle WebLogic documentation for further information about the encryption.

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

When the application server choice is WebSphere Basic or WebSphere Network Deployment, the Oracle Utilities Application Framework installation will use industry standard cryptography to encrypt passwords that are prompted within the installation.

In each case these password are entered in the command line but the inputted values are not reflected on the screen when performing the installation.

Appendix B

Installation and Configuration Worksheets

Application Framework 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. No Customer Install Value fields should be left blank.

Note: Some web application server information will not be available until the software installation steps have been completed as described in the **Installing Prerequisite Software** section in the **Chapter 3: Planning the Installation** for prerequisite third-party software installation instructions.

Third Party Software Configuration

```
*****
* Environment Installation Options *
*****
1. Third Party Software Configuration
   Oracle Client Home Directory:
   Web Java Home Directory:
   Child JVM Home Directory:
   COBOL Home Directory:
   Hibernate JAR Directory:
   ONS JAR Directory:
   Database Home Directory:
   Web Application Server Home Directory:
   ADF Home Directory:
   OIM OAM Enabled Environment:
```

Table 1:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Oracle Client Home Directory	ORACLE_CLIENT_HOME	The home directory of the Oracle Client. The application will use the Perl included under this Oracle Client. Example Location: /oracle/client/product/11.2.0.1	

Table 1:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Java Home Directory	JAVA_HOME	Java home that will be used by the web application server. Example Location: /ouaf/java/jdk1.6.0_20	
* Child JVM Home Directory	CHILD_JVM_JAVA_HOME	Java home that will be used by the child java process that handles COBOL related requests. Example Location: /ouaf/java/jdk1.6.0_20	
* COBOL Home Directory	COBDIR	COBOL installation location directory. Example Location: /opt/SPLcobAS51WP6	
Hibernate JAR Directory	HIBERNATE_JAR_DIR	Location on the disk where the hibernate3.jar is installed.	
*ONS JAR Directory	ONS_JAR_DIR	Location on the disk where the ons-11.2.0.2.jar file is installed. **Required for Oracle RAC installation. See the Server Administration Guide for more information.	
Database Home Directory	DATABASE_HOME	Location on the disk where database client is installed for your particular installation. Example Location for Oracle Database: /oracle/client/product/11.2.0.1 Note: This value will be the same as the previously entered for Oracle.	
Web Application Server Home Directory	WEB_SERVER_HOME	Location on the disk where the application server is installed. Example Location: WebLogic: /ouaf/middleware/wlserver_10.3 To validate the home directory, check if the following jar files exist in the appropriate path: \$WEB_SERVER_HOME/server/lib/weblogic.jar %WEB_SERVER_HOME%\server\lib\weblogic.jar	

Table 1:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
* ADF Home Directory	ADF_HOME	Location on the disk where ADF is installed. Example Location: /ouaf/jdev11_1_1_4	
OIM OAM Enabled Environment	OPEN_SPML_ENABLE D_ENV	Denotes if an environment will be integrating with Oracle Identity Manager for user propagation. Valid values: true false Defaulted value: false	

* Denotes optional Menu Options that may be required for the product installation and variables.

** In order to activate the RAC FCF, the application needs the external ons.jar file, version 11.2.0.2. This ons.jar is located under the Oracle Database Software 11.2.0.2, at the following path:

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

The ons.jar should be copied to the Application Server. During the OUAF installation the relevant option should be populated with the folder location of the ons.jar.

Environment Installation Options

50. Environment Installation Options

Environment Mount Point:
 Log Files Mount Point:
 Environment Name:
 Database Type:
 Web Application Server Type:
 Install Application Viewer Module:

Table 2:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment Mount Point	<SPLDIR>	<p>The mount point into which the application is installed. For example: /ouaf for UNIX and C:\ouaf for Windows.</p> <p>This mount point MUST exist and the MDM administrator user ID MUST be able to write to this directory. (This is the user ID that is created specifically to administer the (MDM) environments; the default is cissys). The installation sets permissions on all subdirectories installed under this directory.</p> <p>See <SPLENVIRON> below for more information on how this mount point is used.</p>	
Log File Mount Point	<SPLDIROUT>	<p>A mount point that will contain any application output or application logs. Example value is /ouaf/sploutput for UNIX installation or C:\ouaf\sploutput for Windows.</p> <p>This mount point MUST exist and the MDM administrator user ID MUST be able to write to this directory. (This is the user ID that is created specifically to administer the (MDM) environments; the default is cissys).</p> <p>For each environment initialized, the application logs will be written to the directory <SPLDIROUT>/<SPLENVIRON></p> <p>Note: Later in the installation the splenvron.sh (splenvron.cmd) script will set the \$SPLOUTPUT (%SPLOUTPUT%) environment variable to point to:<SPLDIROUT>/<SPLENVIRON></p>	

Table 2:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment Name	<SPLENVIRON>	<p>A descriptive name to be used as both a directory name under the mount point <SPLDIR> and an environment descriptor. This value typically identifies the purpose of the environment. For example, DEV01 or CONV.</p> <p>On installation a directory <SPLDIR>/<SPLENVIRON> is created, under which the Oracle Utilities Application Framework and Oracle Utilities Meter Data Management software resides.</p> <p>When multiple environments are set up on the machine you will typically have directories such as: /ouaf/DEV01/.... /ouaf/CONV/....</p> <p>Each of these contains a complete version of the Oracle Utilities Application Framework and Oracle Utilities Meter Data Management.</p> <p>Note: Later in the installation process, the splenviron.sh (splenviron.cmd) script will set \$SPLEBASE (%SPLEBASE%) environment variable to point to <SPLDIR>/<SPLENVIRON></p>	
Database Type	<CMPDB>	<p>Type of a database to connect an environment to.</p> <p>Valid values: oracle: Oracle</p> <p>Defaulted value: oracle</p> <p>Note: Not all database types are supported on all platforms; refer to the Supported Platforms section for details.</p>	oracle
Web Application Server Type	<SPLWAS>	<p>A web application server for the environment to be used. The following value must be selected:</p> <p>Valid values: WLS: WebLogic WAS: WebSphere WASND: WebSphere ND</p> <p>Note: Not all web application servers are supported on all platforms; refer to Supported Platforms section for details.</p>	

Table 2:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Installation Application Viewer Module	<WEB_ISAPPVIEWER>	<p>Denotes if the Application Viewer Web Module will be installed in the environment. When this value is set to false the application viewer will not be accessible in the environment.</p> <p>Valid values:</p> <ul style="list-style-type: none">true: Application Viewer module will be installed.false: Application Viewer module will not be installed. <p>Defaulted value: true</p> <p>Note: When the value of false is selected, the Application Viewer will only be installed at a later date by a complete reinstall of the application.</p>	

Environment Description

1. Environment Description
Environment Description:

Table 3:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Environment Description	DESC	This is a free form text field to describe the purpose of the environment.	

