

Oracle® Health Sciences Information Gateway

Installation Guide

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Oracle Health Sciences Information Gateway Installation Guide, Release 1.2

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Primary Author: Louis J. Kraft

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Preface

The Oracle Health Sciences Information Gateway (OHIG) leverages Oracle Virtual Machine, CONNECT open source, and Oracle GlassFish Server to orchestrate secure, health policy-based exchanges over the Internet.

Audience

This document is intended for users who want to install and use OHIG to participate in standards-based health information exchange activities within their organizations or with other organizations.

About This Book

This document provides an overview of the OHIG installation process, and includes the following three chapters and two appendices:

Chapter 1, "Minimum Hardware and Software Requirements"

This chapter describes the requirements which must be met before installing OHIG.

Chapter 2, "Installing the Oracle Health Sciences Information Gateway (OHIG)"

This chapter provides instructions for installing OHIG.

Chapter 3, "Installing Certificates on Oracle Health Sciences Information Gateway"

This chapter provides instructions for installing certificates on OHIG.

Appendix A, "References"

This appendix provides links to supporting documentation and resources.

Appendix B, "Acronyms"

This appendix provides a list of commonly used acronyms.

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Related Documents

For more information, see the following documents in the Oracle Health Sciences Information Gateway Release 1.2 documentation set:

- *Oracle Health Sciences Information Gateway Release Notes* (Part Number E22758-01)
- *Oracle Health Sciences Information Gateway Secure Health Email Installation and Configuration Guide* (Part Number E22884-01)

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. |

Minimum Hardware and Software Requirements

This chapter describes the minimum hardware and software requirements for installing Oracle Health Sciences Information Gateway (OHIG).

This chapter includes the following sections:

- [Hardware Requirements](#)
- [Software Requirements](#)
- [Adding a VM Server](#)

1.1 Hardware Requirements

OHIG relies on the prior installation of Oracle VM Manager Release 2.2, Oracle VM Server Release 2.2, and Oracle 11g Database. OHIG inherits the hardware requirements of these components. See the “Hardware Requirements” section in the component installation guides for more information.

With release 1.2 OHIG now supports 32 and 64 bits.

In addition, each OHIG Virtual Machine requires a minimum of:

- 2 GB (2048 MB) of RAM
- 12 GB of Disk Space
- 16 GB of disk space for 64 bit VMs

1.2 Software Requirements

OHIG relies on the prior installation of Oracle VM Manager Release 2.2, Oracle VM Server Release 2.2, and Oracle 11g Database. OHIG inherits the software requirements of these components. See the “Software Requirements” section in the component installation guides for more information.

- [Downloading and Installing Oracle VM Manager Release 2.2](#)
- [Downloading and Installing Oracle VM Server Release 2.2](#)
- [Downloading and Installing the Oracle 11g Database](#)

1.2.1 Downloading and Installing Oracle VM Manager Release 2.2

The Oracle VM Manager provides the user interface, which is a standard ADF (Application Development Framework) web application, to manage Oracle VM

Servers. It manages virtual machine lifecycle, including creating virtual machines from installation media or from a virtual machine template, deleting, powering off, uploading, deployment and live migration of virtual machines. It manages resources, including ISO files, virtual machine templates, and sharable hard disks.

To download Oracle VM Manager:

1. Navigate to <http://edelivery.oracle.com/linux>.
2. Enter your Registration information, accept the Agreement Terms by checking the checkboxes, then click **Continue**.
3. Select **Oracle VM** from the **Select a Product Pack** drop-down menu.
4. Select **x86 32 bit** from the "Platform" drop-down menu.
5. Click **Go**.
6. Click the **Oracle VM 2.2.0 Media Pack** (Part B56819-01) link.
7. Click the **Download** button for the following:
 - Oracle VM Manager 2.2.0 (Part Number V18419-01)
8. Save the files to your system.

To install Oracle VM Manager:

Follow the instructions available at:

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15439/toc.htm

Caution: To avoid corruption we recommend allowing VM Manager to complete status transitions, by allowing interim statuses such as "Importing", "Creating", "Initializing", and "Shutting Down" to complete, before initiating other actions within the VM Manager.

