Oracle Utilities Network Management System

Quick Install Guide

Release 1.12.0.2.0

E61788-01

April 2015

ORACLE

Oracle Utilities Network Management System Quick Install Guide, Release 1.12.0.2.0

E61788-01

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Quick Install

This guide provides a summary overview of the installation for Oracle Utilities Network Management System as delivered by Oracle.

- This release can be used to create a new installation or to upgrade an existing installation of the Oracle Utilities Network Management System.
- Contact Oracle Support at http://www.oracle.com/support/index.html for advice about upgrading to the current release.

This guide includes the following topics:

- **Components of Oracle Utilities Network Management System**
- **Installation Media**
- **Hardware / Software Requirements**
- **Supported Platforms Summary**
- **Installation Process Overview**

Components of Oracle Utilities Network Management System

The system can include the following components:

- All Unix applications and services comprising the Oracle Utilities Network Management System
- Bundled third party application software
- *Oracle Utilities Network Management System Quick Install Guide*, which describes the software components and supported platforms
- *Oracle Utilities Network Management System Installation Guide*, which describes the installation process in detail
- Oracle Utilities Network Management System User, Configuration, and Adapter Documentation
- Product Release Notes
- Database configuration with base product configuration installed
- Sample network model and customer data to allow base system installation verification
- Database migration scripts for the Oracle Utilities Network Management System real-time database (needed for upgrades only)
- Database migration scripts for migration of PerformanceMart data to Oracle Utilities Analytics (needed for some upgrades only)

Installation Media

All media is available on the Oracle Software Delivery Cloud (edelivery.oracle.com) in ZIP format. The following media packs can be downloaded and used for installation of the Oracle Utilities Network Management System software.

- **Release Notes Media**
- **Documentation Media**
- **Base Media**

Release Notes Media

This media pack contains the Oracle Utilities Network Management System Release Notes, which give an overview of the enhancements included in the current release. The release notes are also included in the Documentation Media.

Documentation Media

This media pack contains all Oracle Utilities Network Management System product documentation for the current release.

In addition to this *Quick Install Guide*, all product documentation is provided in one ZIP file that extracts to a **Documentation** folder.

- *Oracle Utilities Network Management System Adapters Guide* (PDF). This guide provides details on the installation and configuration of numerous enterprise system adapters (to systems such as SCADA, AMI, GIS etc.), included with the Oracle Utilities Network Management System.
- *Oracle Utilities Network Management System Configuration Guide* (PDF). This guide provides details on the configuration and implementation of the Oracle Utilities Network Management System, its environment, and security.
- *Oracle Utilities Network Management System Quick Install Guide* (PDF). This is the starting point for the installation process. Please print out a copy of this document and read all pertinent sections before beginning the base software package installation.
- *Oracle Utilities Network Management System Installation Guide* (PDF). This guide provides details on environment preparation, installation, and basic configuration of the Oracle Network Management System.
- *Oracle Utilities Network Management System Release Notes* (PDF). This document provides release notes that give an overview of the changes included in the current release.
- *Oracle Utilities Network Management System User's Guide* (PDF). The user's guide provides information for using the product modules and tools. The guide content is also available in the Online (HTML) Help, which may be accessed via Help menus and buttons located throughout the system.

Base Media

These are the base Oracle Utilities Network Management System products along with all product documentation and bundled third party products. Base media package downloads are available for each hardware/operating system platform.

See the **Supported Platforms Summary** on page 1-4 for a list of supported platforms for this release; see **Bundled Third Party Products** on page 1-5 for a list of bundled products.