WebLogic Business Application Server Configuration

The WebLogic parameters below and in the worksheet are for a WebLogic installation.

2. Business Application Server Configuration

Business Server Host:	<machine_name>
WebLogic Server Name:	myserver
Business Server Application Name:	SPLService
MPL Admin Port Number:	
MPL Automatic startup:	false

Table 4:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Business Server Host	BSN_WLHOST	The host name on which business application server resides. Default value: <current server name>	
WebLogic Server Name	BSN_WLS_SVRNAME	The name of the WebLogic server where the business application resides. Default value: myserver Note: If there is not a previously created WebLogic server, take the default value of “myserver”.	
Business Server Application Name	BSN_APP	The name of the business application server. Default value: SPLService	
MPL Admin Port number	MPLADMINPORT	The port number for the Multi Purpose Listener (MPL) Admin Server. Example value: 6502	
MPL Automatic Startup	MPLSTART	Automatically starts the MPL Listener whenever environment starts. Default value: false	

WebLogic Web Application Server Configuration

The WebLogic parameters below and in the worksheet are for a WebLogic installation.

3. Web Application Server Configuration

```

Web Server Host: <machine_name>
Web Server Port Number:
Web Context Root:
WebLogic JNDI User ID:
WebLogic JNDI Password:
WebLogic Admin System User ID:
WebLogic Admin System Password:
WebLogic Server Name: myserver
Web Server Application Name: SPLWeb
Application Admin User ID:
Application Admin Password:
Expanded Directories: true
Application Viewer Module: true
  
```

Table 5:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Server Host	WEB_WLHOST	The host name on which the web application server resides. Default value: <current server name>	
Web Server Port Number	WEB_WLPORT	A unique port number within the system that will be assigned to the HTTP port. This is the port number that is used as a part of the client URL request to connect to the host. Example value: 6500	
Web Context Root	WEB_CONTEXT_ROOT	A context root name that allows customers to run multiple instances of web application on the same server. Default value: ouaf	
WebLogic JNDI User ID	WEB_WLSYSUSER	The user ID the application uses to connect to the EJB component through JNDI. This is the EJB container user ID. Note: The required value for an initial installation is "system". This is a security value.	
WebLogic JNDI Password	WEB_WLSYSPASS	The password the application uses to connect to the EJB component through JNDI Note: The required value for an initial installation is "ouafadmin". This value will be saved in encrypted format. This is a security value.	

Table 5:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
WebLogic Admin System User ID	WLS_WEB_WLSYSUSER	<p>The user ID to log in to the Oracle WebLogic console and to administer Oracle WebLogic. The Oracle WebLogic startup and stop script also utilizes this user ID</p> <p>Note: The installation utility will prompt you to enter “Y” to encrypt. For an initial installation, enter Y/y and specify the required value “system”.</p> <p>This is a security value.</p>	
WebLogic Admin System Password	WLS_WEB_WLSYSPASS	<p>The password to login to Oracle WebLogic console and to administer Oracle WebLogic. The Oracle WebLogic startup and stop script also utilize this password.</p> <p>Note: The installation utility will prompt you to enter “Y” to encrypt. For an initial installation, enter Y/y, and specify the required value “ouafadmin”.</p> <p>This is a security value.</p>	
WebLogic Server Name	WEB_WLS_SVRNAME	<p>The name of the WebLogic server where the web application resides.</p> <p>Default value: myserver</p> <p>Note: For an initial installation, use the default value of “myserver”.</p> <p>.</p>	
Web Server Application Name	WEB_APP	<p>The name of the web application server.</p> <p>Default value: SPLWeb</p> <p>Note: For an initial installation, use the default value of “SPLWeb”.</p>	
Application Admin User ID	WEB_SPLUSER	<p>This is the default user ID to login to the application through the browser.</p> <p>Example value: SYSUSER</p> <p>Note: The required value for an initial installation is “SYSUSER”. This value is also used in communication within the XAI application.</p> <p>This is a security value.</p>	

Table 5:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Application Admin Userid Password	WEB_SPLPASS	<p>This is the password of the application admin user.</p> <p>Example value: sysuser00</p> <p>Note: The required value for an initial installation is “sysuser00”. This value will be saved in encrypted format</p> <p>This is a Security Value.</p>	
Expanded Directories	WEB_ISEXPANDED	<p>When the value is “true” the web application will be deployed in exploded directory format (no WAR files).</p> <p>When the value is “false”, the web application will be deployed in ear file format.</p> <p>Valid values: true: Environment expanded (no WAR files) false: Environment with WAR/EAR files</p> <p>Default value: false</p>	
Application Viewer Module	WEB_ISAPVIEWER	<p>When the value is “true” the application viewer will be deployed to the web server. When the value is “false”, the application viewer will not be deployed to the web Server.</p> <p>Note: With either value the application viewer module will still be managed by the upgrade process.</p> <p>Note: When this value is set to false from the initial install menu you will not be able to change this value to true to re-enable the application viewer.</p> <p>Valid values: true: The application viewer module will be deployed to the web server false: The application viewer module will not be deployed to the web server</p> <p>Default value: true</p>	

Database Configuration

4. Database Configuration

Web Application Database User ID:
 Web Application Database Password:
 MPL Database User ID:
 MPL Database Password:
 XAI Database User ID:
 XAI Database Password:
 Batch Database User ID:
 Batch Database Password:
 Database Name
 Database Server:
 Database Port:
 ONS Server Configuration:
 Database Override Connection String:
 Oracle Client Character Set NLS_LANG: AMERICAN_AMERICA.AL32UTF8