1.2.2 Downloading and Installing Oracle VM Server Release 2.2

The Oracle VM Server allows a self-contained virtualization environment designed to provide a lightweight, secure, server-based platform for running virtual machines. Oracle VM Server is based upon an updated version of the underlying Xen hypervisor technology, and includes Oracle VM Agent.

To download Oracle VM Server:

1. Navigate to <http://edelivery.oracle.com/linux>.
2. Enter your Registration information, accept the Agreement Terms by checking the checkboxes, then click **Continue**.
3. Select **Oracle VM** from the **Select a Product Pack** drop-down menu.
4. Select **x86 32 bit** from the "Platform" drop-down menu.
5. Click **Go**.
6. Click the **Oracle VM 2.2.0 Media Pack** (Part B56819-01) link.
7. Click the **Download** button for the following:
 - Oracle VM Server 2.2.0 (Part Number V18336-01)
8. Save the files to your system.

To install Oracle VM Server:

Follow the instructions available at:

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15442/toc.htm

1.2.3 Downloading and Installing the Oracle 11g Database

To download the Oracle 11g database:

1. Navigate to <http://edelivery.oracle.com>.
2. Enter your Registration information, accept the Agreement Terms by checking the checkboxes, then click Continue.
3. Select **Oracle Database** from the **Select a Product Pack** drop-down menu.
4. Enter the appropriate Platform, then click **Go**.

Note: The part number will change depending on the Platform you select.

5. Select the **Oracle Database 11g** option.
6. Click the **Download** button, then save the zip file to your system.

To install the Oracle 11g Database:

Follow the instructions in the Readme file located on the zip file.

Note: Oracle 11g is also available as a VM template (see [Appendix A, "References"](#) for more information.)

1.3 Adding a VM Server

Prior to installing the OHIG Gateway and Adapter VM templates you must:

1. Create a VM Server Pool on the VM Manager.
2. Add a VM Server to the VM Manager.

Please see the following documentation for more information:

- *VM Manager User Guide 2.2*, Section 3.2, "Creating a Server Pool"
- *VM Manager User Guide 2.2*, Section 4.1, "Adding a Server"

Installing the Oracle Health Sciences Information Gateway (OHIG)

This chapter provides instructions for installing the OHIG Gateway and Adapter templates. It is assumed that you have previously installed the required technology described in [Chapter 1, "Minimum Hardware and Software Requirements"](#). Specifically, the Oracle Database, the Oracle VM Server, and the Oracle VM Manager.

This chapter includes the following sections:

- [Understanding the OHIG Gateway and Adapter Components](#)
- [Downloading and Importing OHIG Gateway and Adapter VM Templates](#)
- [Creating the OHIG Gateway and Adapter VMs](#)
- [Configuring the OHIG Gateway and Adapter VMs](#)
- [Validating CONNECT on OHIG Gateway and Adapter VMs](#)

2.1 Understanding the OHIG Gateway and Adapter Components

The OHIG Gateway and Adapter VM templates use the “Paravirtualized” virtualization method. Each template is distributed as a compressed tar file (*.tgz). Each compressed tar file contains two binary files and a text file. The binary files are the disk images taken from a fully configured and functional VM. The text file is a VM configuration file. The contents of the compressed tar files are listed below:

1. Disk Image with Oracle Software
 /appliance.img
2. Disk Image with Operating System
 /System.img
3. VM Configuration File
 /vm.cfg

Gateway and Adapter VM Templates

The VMs consist of the following pre-installed software:

1. Oracle Enterprise Linux 5 (as in System.img)
<http://www.oracle.com/technetwork/topics/linux/whatsnew/index.html>
2. OHIG specific software (as in appliance.img)

- Apache Ant 1.8.1
Install dir: /home/common/ant
- Java Development Kit 1.6.0_21
Install dir: /home/common/java/latest (symbolic link to JDK 1.6.0_21)

For hiauser only:

- OHIG Ant Configuration Utility
Install dir: /home/hiauser/config
- Netbeans 6.7.1
Install dir: /home/hiauser/netbeans-6.7.1
- Glassfish Enterprise Server 2.1.1
Install dir: /home/hiauser/SUNWappserver
 - a. Admin user
Username: admin
Password: adminadmin
 - b. Admin Console
http://<VM_IP or VM_HOST_NAME >:4848

3. VM Memory Settings:

- a. 2 GB (2048 MB) of RAM

Note: The RAM memory setting can be changed after installation in VM Manager.