Hardware / Software Requirements

This section provides the basic overview of the Oracle Utilities Network Management System architecture as well as the supported platforms. It includes the following topics:

- **Oracle Utilities Network Management System Architecture Overview**
- **Supported Platforms Summary**

Oracle Utilities Network Management System Architecture Overview

Tier 1: Rich Java Client

Oracle Utilities Network Management System supports the following client operating systems:

- Windows 7 and Windows 8 Professional (32-bit/64-bit)
- Oracle Linux 6.5
- Windows Server 2008 via terminal services

Tier 2: Java Application / Unix Services Server

Oracle Utilities Network Management System supports the following **Enterprise Java Beans** application server:

- Oracle WebLogic Application Server

Oracle Utilities Network Management System supports the following **Unix** and **Linux** servers:

- IBM AIX
- Oracle Solaris
- Oracle Linux (Unbreakable Enterprise kernel or Red Hat Compatible kernel)
- Red Hat Enterprise Linux

Oracle Network Management System supports the following **Virtual** servers:

- Oracle VM Server Virtualization and Management running the Oracle Linux operating system

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

Tier 3: Database Server

Oracle Utilities Network Management System supports the Oracle RDBMS Standard Edition and Enterprise Edition Servers. However, Enterprise Edition is required when using the following features with NMS:

- Oracle Database Partitioning
- Spatial Data with Aerial Maps

  Note: Oracle Locator, a standard component of all Oracle Database editions, is a required component of the database installation. See the *Oracle Utilities Network Management System Installation Guide* for details on ensuring that Oracle Locator has not been removed from your installation.

Supported Platforms Summary

This section includes the following topics:

- **Operating System, Database, and Java Application Server Support**
- **Inter-product Compatibility to Other Oracle Utilities Product Versions**
- **Bundled Third Party Products**
- **Required Unbundled Oracle and Third Party Products**

Operating System, Database, and Java Application Server Support

Oracle Utilities Network Management System supports the following platforms.

Operating Systems	OS Server Architecture / Compiler Version	Database Server and Java Application Servers: Supported Combinations**
IBM AIX7.1 TL3-SP1	POWER 64-bit/ g++ v4.2.4	Oracle 11gR2 [11.2.0.3.0 (64-bit) SE or EE] **or** Oracle 12cR1 [12.1.0.1.0 (64-bit) SE or EE] WebLogic Server 10.3.6 (SE, EE, and Suite)
Oracle Solaris 11	SPARC 64-bit / Solaris Studio 12.3 (Sun C++ 5.12)	Oracle 11gR2 [11.2.0.3.0 (64-bit) SE or EE] **or** Oracle 12cR1 [12.1.0.1.0 (64-bit) SE or EE] WebLogic Server 10.3.6 (SE, EE, and Suite)
Oracle Linux 6.5	x86 64-bit / g++ v4.4.7-4	Oracle 11gR2 [11.2.0.3.0 (64-bit) SE or EE] **or** Oracle 12cR1 [12.1.0.1.0 (64-bit) SE or EE] WebLogic Server 10.3.6 (SE, EE, and Suite)
Red Hat Enterprise Linux 6.5	x86 64-bit / g++ v4.4.7-4	Oracle 11gR2 [11.2.0.3.0 (64-bit) SE or EE] **or** Oracle 12cR1 [12.1.0.1.0 (64-bit) SE or EE] WebLogic Server 10.3.6 (SE, EE, and Suite)

****Notes:**

- To use Oracle Utilities Network Management System with Oracle Utilities Analytics, both must be on the same version of the Oracle RDBMS (11gR2 or 12cR1).
- The Oracle WebLogic Server used by Oracle Utilities Network Management System does not need to be co-located with the Unix services and can run on any of the above platforms that are supported by Oracle for that WebLogic Server version.
- The Oracle RDBMS used by Oracle Utilities Network Management System does not need to be co-located with the Unix Services and can run on any of the above platforms supported by Oracle for that RDBMS version.
- Oracle Utilities Network Management System is tested and supported on the versions of Oracle Linux specified. Because Oracle Linux is 100% userspace-compatible with Red

Hat Enterprise Linux, Oracle Utilities Network Management System is also supported on Red Hat Enterprise Linux for this release.

Inter-product Compatibility to Other Oracle Utilities Product Versions

Oracle Utilities Product	Version(s) Supported
Oracle Utilities Analytics	2.5.1+†
Oracle Utilities Customer Care and Billing	2.4.0+, 2.5.0+
Oracle Utilities Customer Self Service	2.1.0+
Oracle Utilities Mobile Workforce Management	2.2.0.2+
Oracle Utilities Smart Grid Gateway	2.1.0.3+
Oracle DataRaker	3.8.0+

† Oracle Utilities Analytics 2.5.1 and Oracle Utilities Network Management System 1.12.0.2 must use the same Oracle RDBMS version (11gR2 or 12cR1).