Table 6:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Application Database User ID	DBUSER	<p>The database user ID that has been configured on the database for the web application server connection.</p> <p>This is a security value.</p>	
Web Application Database Password	DBPASS	<p>The database password that has been configured on the database for the web application connection.</p> <p>Note: This value will be saved in encrypted format.</p> <p>This is a security value.</p>	
MPL Database User ID	MPL_DBUSER	<p>The database user ID that has been configured on the database for the MPL server connection.</p> <p>This is a security value.</p>	
MPL Database Password	MPL_DBPASS	<p>The database password that has been configured on the database for the MPL server connection.</p> <p>Note: This value will be saved in encrypted format.</p> <p>This is a security value.</p>	
XAI Database User ID	XAI_DBUSER	<p>The database user ID that has been configured on the database for the XAI server connection.</p> <p>This is a security value.</p>	

Table 6:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
XAI Database Password	XAI_DBPASS	<p>The database password that has been configured on the database for the XAI server connection.</p> <p>Note: This value will be saved in encrypted format.</p> <p>This is a security value.</p>	
Batch Database User ID	BATCH_DBUSER	<p>The database user ID that has been configured on the database for the batch connection.</p> <p>This is a security value.</p>	
Batch Database Password	BATCH_DBPASS	<p>The database password that has been configured on the database for the batch connection.</p> <p>Note: This value will be saved in encrypted format.</p> <p>This is a security value.</p>	
Database Name	DBNAME	The name of the database instance that the application will be connecting to.	
Database Server	DBSERVER	Host name of the server where database resides.	
Database Port	DBPORT	Database port number on the database server used for connecting to the database	
ONS Server Configuration	ONSCONFIG	<p>ONS Server Configuration is required for Oracle RAC FCF.</p> <p>See the Server Administration Guide for more information.</p> <p>This is an optional value.</p>	
Database Override Connection String	DB_OVERRIDE_CONNECTION	<p>This connection string can be used to override the database information entered above for RAC installation.</p> <p>Set this string to override the standard database connection string, as entered above.</p> <p>See the Server Administration Guide for more information.</p> <p>This is an optional value.</p>	
Oracle Client Character Set NLS_LANG	NLS_LANG	<p>The Oracle Database Character Set.</p> <p>Select the Language and Territory that are in use in your country.</p> <p>Default value: AMERICAN_AMERICA.AL32UTF8</p>	

General Configuration Options

Note: See the Oracle Utilities Meter Data Management *Batch Server Administration Guide* for additional details on this configuration.

5. General Configuration Options

Batch RMI Port:
 Batch Mode: CLUSTERED
 Coherence Cluster Name:
 Coherence Cluster Address:
 Coherence Cluster Port:
 Coherence Cluster Mode: dev

Table 7:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Batch RMI Port	BATCH_RMI_PORT	Unique port used by the Batch RMI	
Batch Mode	BATCH_MODE	Valid values: CLUSTERED or DISTRIBUTED Default value: CLUSTERED Note: CLUSTERED is currently the only supported mode for production environments.	
Coherence Cluster Name	COHERENCE_CLUSTER_NAME	Unique name for the batch CLUSTER Note: Value is required when batch mode is CLUSTERED.	
Coherence Cluster Address	COHERENCE_CLUSTER_ADDRESS	Unique multicast address. Note: Value is required when batch mode is CLUSTERED.	
Coherence Cluster Port	COHERENCE_CLUSTER_PORT	Unique port for the batch CLUSTER Note: Value is required when batch mode is CLUSTERED.	
Coherence Cluster Mode	COHERENCE_CLUSTER_MODE	Valid values: dev (Development) prod (Production) Default value: dev	

Advanced Menu Options

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

Unix:

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

Windows

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

Advanced Environment Miscellaneous Configuration

```
50. Advanced Environment Miscellaneous Configuration
    Online JVM Batch Server Enabled:                false
    Online JVM Batch Number of Threads:              5
    Online JVM Batch Scheduler Daemon Enabled:        false
    JMX Enablement System User ID:
    JMX Enablement System Password:
    RMI Port number for JMX Business:
    RMI Port number for JMX Web:
    GIS Service Running on the same Web Server:      true
    GIS Service URL:
    GIS WebLogic System User ID:
    GIS WebLogic System Password:
    Online Display Software Home:
```

Table 8:

Menu Option	Name Used in Documentation	Usage	Customer Value Install
WebSphere Deployment Manager Host Name	WASND_DMGR_HOST	WebSphere Deployment Manager Host name, this value is used for WebSphere ND, when connecting to the WebSphere Deployment Manager. Note: This value will only appear for WebSphere ND.	
Online JVM Batch Server Enabled	BATCHENABLED	When starting a web application server JVM, this property can be set to “true” to allow the on-line application server to also act as a batch worker in the grid. Default value: false Note: This functionality should only be used in low volume environments.	

Table 8:

Menu Option	Name Used in Documentation	Usage	Customer Value Install
Online JVM Batch Number of Threads	BATCHTHREADS	<p>The maximum number of batch processing threads to be executed within a worker JVM when no explicit Distributed Thread Pool is specified. The “DEFAULT” distributed thread pool is used by the batch-scheduling daemon when it initiates processing on batch jobs (typically added via the online system) where no thread pool is specified).</p> <p>Default value: 5</p> <p>Note: This will be only used and activated when BATCHENABLED is set to true.</p>	
Online JVM Batch Scheduler Daemon Enabled	BATCHDAEMON	<p>In a distributed batch environment, this property can be set to “true” to allow a worker JVM to host the batch scheduling daemon. The daemon accepts online batch submissions requests and automatically submits the work for them.</p> <p>Valid values: true, false</p> <p>Default value: false</p> <p>Note: This will be only used and activated when BATCHENABLED is set to true.</p>	
JMX Enablement System User ID	BSN_JMX_SYSUSER	<p>Example value: user</p> <p>This value is optional.</p>	
JMX Enablement System Password	BSN_JMX_SYSPASS	<p>Example value: admin</p> <p>Note: This value will be saved in encrypted format.</p> <p>This value is optional.</p>	
RMI Port number for JMX Business	BSN_JMX_RMI_PORT_PERFORMANCE	<p>JMX Port for business application server monitoring.</p> <p>This needs to be set to an available port number on the machine.</p> <p>This value is optional.</p>	
RMI Port number for JMX Web	WEB_JMX_RMI_PORT_PERFORMANCE	<p>JMX Port for web application server monitoring</p> <p>This needs to be an available port number for the environment running on the machine.</p> <p>This value is optional.</p>	