- b. 12 GB of Disk Space

4. Linux Users:

- a. Root user
Username: root
Linux Group: root
Password: ovsroot
- b. OHIG specific user
Username: hiauser
Linux Group: hiauser
Password: hiapass

Tip: For security purposes, it is recommended that you change the default passwords after installation.

2.2 Downloading and Importing OHIG Gateway and Adapter VM Templates

To download the Gateway and Adapter templates:

1. Navigate to <http://edelivery.oracle.com/linux>.
2. Enter your Registration information, accept the Agreement Terms by checking the checkboxes, then click Continue.
3. Select Oracle VM from the Select a Product Pack drop-down menu.
4. Select x86 32 bit from the "Platform" drop-down menu.
5. Click Go.
6. Click the Oracle Health Sciences Information Gateway 1.2 Media Pack link for Linux x86 or Linux x86-64.
7. Click the Download button for the following:
 - Oracle HIG 1.2 Gateway Template 32-bit
 - Oracle HIG 1.2 Adapter Template 32-bit
 - or
 - Oracle HIG 1.2 Gateway Template 64-bit
 - Oracle HIG 1.2 Adapter Template 64-bit
8. Save the files to your system.
9. Unzip the files to view the Installation Guide and to get the compressed tar file (*.tgz).

2.2.1 Importing the OHIG Gateway and Adapter Templates

To import the OHIG Gateway and Adapter VM templates:

1. Copy the OHIG Gateway and Adapter VM template .tgz files to the /OVS/seed_pool directory of your Oracle VM Server machine.
2. Uncompress the .tgz files:

```
> tar -zxvf <FILENAME>.tgz
```

This step creates a directory with the name of the template.

Example:

```
> cd /OVS/seed_pool
```

```
> tar -zxvf /OVS/seed_pool/OVM_HIGV12_X86_GATEWAY_PVM.tgz
```

or

```
> tar -zxvf /OVS/seed_pool/OVM_HIGV12_X86_64_GATEWAY_PVM.tgz
```

Creates the directory:

```
/OVS/seed_pool/OVM_HIGV12_X86_GATEWAY_PVM
```

or

```
/OVS/seed_pool/OVM_HIGV12_X86_64_GATEWAY_PVM
```

3. Log in to the Oracle VM Manager.

Note: The default location for the Oracle VM Manager log in screen is http://<VM_MANAGER_HOST_NAME>:8888/OVS

4. From the Oracle VM Manager console:
 - a. Click the **Resources** tab. The **Virtual Machine Templates** screen is displayed.
 - b. Click the **Import** button. The **Source** screen is displayed.
 - c. Choose the **Select from Server Pool (Discover and register)** radio button.
 - d. Click **Next**. The **General Information** screen is displayed.

Enter or select the following general information:

 - The server pool on which the virtual machine will be located:
Server Pool Name: <SERVER_POOL_NAME>
 - The operating system of the Virtual Machine
Operating System: Oracle Enterprise Linux 5
 - The Oracle VM template to be imported
Virtual Machine Template Name: <VM_TEMPLATE_NAME>
 - The username used to log in to the Virtual Machine
Virtual Machine System Username: root
 - The password used to log in to the Virtual Machine
Virtual Machine System Password: ovsroot
 - e. Click **Next**. The **Confirm Information** screen is displayed.
 - f. Click **Confirm**. The **Virtual Machine Template** screen is displayed with a message to confirm the VM template has been imported.
5. Click the **Resources** tab to see the list of available VM templates.
6. To make the Virtual Machine template available for use, select the Virtual Machine template and click **Approve**, moving the VM template from the "Pending" state to the "Active" state.

The VM template is imported and ready for use in Oracle VM Manager.