+ Must be at least the version listed (or later).

Bundled Third Party Products

The following table lists third party software bundled with the Oracle Utilities Network Management System release and installed as part of the base product installation.

Vendor	Product	Version
Apache Software Foundation	Apache Xerces C++	3.1.1
	Apache Xalan C++	1.11
	Apache Ant	1.9.2
	Apache Commons Lang	2.6
	Apache Commons Configuration	1.6
	Apache Commons BeanUtils	1.6
	Apache Commons Codec	1.3
	Apache Commons Collections	3.2.1
	Apache Commons Digester	1.7
	Apache Commons HttpClient	3.1
	Apache Log4j	1.2.14
	Apache PDFBox	1.8.2
Autodesk	Csmap	1922
Boost.org	Boost	1.45.0
Genevia	Gsoap	2.8.17r
Hewlett Packard	Jena	2.6.4
John DeRegnaucourt	deep-equals	1.7
KaiToedter	Jcalendar	1.3.2
lighttpd	lighttpd	1.4.33
NetCat AG	Reportcat	1.1.1

Vendor	Product	Version
Philip Hazel	PCRE library	8.35
Singular Systems	JEP	2.4.1
Bernd Rosstauscher	proxy-vole	20131209
The Flex Project	Flex	2.5.4a
The Jython Project	Jython	2.7
Vanderbilt University	The ACE Orb (TAO)	2.2.0

Required Unbundled Oracle and Third Party Products

The following table lists non-NMS Oracle and third party software that are required for specific product modules of the Oracle Utilities Network Management System release, but not bundled with the released software. These products must be separately installed by the end user as part of the base product installation. Some products also require separate licenses as noted.

Vendor	Product	Version	Notes
Oracle	BI Publisher	11.1.1.7.0	Used for business intelligence reports and for printing and e-mailing web switching plans.
Oracle	Java Developer Kit (JDK)	1.7.0_45+	Used by Java GUI components and web-service based interfaces (Client and Server side)
Oracle	Oracle RDBMS Standard or Enterprise Editions 11gR2	11.2.0.3+	Required for core Oracle Utilities Network Management System functionality.
		or	
Oracle	Oracle RDBMS Standard or Enterprise Editions 12cR1	12.1.0.1+	Required for core Oracle Utilities Network Management System functionality.
Oracle	Oracle WebLogic Server Standard Edition 11gR1	10.3.6	Used by Java GUI components and web-service based interfaces
		or	
Oracle	Oracle WebLogic Server Enterprise Edition 11gR1	10.3.6	Used by Java GUI components and web-service based interfaces
		or	
Oracle	Oracle WebLogic Server Suite 11gR1	10.3.6	Used by Java GUI components and web-service based interfaces
Esri	ArcGIS/ArcFM on SDE, Personal GDBs in Access, File GDBs, and Personal SDE / SqlServerExpress	9.0, 9.1, 9.2, 9.3, 10.0, 10.1, 10.2	Esri GIS

Vendor	Product	Version	Notes
GE	Smallworld GIS	3.x or 4.x	Smallworld GIS
Grzegorz Kowal	Launch4j Executable Wrapper	3.0.2	Used with NSIS to install standalone Java client applications from the Configuration Assistant.
IBM	JDK	1.7 SR5 (64-bit)	Used by Java GUI components and web-service based interfaces
IBM	WebSphere MQ	7.1	Needed for Generic WebSphere MQ Adapters
Intergraph	G/Electric GIS	9.3.x, 10.x	Intergraph GIS
LiveData	ICCP	V5.03.x	Needed for the LiveData ICCP SCADA Adapter
Microsoft	Internet Explorer	9.x, 10.x, 11.x	Used to display online help and when using Java Web Start to download the NMS Java client applications.
Microsoft	Windows	7, 8 (32-bit/ 64-bit)	Used to run client applications.