Table 8:

Menu Option	Name Used in Documentation	Usage	Customer Value Install
GIS Service Running on the same Web Server	GIS	Geographical information (GEOCODING) - GIS Service running on the same web application server Valid values: true, false This value is optional.	
GIS Service URL	GIS_URL	This is the URL of the external web server. Note: This value will be only be used when GIS is set to true. This value is optional.	
GIS WebLogic System User ID	GIS_WLSYSUSER	GIS WebLogic System User ID Note: This value will be only be used when GIS is set to true. This value is optional.	
GIS WebLogic System Password	GIS_WLSYSPASS	GIS WebLogic System Password. Note: This value will be only be used when GIS is set to true. This value is optional.	
Online Display Software Home	ONLINE_DISPLAY_HOME	The location of the Online Display Software installation directory. This value is optional.	

Advanced Environment Memory Configuration

```

51. Advanced Environment Memory Configuration
    JVM Child Memory Allocation:                    512
    JVM Child Additional Options:
    Web Application Java Initial Heap Size:          1024
    Web Application Java Max Heap Size:              1024
    Web Application Java Max Perm Size:              500
    Web Application Additional Options:
    Ant Min Heap Size:                              200
    Ant Max Heap Size:                              800
    Ant Additional Options:
    Thread Pool Worker Java Min Heap Size:          512
    Thread Pool Worker Java Max Heap Size:          1024
    Thread Pool Worker Java Max Perm Size:          768
    Thread Pool Worker Additional Options:
    Additional Runtime Classpath:
    Release Cobol Thread Memory Options:
-Dspl.runtime.cobol.remote.releaseThreadMemoryAfterEachCall=...

```

Table 9:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
JVM Child Memory Allocation	JVMMEMORYARG	Heap size for the JVM Child. Default value: 512	
JVM Child Additional Options	JVM_ADDITIONAL_OPTION	Additional JVM options that are passed to the Child JVM. Note: For WebLogic installation only.	
Web Application Java Initial Heap Size	WEB_MEMORY_OPTION_MIN	Initial heap size for the application server. Default value: 1024 Note: For WebLogic installation only.	
Web Application Java Max Heap Size	WEB_MEMORY_OPTION_MAX	Maximum heap size for the application server. Default value: 1024 Note: For WebLogic installation only.	
Web Application Java Max Perm Size	WEB_MEMORY_OPTION_MAXPERMSIZE	Maximum Perm Size for the application server. Default value: 500MB (Linux, Solaris) 300MB (Windows) Note: For WebLogic installation only.	

Table 9:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Web Application Additional Options	WEB_ADDITIONAL_OPT	Additional options that will be passed in to the web application server JVM. Optional Entry. Note: For WebLogic installation only.	
Ant Min Heap Size	ANT_OPT_MIN	Minimum Heap Size passed to ANT JVM. Default value: 200	
Ant Max Heap Size	ANT_OPT_MAX	Maximum Heap Size passed to ANT JVM. Default value: 800	
Ant Additional Options	ANT_ADDITIONAL_OPT	Additional options that are passed into the ANT JVM.	
Thread Pool Worker Java Min Heap Size	BATCH_MEMORY_OPT_MIN	Minimum heap size passed to the Thread Pool Worker. Default value: 512	
Thread Pool Worker Java Max Heap Size	BATCH_MEMORY_OPT_MAX	Maximum heap size passed to the Thread Pool Worker. Default value: 1024	
Thread Pool Worker Java Max Perm Size	BATCH_MEMORY_OPT_MAXPERMSIZE	Maximum perm size passed to the Thread Pool Worker Default value: 768	
Thread Pool Worker Additional Options	BATCH_MEMORY_ADDITIONAL_OPT	Additional Memory Options passed into the Thread Pool Worker. This is an optional free form field.	
Additional Runtime Classpath	ADDITIONAL_RUNTIME_CLASSPATH	Additional Classpath Options passed in when starting the WebLogic JVM Note: For WebLogic installation only. This is an optional value.	

Table 9:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
Release Cobol Thread Memory Options	REL_CBL_THREAD_ME	<p>Allow for child JVMs to be optionally configured to release thread-bound memory when each thread is returned to its thread pool. This will increase the number of memory allocations and memory free calls performed by the Microfocus runtime. It will also lower the amount of C-heap memory consumed by child JVMs.</p> <p>Valid values: true, false</p> <p>Default value: false</p>	

Advanced Web Application Configuration

52. Advanced Web Application Configuration

```

WebLogic SSL Port Number:
WebLogic Console Port Number:
WebLogic Additional Stop Arguments:
Strip HTML Comments: false
Authentication Login Page Type: FORM
Web Form Login Page: /loginPage.jsp
Web Form Login Error Page: /formLoginError.jsp
Web Security Role: cisusers
Web Principal Name: cisusers
This is a development environment: false
Preload All Pages on Startup: false
Maximum Age of a Cache Entry for Text: 28800
Maximum Age of a Cache Entry for Images: 28800
JSP Recompile Interval (s): 43200

```

Table 10:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
WebLogic SSL Port Number:	WEB_WLSSPORT	<p>The port number assigned to WebLogic Secure Sockets connection. This is the port number that is used for Secure Sockets connecting to the WebLogic server.</p> <p>The Secure Sockets implementation is disabled in the default configuration.</p> <p>For Production additional actions are required. Do NOT run Production with Demo certificates Refer to the WLS installation guide - Configuring Identity and Trust When this value is populated http will be disabled.</p> <p>Example value: 6501</p> <p>Note: For WebLogic installation only. This value is optional.</p>	
WebLogic Console Port Number	WLS_ADMIN_PORT	<p>The port number assigned to WebLogic Console connection. This is the port number that is used for Secure Sockets connecting to the WebLogic Console server.</p> <p>Note: For WebLogic installation only.</p> <p>This value is optional.</p>	