2.3 Creating the OHIG Gateway and Adapter VMs

To create the OHIG Gateway and Adapter VMs from VM templates:

1. Create a new VM using the Gateway and Adapter VM templates just installed by following the instructions in the *VM Manager 2.2 User's Guide* (refer to Section 6.3.1, "Creating Virtual Machine from a Template").

Note: The Console Password entered as part of this step is the same as the VNC Password used by "[How to VNC into a VM](#)".

2. To power on the Virtual Machine select the **Virtual Machines** tab, select the **Virtual Machine Name**, and click **Power On**.
3. In the VM Manager Console ensure that the Gateway VM and Adapter VM are now in the running state (Status=Running).

2.4 Configuring the OHIG Gateway and Adapter VMs

This section provides instructions for configuring the OHIG Gateway and Adapter VMs.

- [How to VNC into a VM](#)
- [Preparing the OHIG Database](#)
- [Configuring the VM Network Settings](#)
- [Configuring CONNECT on OHIG Gateway and Adapter VMs](#)

2.4.1 How to VNC into a VM

To VNC into a VM:

Note: To enable the VNC Port link in the VM Manager follow the instructions in "Installing OVM Console" at <http://oss.oracle.com/oraclevm/manager/RPMS/README-console>.

Expand the details of the VM by clicking the + on Show. You can VNC into the box from the VM Manager by clicking on the VNC Port link under the VM details or you can use a VNC client to log in using the address:

<VM_SERVER_HOST_NAME>:<VM_VNC_PORT>

2.4.2 Preparing the OHIG Database

To prepare the OHIG database tables for Oracle:

1. Copy the files under /home/hiauser/config/files/database/oracle to a machine with Oracle SQL*Plus installed.
2. To create the OHIG database tables and OHIG database user load the script /home/hiauser/config/files/database/oracle/nhincdb_oracle.sql into the database.

Example:

```
> sqlplus system@<SID>
SQL> @nhincdb_oracle.sql
```

3. To delete the OHIG database tables and OHIG database user, load the script /home/hiauser/config/files/database/oracle/dropall_oracle.sql into the database.

Example:

```
> sqlplus system@<SID>
SQL> @dropall_oracle.sql
```

4. To populate the OHIG database with test data, first drop the nhincuser.document table, then import the Oracle dump file /home/hiauser/config/files/database/oracle/populateTestData_oracle.dmp into the database.

Example:

```
> sqlplus system@<SID>
```

```
SQL> DROP TABLE nhincuser.document;
> imp <NHINCUSER>/<NHINCPASS> file=populateTestData_
oracle.dmp log=output.log full=yes
```

To prepare the OHIG database tables for MySQL:

1. Copy the files under /home/hiauser/config/files/database/mysql to a machine with MySQL Client installed.
2. To create the OHIG database tables and OHIG database user load the script /home/hiauser/config/files/database/mysql/nhincdb_mysql.sql into the database.

Example:

```
> mysql -u<ROOTUSER> -p<ROOTPASS> < nhincdb_mysql.sql
```

3. To delete the OHIG database tables and OHIG database user, load the script /home/hiauser/config/files/database/mysql/dropall_mysql.sql into the database.

Example:

```
> mysql -u<ROOTUSER> -p<ROOTPASS> < dropall_mysql.sql
```

4. To populate the OHIG database with test data, first drop the docrepository.document table, then load the script /home/hiauser/config/files/database/mysql/populateTestData_mysql.sql into the database.

Example:

```
> mysql -u<NHINCUSER> -p docrepository
mysql> DROP TABLE docrepository.document;
> mysql -u<NHINCUSER> -p<NHINCPASS> < populateTestData_
mysql.sql
```

2.4.3 Configuring the VM Network Settings

To configure the VMs to use static IPs:

Note: The VMs are configured by default to use DHCP to assign IP addresses.

If you are using DHCP addressing you can skip the following steps.