- Internet Explorer 9.x, 10.x, 11.x are supported with Microsoft Windows 7 and Windows 8. Internet Explorer must have Compatibility Mode enabled. 32-bit Java should be installed if iexplorer.exe shows *32 in Microsoft Task Manager. If you are running a 64-bit browser, install 64-bit Java on the Windows PC.

Mozilla	Firefox	17.x+	Used to display online help and when using Java Web Start to download the NMS Java client applications.
Nullsoft	NSIS (Nullsoft Scriptable Install System)	2.46	Used with Launch4j to install standalone Java client applications from the Configuration Assistant.
Oopsla University	html2ps	1.0b7	Used for printing from Service Alert

Notes on Non-NMS Oracle and Third Party Products:

- For a full explanation of Java version support for NMS applications, please refer to the following KM support article (Doc ID 1992766.1) : https://support.oracle.com/rs?type=doc&id=1992766.1
- Oracle WebLogic comes in Standard Edition (SE), Enterprise Edition (EE), and Suite. WebLogic is an additional license that is required for NMS; any of the three options can be used. However, WebLogic Server EE and WebLogic Suite support clustering, while WebLogic Server SE does not.
- Oracle RDBMS Enterprise and Standard Editions and Oracle BI Publisher are separately licensed modules from Oracle.
- WebSphere MQ and LiveData ICCP all require separate third party licenses to be acquired by Oracle customers.

- A plus sign (+) after the fourth digit in the version number indicates that this and all versions of the JRE/JDK extensions are supported. For example, 1.7.0_15+ means that 1.7.0_15 and any higher 1.7.0_xx versions are supported.

Installation Process Overview

This section provides a high level overview of the basic steps to install the Oracle Utilities Network Management System software.

Install Database

Oracle Utilities Network Management System supports the Oracle Relational Database Management System (RDBMS). The RDBMS must be properly installed and configured prior to using the Oracle Utilities Network Management System software.

Reference Information

- For information on installing the database software, see the Oracle RDBMS documentation.
- For information on configuring Oracle RDBMS for use with the Oracle Utilities Network Management System software, see the "Database Configuration" chapter of the *Oracle Utilities Network Management System Configuration Guide*.

Install non-NMS Oracle and Third Party Software

Please refer to the *Oracle Utilities Network Management System Installation Guide* for details of installing unbundled non-NMS Oracle and third party products needed for proper execution of the application software. Other Oracle and third party products may need to be downloaded or installed from other vendor-supplied media.

Install Oracle Utilities Network Management Software

Please refer to the *Oracle Utilities Network Management System Installation Guide* for details of installing the application software. Some steps included in the install guide require specific actions based on the Unix operating system or Java Application server that you will be using. Pay special attention to follow each step exactly as documented in the installation guide.

Configure Oracle Utilities Network Management System Components

Please refer to the *Oracle Utilities Network Management System Configuration Guide* for details of configuring the various components of your Oracle Utilities Network Management System.

Appendix A

Oracle Utilities Network Management System Licensing Restrictions

This appendix outlines licensing restrictions related to Oracle Utilities Network Management System, including:

- **License Restrictions Matrix**
- **Oracle Utilities Network Management System Functionality**

License Restrictions Matrix

Oracle Utilities Network Management System includes two distinct product suites: Oracle Utilities Outage Management System and Oracle Utilities Distribution Management System. These products both contain a number of options whose functionality are restricted, and can only be used if the specific options have been licensed. The table below indicates the specific options included with each of the listed products.

- "✓" indicates that the option is included with the product.
- "✓*" indicates that the option is included with the product, but in order to use the option customers must license additional options For example, a customer licensing Oracle Utilities Network Management System who wishes to use the Call Center feature must also license the Call Center option. Note that Outage Management Base and Distribution Management Base are licensed separately.