Table 10:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
WebLogic Additional Stop Arguments	ADDITIONAL_STOP_WEBLOGIC	<p>WebLogic Additional Stop Arguments</p> <p>This value is required when running the WebLogic Console Port Number and the Application using SSL.</p> <p>Example values:</p> <p>-Dweblogic.security.TrustKeyStore=DemoTrust</p> <p>-Dweblogic.security.TrustKeystoreType=CustomTrust</p> <p>Note: For Production additional actions are required. Do NOT run Production with Demo certificates</p> <p>Refer to the WLS installation guide - Configuring Identity and Trust</p> <p>Note: For WebLogic installation only. This is an optional value.</p>	
StripHTMLComments: false	STRIP_HTML_COMMENTS	<p>Stripping HTML (and JavaScript) comments will increase the security of the system.</p> <p>Default value: false</p> <p>Valid values: true, false</p>	
Authentication Login Page Type	WEB_WLAUTHMETHOD	<p>Specifies which authentication mode should be used. To switch off OUA Login Page enter: BASIC</p> <p>Valid values: FORM, BASIC</p> <p>Default value: FORM</p>	
Web Form Login Page	WEB_FORM_LOGIN_PAGE	<p>Specify the jsp file used to login into the application.</p> <p>Default value: /loginPage.jsp</p>	
Web Form Login Error Page	WEB_FORM_LOGIN_ERROR_PAGE	<p>Specify the jsp file used when there is an error when logging into the application.</p> <p>Default value: /formLoginError.jsp</p>	
Web Security Role	WEB_PRINCIPAL_NAME	<p>Specify the name of the security role.</p> <p>Default value: cisusers</p>	
Web Principal Name	WEB_PRINCIPAL_NAME	<p>Specify the name of a principal that is defined in the security realm.</p> <p>Default value: cisusers</p>	

Table 10:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
This is a development environment	WEB_ISDEVELOPMENT	<p>If the value is “true”, the web application may be used for application development, which will trigger certain generation processes. If the value is “false” the environment will be used as a runtime environment.</p> <p>When you choose “true” (development environment) the startup preload pages will be disabled, and the application security will be less strict. This value also controls the amount of logging information written to the application log files.</p> <p>Valid values: true, false</p> <p>Default value: false</p>	
Preload All Pages on Startup	WEB_PRELOADALL	<p>This controls if the pages should be pre-loaded during the startup of the application or not.</p> <p>Valid values: true, false</p> <p>Default value: false</p>	
Maximum Age of a Cache Entry for Text	WEB_MAXAGE	Default value: 28800	
Maximum Age of a Cache Entry for Images	WEB_MAXAGEI	Default value: 28800	
JSP Recompile Interval (s)	WEB_wlpageCheckSeconds	Default value: 43200	

Advanced Web Application Configuration

53. OIM Configuration Settings

SPML SOAP Trace Setting: false
 SPML IDM Schema Name: F1-IDMUser
 SPML OIM Name Space: http://xmlns.oracle.com/OIM/provisioning
 SPML OIM Enclosing Element: sOAPElement

Table 11:

Menu Option	Name Used in Documentation	Usage	Customer Install Value
SPML SOAP Trace Setting	OIM_SPML_SOAP_DEBUG_SETTING	Name of Oracle Identity Manager library for debug Default value: false Valid values: true, false	
SPML IDM Schema Name	OIM_SPML_UBER_SCHEMA_NAME	Name of Oracle Identity Manager library for schema Default value: F1-IDMUser	
SPML OIM Name Space	OIM_SPML_NAME_SPACE	Default Namespace for Oracle Identity Manager integration Default value: http://xmlns.oracle.com/OIM/provisioning	
SPML OIM Enclosing Element	OIM_SPML_SOAP_ELEMENT	Default top level SOAP Element name for Oracle Identity Manager integration Default value: sOAPElement	

Service and Measurement Data Foundation 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. No Customer Install Value fields should be left blank.

Note: The OSB configuration and SOA configuration menus are optional for Oracle Utilities Meter Data Management and can be skipped. These configurations are required in case another product such as Oracle Utilities Smart Grid Gateway will also be installed on top of Oracle Utilities Service and Measurement Data Foundation.

WebLogic OSB Configuration

8. OSB Configuration

```

OSB Home:
OSB Host Server: <machine name>
OSB Port Number:
JDBC URL for database:
Database User Name:
Database Password:
JNDI name for datasource: wlsbjmsrpDataSource
Mount point for OSB files: /spl/sploutput/osb
OSB Weblogic User Name:
OSB Weblogic User Password:

```

Table 12:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
OSB Home	OSB_HOME	Location of the directory where OSB is installed. For Example: Unix: /middleware/Oracle_OSB1 Windows: C:\middleware\Oracle_OSB1	
OSB Host Server	OSB_HOST	Host name of the server where the OSB WebLogic server instance will run. Default Value: <current server name>	
OSB Port Number:	OSB_PORT_NUMBER	Admin port number of the OSB WebLogic server instance. This is the port number that is used as a part of the OSB URL request to connect to the host.	
JDBC URL for database	DBURL_OSB	The JDBC URL of the database where the OSB schemas are located. For Example: jdbc:oracle:thin:@localhost:1521:OSBDB This value is required for the example WebLogic server instance.	
Database User Name	DBUSER_OSB	OSB database user ID. This value is required for the example WebLogic server instance.	
Database Password	DBPASS_OSB_WLS	OSB database password. This value is required for the example WebLogic server instance.	

Table 12:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
JNDI name for datasource	JNDI_OSB	JNDI name for accessing the OSB database Note: Retain the default value. Default Value: wlsbjmsrpDataSource.	
Mount point for OSB files	OSB_LOG_DIR	Location of the network share or mount point where the OSB files will be dropped. This path should be accessible from the machine where OSB WebLogic instance is running. For example: /ouaf/osb/<ENVIRONMENT NAME>/ Default Value: /spl/sploutput/osb	
OSB WebLogic User Name	OSB_USER	WebLogic JMS user ID for the WebLogic instance where the OSB adapter will be deployed. Note: For the example OSB WebLogic instance this should be specified as weblogic .	
OSB WebLogic User Password	OSB_PASS_WLS	WebLogic JMS user password for the WebLogic instance where the OSB adapter will be deployed. Note: For the example OSB WebLogic instance this should be specified as weblogic123 .	