1. To configure the VMs to use static IPs, log in as the root user (default password: ovsroot) and set the IPs using the following steps:
 - a. Select **System=>Administration=>Network**
 - b. Click **Devices**, click **Edit**, click the **Statically Set IP Address** radio button, and then enter the following values:
 - Address: <VM_IP>
 - Subnet mask: <SUBNET_MASK>
 - Default Gateway address: <DEFAULT_GATEWAY_ADDRESS>

- From the Ethernet Device panel, select the **Hardware Device** tab, and then click the **Probe** button that corresponds to "Bind to MAC address".

This sets the correct MAC address for this machine.

Note: Make certain that you a record the MAC address.

- c. Click **OK**.
- d. Click **File=>Save**
- e. Click the **DNS** tab and enter the following values:
 - Hostname: <VM_HOST_NAME>
 - Primary DNS: <PRIMARY_DNS>
 - Secondary DNS: <SECONDARY_DNS>
 - Tertiary DNS: <TERTIARY_DNS>
 - DNS search path: <VM_NAME_SUFFIX>
- f. Click **File=>Save**
- g. Click the **Hosts** tab, click **New**, and enter the following values:
 - Address: <VM_IP>
 - Hostname: <VM_HOST_NAME>
 - Aliases: <VM_NAME_PREFIX> hostname
- h. Click **OK**.
- i. Click **File=>Save**
- j. Restart Network Services from a terminal window.
 - > service network restart
- k. Check the output for <VM_IP>
 - > ifconfig
- l. Check the output for <VM_HOST_NAME>
 - > hostname
- m. Check the success of:
 - > ping <VM_IP>
- n. Check the success of:
 - > ping <VM_HOST_NAME>

Note: (Optional) In order to preserve the static IP address when the OVM is powered off, follow below steps, but only if the line

```
vif = ['mac=AA:BB:CC:DD:AA:CC,bridge=xenbr0']
```

does not match what you have in the `vm.cfg` file (see below).

1. Power off the Virtual Machine by selecting the **Virtual Machines** tab in the VM Manager, choose the **Virtual Machine Name**, and click **Power Off**.

2. Edit the `vm.cfg` file that is found on the VM Server under `/OVS/seed_pool/<template_name>` by replacing the line:

```
vif = ['bridge=xenbr0,type=netfront']
```

with the MAC corresponding to that virtual machine:

```
vif = ['mac=AA:BB:CC:DD:AA:CC,bridge=xenbr0']
```

where `AA:BB:CC:DD:AA:CC` is the MAC corresponding to the created OVM noted above.

2.4.4 Configuring CONNECT on OHIG Gateway and Adapter VMs

To configure the CONNECT software on the Gateway and Adapter VMs:

1. Log in to the VMs as `hiauser` (default password: `hiapass`).
2. Navigate to the directory: `/home/hiauser/config`.
3. Run the script `create-config-properties.sh` to create the properties file used to configure the CONNECT application.

Note: You can run `ifconfig` on your VM to determine the ip address.

Example:

```
> sh create-config-properties.sh
```

- The dialect of your database installation:

```
Choose target database: oracle
```

- The VM_IP address of your Adapter Virtual Machine

```
Enter adapter_host_ip: <ADAPTER_VM_IP>
```

- The VM_IP address of your Gateway Virtual Machine

```
Enter gateway_host_ip: <GATEWAY_VM_IP>
```

- The hostname of your Oracle Database

```
Enter oracle_host: <ORACLE_HOST>
```

- The Oracle TNS Listener port of your Oracle Database

```
Enter oracle_port: <ORACLE_PORT>
```

- The Oracle System ID (SID) of your Oracle Database

```
Enter oracle_sid: <ORACLE_SID>
```

4. Run the `config-appserver.sh` script to apply the properties file to the configuration of the CONNECT application.

Example:

```
> sh config-appserver.sh
```

2.5 Validating CONNECT on OHIG Gateway and Adapter VMs

To validate the CONNECT software on the OHIG Gateway and Adapter VMs:

1. Start the Application Server on both the Gateway and Adapter VMs using the following commands:
 - a. `> cd /home/hiauser/SUNWAppserver/bin`
 - b. `> asadmin start-domain domain1`
2. Validate the installation using the sample universal client distributed with the Gateway:
 - a. Launch the application by navigating to the following URL:
`http://<GATEWAY_IP>:8080/UniversalClientGUI/`
 - b. Search for patient with last name "Younger".
 - c. If the installation is correct, this returns a page with the PatientId for the patient.
 - d. Click on the **PatientId** for additional details on the patient.
 - e. The **Document** tab is now enabled and you can search for patient documents by date range. Search for date range 08/01/2000 to 08/01/2010.
 - f. Click on the document URL to retrieve the document.