Product/Option	Oracle Utilities Network Management System	Oracle Utilities Analytics	Oracle Utilities Customer Self Service
Outage Management Base	✓	X	X
OMS Option: Outage Management Switching and Schematics	✓*	X	X
OMS Option: Outage Management Adapters	✓*	X	X
OMS Option: Outage Management Call Center	✓*	X	X
OMS Option: Outage Management Storm Management	✓*	X	X
OMS Option: Outage Management Paging	✓*	X	X
Distribution Management Base	✓	X	X
DMS Option: Distribution Management Power Flow	✓*	X	X
DMS Option: Distribution Management Advanced Feeder Management	✓*	X	X
DMS Option: Distribution Management Fault Location Isolation and Service Restoration	✓*	X	X
DMS Option: Distribution Management Volt/Var Optimization	✓*	X	X
DMS Option: Distribution Management Fault Location Analysis	✓*	X	X
NMS Option: SCADA	✓*	X	X
NMS Option: Training Simulator	✓*	X	X
Business Intelligence	✓*	✓	X
Customer Self Service	✓*	X	✓

Oracle Utilities Network Management System Functionality

The table below describes the products and options provided with the Oracle Utilities Network Management System.

Functional Area	Description
Outage Management Base	The Oracle Utilities Network Management System (NMS) operations model, tools to support and administrate the model and integration to leading GIS vendors, and the ability to "red-line" changes back to the GIS. Core functionality to manage outages, including tracking of outage durations at the customer level, outage causes, and actions taken.
OMS Option: Outage Management Switching and Schematics	Functionality that allows operators to record switching actions electronically via interaction with a map view of the covered service area and operations model.
OMS Option: Outage Management Adapters	Modules for integrating Oracle Utilities Outage Management System to foreign systems such as CIS, IVR, AMI, AVL, and Mobile systems.
OMS Option: Outage Management Call Center	Tools used to enter calls into the system, easily query status of specific customers, and track the progress of restoration callbacks.
OMS Option: Outage Management Storm Management	Functionality used to estimate when assessment and restoration will be complete for various types of outages, broken out by section of the distribution network. Ability to forecast the impact of bringing on additional resources, or determining the resource need to meet target objectives.
OMS Option: Outage Management Paging	Functionality used to provide automatic notifications from the Oracle Utilities Outage Management System to identify specific customers affected, major outages, beginning and ending of storm events, and status of planned outages.
Distribution Management Base	The Oracle Utilities Network Management System (NMS) operations model, tools to support and administrate the model and integration to leading GIS vendors, and the ability to "red-line" changes back to the GIS. Functionality that allows operators to record switching actions electronically via interaction with a map view of the covered service area and operations model.
DMS Option: Distribution Management Power Flow	Functionality that provides an integrated three phase unbalanced power flow solution built into the system operator's normal business processes and workflows to provide enhanced decision support.
DMS Option: Distribution Management Advanced Feeder Management	Functionality that allows operators to query the system for recommendations of specific switching situations. The system can present a set of switching actions to address a set objective which the operator can review, modify, and utilize. Also the ability to see hourly peak forecasts for the next 24 hours and daily peak forecast for the remainder of the week to provide advance warning of potential load issues, allowing proactive responses.
DMS Option: Distribution Management Fault Location Isolation and Service Restoration	Functionality that, based on SCADA triggers such as lockouts and fault indications/location, determine the specific protective device which has cleared a sustained fault, identifies the de-energized sections, and determines the available alternate supplies for re-energization.
DMS Option: Distribution Management Volt/Var Optimization	Functionality that helps operators to recognize and be able to affect voltage on the network, utilizing the power of the system to prepare and present recommendations to the operator for action.

Functional Area	Description
DMS Option: Distribution Management Fault Location Analysis	Functionality that determines the distance downstream of fault measurements where a fault is estimated to have occurred. All potential fault locations are graphically and tabular displayed and the operator can incrementally reject or confirm fault locations as crews feedback on fault dispatches.
NMS Option: SCADA	Functionality that utilizes SCADA data in determining outages in the system, and helps operators to quickly and accurately identify circuit lockouts, momentary outages and the status of these devices in the network.
NMS Option: Training Simulator	Functionality that allows a trainer to record scenarios including customer calls, AMI last gasps, and simulated device operations in support of training. Each scenario can be played back for a trainee, paused, modified, and monitored by the trainer.
Business Intelligence	Processes used to extract and load data for use in business intelligence applications.
Customer Self Service	Web services used to access data via the Oracle Utilities Customer Self Service application.