WebSphere OSB Configuration

8. OSB Configuration

OSB Home:

OSB Host Server:

<machine name>

OSB Port Number:

Mount point for OSB files:

/spl/sploutput/osb

Table 13:

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
OSB Home	OSB_HOME	Location of the directory where OSB is installed. For Example: Unix: /middleware/Oracle_OSB1 Windows: C:\middleware\Oracle_OSB1	
OSB Host Server	OSB_HOST	Host name of the server where the OSB WebLogic server instance will run. Default Value: <current server name>	
OSB Port Number:	OSB_PORT_NUMBER	Admin port number of the OSB WebLogic server instance. Note: This also specifies the port number on which the example WebLogic server will listen.	
Mount point for OSB files	OSB_LOG_DIR	Location of the network share or mount point where the OSB files will be dropped. This path should be accessible from the machine where OSB WebLogic instance is running. For example: /ouaf/osb/<ENVIRONMENT NAME>/ Default Value: /spl/sploutput/osb	

WebLogic SOA Configuration

9. SOA Configuration

SOA Home:

SOA Host Server:

<machine name>

SOA Port Number:

JDBC URL for database:

Database User Name (SOAINFRA):

Database Password (SOAINFRA):

Database User Name (MDS):

Database Password (MDS):

Database User Name (ORASDPM):

Database Password (ORASDPM):

Table 14:

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
SOA Home	SOA_HOME	Location of the directory where SOA is installed. For Example: Unix: /middleware/Oracle_SOA1 Windows: C:\middleware\Oracle_SOA1	
SOA Host Server	SOA_HOST	Host name of the server where the SOA WebLogic server instance will run. Default Value: <current server name>	
SOA Port Number:	SOA_PORT_NUMBER	Admin port number of the SOA WebLogic server instance. This is the port number that is used as a part of the SOA URL request to connect to the host.	
JDBC URL for database	DBURL_SOA	The JDBC URL of the database where the SOA schemas are located. For Example: jdbc:oracle:thin:@localhost:1521:SOADB This value is required for the example WebLogic server instance.	
Database User Name (SOAINFRA)	DBUSER_SOAINFRA	SOAINFRA database user ID. This value is required for the example WebLogic server instance.	
Database Password (SOAINFRA)	DBPASS_SOAINFRA	SOAINFRA database password. This value is required for the example WebLogic server instance.	

Table 14:

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
Database User Name (MDS)	DBUSER_MDS	MDS database user ID. This value is required for the example WebLogic server instance.	
Database Password (MDS)	DBPASS_MDS	MDS database password. This value is required for the example WebLogic server instance.	
Database User Name (ORASDPM)	DBUSER_ORASDPM	ORASDPM database user ID. This value is required for the example WebLogic server instance.	
Database Password (ORASDPM)	DBPASS_ORASDPM	ORASDPM database password. This value is required for the example WebLogic server instance.	

WebSphere SOA Configuration

9. SOA Configuration

SOA Home:

SOA Host Server:

<machine name>

SOA Port Number:

Table 15:

Menu Option	Name Used in this Documentation	Usage	Customer Install Value
SOA Home	SOA_HOME	Location of the directory where SOA is installed. For Example: Unix: /middleware/Oracle_SOA1 Windows: C:\middleware\Oracle_SOA1	
SOA Host Server	SOA_HOST	Host server where SOA WebLogic server instance will run. Default Value: <current server name>	
SOA Port Number:	SOA_PORT_NUMBER	Port number of the SOA WebLogic server instance. If SOA is deployed on a managed server, specify the managed server port number. Note: This also specifies the port number on which the example SOA WebLogic server will listen.	

WebLogic SOA Configuration Plan

10. SOA Configuration Plan (MDF)

MDF Bulk Request Callback URL:
 MDF Headend http connection timeout: 50000
 MDF Headend http read timeout: 500000
 MDF SOA Request Queue JNDI Name: queue/BulkRequestQueue
 MDF SOA Notify Queue JNDI Name: queue/BulkNotifyQueue
 MDF SOA Commnad Queue JNDI Name: queue/BulkCommandQueue

Table 16:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
MDF Bulk Request Callback URL	D1_BULK_REQUEST_CALLBACK_URL	<p>This is the URL from the edge application that receives any fault responses in Bulk Command BPEL processing.</p> <p>Default value: empty</p>	
MDF Headend http connection timeout	D1_HEADEND_HTTP_CONN_TIMEOUT	<p>MDF Headend http connection timeout value.</p> <p>Default value: 50000</p>	
MDF Headend http read timeout	D1_HEADEND_HTTP_READ_TIMEOUT	<p>MDF Headend http read timeout value.</p> <p>Default value: 500000</p>	
MDF SOA Request Queue JNDI Name	SOA_REQUEST_QUEUE_D1	<p>MDF SOA Request Queue JNDI Name.</p> <p>Default Value: queue/BulkRequestQueue</p>	
MDF SOA Notify Queue JNDI Name	SOA_NOTIFY_QUEUE_D1	<p>MDF SOA Notify Queue JNDI Name.</p> <p>Default Value: queue/BulkNotifyQueue</p>	
MDF SOA Commnad Queue JNDI Name	SOA_COMMAND_QUEUE_D1	<p>MDF SOA Commnad Queue JNDI.</p> <p>Default Value: queue/BulkCommandQueue</p>	

Advanced Menu Options

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

Unix:

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

Windows

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

Advanced Environment Memory Configurations

```
61. Advanced Memory Configurations for SOA
    SOA Initial Heap Size:          1024
    SOA Maximum Heap Size:         2048
    SOA Minimum Perm Size:         512
    SOA Maximum Perm Size:         1024
    SOA Application Additional Options:
```

Table 17:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
SOA Initial Heap Size	SOA_MEMORY_OPT_MIN	Initial heap size for the SOA server. Default value: 1024 Note: For WebLogic installation only.	
SOA Maximum Heap Size	SOA_MEMORY_OPT_MAX	Maximum heap size for the SOA server. Default value: 2048 Note: For WebLogic installation only.	
SOA Minimum Perm Size	SOA_MEMORY_OPT_MINPERMSIZE	Maximum Perm Size for the SOA server. Default value: 512 Note: For WebLogic installation only.	
SOA Maximum Perm Size	SOA_MEMORY_OPT_MAXPERMSIZE	Maximum Perm Size for the SOA server. Default value: 1024 Note: For WebLogic installation only.	
SOA Maximum Perm Size	SOA_JVM_ADDITIONAL_OPT	Additional options that will be passed in to the SOA server JVM. Optional Entry. Note: For WebLogic installation only.	

```

62. Advanced Memory Configurations for OSB
    OSB Initial Heap Size:          512
    OSB Maximum Heap Size:         1024
    OSB Minimum Perm Size:         512
    OSB Maximum Perm Size:         1024
    OSB Application Additional Options:

```

Table 18:

Menu Option	Name Used In Documentation	Usage	Customer Install Value
OSB Initial Heap Size	OSB_MEMORY_OPT_MIN	Initial heap size for the OSB server. Default value: 512 Note: For WebLogic installation only	
OSB Maximum Heap Size	OSB_MEMORY_OPT_MAX	Maximum heap size for the OSB server. Default value: 1024 Note: For WebLogic installation only.	
OSB Minimum Perm Size	OSB_MEMORY_OPT_MINPERMSIZE	Maximum Perm Size for the OSB server. Default value: 512 Note: For WebLogic installation only.	
OSB Maximum Perm Size	OSB_MEMORY_OPT_MAXPERMSIZE	Maximum Perm Size for the OSB server. Default value: 1024 Note: For WebLogic installation only.	
OSB Application Additional Options	OSB_JVM_ADDITIONAL_OPT	Additional options that will be passed in to the OSB server JVM. Optional Entry. Note: For WebLogic installation only.	

Appendix C

Application Framework Prerequisite Patches

Oracle Utilities Application Framework patches must be installed prior to installing Oracle Utilities Service and Measurement Data Foundation 2.1.0.0. The patches listed below are available as a convenience rollup, MDM-V2.1.0.0.0-FW-PREREQ-MultiPlatform.zip, which is included in the downloaded Media Pack. Please refer to the instructions contained inside the rollup directory for steps to install the patches.

11067376	14319206	14521962	14524888
14527006	14539076	14544366	14544452
14545944	14559104	14565634	14565651
14579412	14581708	14592799	14600735
14609627	14614586	14621732	14626695
14631396	14664647	14671706	14676277
14729592	14770392	14772030	15841356

Appendix D

Common Maintenance Activities

This appendix lists frequently-used commands that you use to perform common maintenance activities, such as starting and stopping the environment and thread pool worker, modifying the configuration items.

Run the following commands to perform these common tasks:

To Initialize the Environment

1. Go the directory <install_dir>/bin.
2. Run the following command:

UNIX:

```
./splenviron.sh -e <Env_Name>
```

Windows:

```
splenviron.cmd -e <Env_Name>
```

To Start the WebLogic Server

1. Initialize the environment.
2. Run the following command:

UNIX:

```
./spl.sh start
```

Windows:

```
spl.cmd start
```

To Stop the WebLogic Server

1. Initialize the environment.
2. Run the following command:

UNIX:

```
./spl.sh stop
```

Windows:

```
spl.cmd stop
```

To Start the Thread Pool Worker

1. Initialize the environment.

-
2. Run the following command:

UNIX:

```
./spl.sh -b start
```

Windows:

```
spl.cmd -b start
```

To Stop the Thread Pool Worker

1. Initialize the environment.
2. Run the following command:

UNIX:

```
./spl.sh -b stop
```

Windows:

```
spl.cmd -b stop
```

To Modify the Configuration Values

1. Initialize the environment.
2. Run the following command:

UNIX:

```
configureEnv.sh
```

Windows:

```
configureEnv.cmd
```

The configuration utility launches menu items. Select any Menu option.

3. Change the menu values.
4. After you change the menu values, press P to write the changes to the configuration file.
5. To apply the changes to the environment, run the initial setup script:

```
initialSetup.sh
```

To Modify the Advanced Menu Option Values

1. Initialize the environment.
The configuration utility launches menu items.

2. Run the following command:

UNIX:

```
configureEnv.sh -a
```

Windows:

```
configureEnv.cmd -a
```

3. Select any menu option.
4. Change the menu values.
5. To apply the changes to the environment, run initial setup script:

```
initialSetup.sh
```

Appendix E

Installing User Documentation as a Standalone Application

Installing User Documentation

This section provides instructions for installing the Oracle Utilities Meter Data Management user documentation that is supplied with the system. The Oracle Utilities Meter Data Management user documentation is provided in PDF format for printing.

The documentation is also provided in HTML format located inside the Oracle Utilities Meter Data Management application server installation package. It is automatically installed and can be launched from the user interface. The files are under the applications directory packaged in the file named help.war. User documentation is provided in English (ENG). The documentation material is divided into the following subdirectories underneath the language directory:

- D1: Oracle Utilities Service and Measurement Data Foundation User Guide
- D2: Oracle Utilities Meter Data Management User Guide
- F1: Oracle Utilities Application Framework Administration and Business Process Guides

Installing Stand-Alone Online Help

You can also use the Oracle Utilities Meter Data Management online help in stand-alone mode (that is, you do not have to launch it from the Oracle Utilities Meter Data Management application or access it on the application server).

To install the Oracle Utilities Meter Data Management help for stand-alone operation, copy the help.war from the Oracle Utilities Meter Data Management server (environment) or from the Oracle Utilities Meter Data Management installation package to the server or machine on which you want to access the help. If you want to copy the file from any installed Oracle Utilities Meter Data Management environment, you can locate the file in the \$SPLEBASE/splapp/applications directory on the server.

Unzip the help.war file to any directory on your machine. To launch the Oracle Utilities Meter Data Management help in stand-alone mode, open the SPLHelp.html file (located inside the language directory that you wish to use).

Note: Do not change the subdirectory names. The documents use relative path names to link to other documents. Changing the subdirectory names will result in broken links.

Customizing Help for Stand-Alone Operation

You can customize the SPLHelp.html file to open to the file and topic that you most frequently use. To do so, edit the SPLHelp.html file and change the DEFAULT_BOOKMARK to the desired location. The default DEFAULT_BOOKMARK is 'helpHome.html'.

Installing Stand-Alone Help Under Web Server

You can also install Oracle Utilities Meter Data Management online help as a stand-alone web application. You can use any Web Application server like WebLogic. Configure the configuration file for your web application server to use web application help.

For example,

For WebLogic, configure config.xml file for deployed application Name="help" with URI="help.war" and set WebServer DefaultWebApp="help"

Access the documentation from the browser by the following URL:

<http://<host name>:<port name>/<WebContext>/<Lang>/SPLHelp.html>, where

<hostname>:<portname> is the URL of the web server, <Web Context> is the root web context name specified during Web application server configuration, <Lang> is the name of the language directory, for example, ENG.

Note: Stand-alone online help files are not automatically updated when changes are made to the help files on the application server. You will have to re-install the stand-alone online help files.

Appendix F

License and Copyright Notices

License and Copyright notices for associated products:

Third-Party Products

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

Notice Concerning Usage of ANTLR

[The BSD License]

Copyright (c) 2010 Terence Parr

All rights reserved.

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

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

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

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

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

Notice Concerning Usage of Apache Software

The following files are covered under the Apache 2.0 license:

- bsf-2.4.0.jar
- castor-1.3.2-core.jar
- castor-1.3.2-xml-schema.jar
- castor-1.3.2-xml.jar
- cglib-2.2.jar
- commonj-3.7.1.jar
- commons-beanutils-core-1.8.3.jar
- commons-cli-1.1.jar
- commons-codec-1.6.jar
- commons-collections-3.2.1.jar
- commons-fileupload-1.2.2.jar
- commons-httpclient-3.0.1.jar
- commons-io-1.3.2.jar
- commons-lang-2.2.jar
- log4j-1.2.17.jar
- serializer-2.7.1.jar
- stax2-2.1.jar
- stax2-api-3.0.4.jar
- wstx-asl-3.2.7.jar
- xalan-mod-2.7.1.jar
- xmlparserv2-11.1.1.3.0.jar

Apache License

Version 2.0, January 2004

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

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

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

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

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

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

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

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

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

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

“Contribution” shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, “submitted” means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as “Not a Contribution.”

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

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

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

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

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

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

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

If the Work includes a “NOTICE” text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative

Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

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

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

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

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

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

END OF TERMS AND CONDITIONS

Notice Concerning Usage of ASM

Copyright (c) 2000-2005 INRIA, France Telecom

All rights reserved.

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

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

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

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

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

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

Notice Concerning Usage of Concurrent

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

Notice Concerning Usage of DOM4J

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

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

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

THIS SOFTWARE IS PROVIDED BY METASTUFF, LTD. AND CONTRIBUTORS "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL METASTUFF, LTD. OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR

SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Notice Concerning Usage of International Components for Unicode (ICU4J)

COPYRIGHT AND PERMISSION NOTICE

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

All rights reserved.

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

THE SOFTWARE IS PROVIDED “AS IS”, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

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

Notice Concerning Usage of Jaxen

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

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

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

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

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

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS “AS IS” AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR

PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Notice Concerning Usage of JCIP Annotations

Attribution 2.5

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

License

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

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

1. Definitions

1. “Collective Work” means a work, such as a periodical issue, anthology or encyclopedia, in which the Work in its entirety in unmodified form, along with a number of other contributions, constituting separate and independent works in themselves, are assembled into a collective whole. A work that constitutes a Collective Work will not be considered a Derivative Work (as defined below) for the purposes of this License.
2. “Derivative Work” means a work based upon the Work or upon the Work and other pre-existing works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or any other form in which the Work may be recast, transformed, or adapted, except that a work that constitutes a Collective Work will not be considered a Derivative Work for the purpose of this License. For the avoidance of doubt, where the Work is a musical composition or sound recording, the synchronization of the Work in timed-relation with a moving image (“synching”) will be considered a Derivative Work for the purpose of this License.
3. “Licensor” means the individual or entity that offers the Work under the terms of this License.
4. “Original Author” means the individual or entity who created the Work.
5. “Work” means the copyrightable work of authorship offered under the terms of this License.
6. “You” means an individual or entity exercising rights under this License who has not previously violated the terms of this License with respect to the Work, or who has received express permission from the Licensor to exercise rights under this License despite a previous violation.

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

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

1. to reproduce the Work, to incorporate the Work into one or more Collective Works, and to reproduce the Work as incorporated in the Collective Works;
2. to create and reproduce Derivative Works;
3. to distribute copies or phonorecords of, display publicly, perform publicly, and perform publicly by means of a digital audio transmission the Work including as incorporated in Collective Works;
4. to distribute copies or phonorecords of, display publicly, perform publicly, and perform publicly by means of a digital audio transmission Derivative Works.
- 5.

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

1. Performance Royalties Under Blanket Licenses. Licensor waives the exclusive right to collect, whether individually or via a performance rights society (e.g. ASCAP, BMI, SESAC), royalties for the public performance or public digital performance (e.g. webcast) of the Work.

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

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

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

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

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

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

5. Representations, Warranties and Disclaimer

UNLESS OTHERWISE MUTUALLY AGREED TO BY THE PARTIES IN WRITING, LICENSOR OFFERS THE WORK AS-IS AND MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND CONCERNING THE WORK, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR THE ABSENCE OF LATENT OR OTHER DEFECTS, ACCURACY, OR THE PRESENCE OR ABSENCE OF ERRORS, WHETHER OR NOT DISCOVERABLE. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES, SO SUCH EXCLUSION MAY NOT APPLY TO YOU.

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

7. Termination

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

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

8. Miscellaneous

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

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

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

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

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

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

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

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

Notice Concerning Usage of SLF4J

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

Copyright (c) 2004-2008 QOS.ch

All rights reserved.

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

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

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

Notice Concerning Usage of Staxmate

Copyright (c) 2007, Tatu Saloranta

All rights reserved.

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

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

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

Notice Concerning Usage of XMLPULL

XMLPULL API IS FREE

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

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

Initial authors: Stefan Haustein and Aleksander Slominski

2001-12-12

Notice Concerning Usage of XMLUnit

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

All rights reserved.

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

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

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE

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

Notice Concerning Usage of XStream

Copyright (c) 2003-2006, Joe Walnes

Copyright (c) 2006-2007, XStream Committers

All rights reserved.

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

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

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

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

Notice Concerning Usage of YUI

Copyright © 2012 Yahoo! Inc. All rights reserved.

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

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

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

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

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