Installing Certificates on Oracle Health Sciences Information Gateway

This chapter provides the instructions for completing the installation of the OHMPI VM, Policy Engine VM, or Health Record Locator VM self-signed certificates for the OHIG Adapter and the OHIG Gateway.

This chapter includes the following sections:

- "Installing Self-signed Certificates on OHIG Adapter VM"
- "Installing Self-signed certificates on OHIG Gateway VM"

3.1 Installing Self-signed Certificates on OHIG Adapter VM

1. Navigate to and run the script
`/home/hiauser/config/scripts/create-and-import-selfsigned-certs.sh` to install the self-signed certificate. It does the following things:
 - Creates the keystore for the private internal key
 - Exports the certificate that will authenticate the internal key
 - Imports the trusted certificates into the truststore
 - Provides these certificates to `appserver` to use for authentication purposes

```
> sh create-and-import-selfsigned-certs.sh
```
2. Install the certificates from the other components that will communicate with the Adapter (Gateway, OHMPI, Record Locator, Policy Engine, and so on). Copy the certificate of the component VM `<VM_HOSTNAME.cer>` to the `/home/hiauser/SUNWappserver/domains/domain1/config` folder. Navigate to and run the scripts
`/home/hiauser/config/scripts/import-others-cert.sh`. When prompted by the scripts, enter the VM hostname (it should match with the cert file you copied to the `config` folder without ".cer" suffix).

```
>bash import-others-cert.sh
```

3.2 Installing Self-signed certificates on OHIG Gateway VM

1. Navigate to and run the script
`home/hiauser/config/scripts/create-and-import-selfsigned-certs.sh` to install the self-signed certificate. It does the following things:
 - Creates the keystore for the private internal key

- Exports the certificate that will authenticate the internal key
 - Imports the trusted certificates into the truststore
 - Provides these certificates to appserver to use for authentication purposes
- ```
> sh create-and-import-selfsigned-certs.sh
```
2. Install the Adapter VM certificate. Copy the certificate of Adapter VM `<ADAPTER_VM_HOSTNAME.cer>` to the `/home/hiauser/SUNWappserver/domains/domain1/config` folder. Navigate to and run the scripts `/home/hiauser/config/scripts/import-others-cert.sh`. When prompted by the scripts, enter the Adapter VM hostname (it should match with the cert file you copied to the config folder without ".cer" suffix).
- ```
>bash import-others-cert.sh
```

3.3 Avoiding a Java Security Certificate Exception

To avoid a `java.security.cert.CertificateException` you need to ensure that your OHIG hostnames are not fully qualified.

To Make the Hostname Not Fully Qualified

1. Set the OHIM and OHIG hostnames to be not fully qualified.
2. Add aliases for all hosts.
3. Regenerate and re-import the certificates.
4. Restart all the servers.
5. Test that you do not have a Java security certificate exception.

This section provides links to supporting documentation and resources.

A.1 Oracle Virtual Machine

Oracle Virtual Machine (VM) Documentation Index

http://download.oracle.com/docs/cd/E15458_01/index.htm

Oracle VM Manager Release Notes

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15440/toc.htm

Oracle® VM Manager Installation Guide

Release 2.2, Part Number E15439-01

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15439/toc.htm

Oracle VM Manager User Guide

Release 2.2, Part Number E15441-02

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15441/toc.htm

Oracle VM Server Release Notes

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15443/toc.htm

Oracle® VM Server Installation Guide

Release 2.2, Part Number E15442-01

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15442/toc.htm

Oracle VM Server User Guide

Release 2.2, Part Number E15444-03

http://download.oracle.com/docs/cd/E15458_01/doc.22/e15444/toc.htm

Installation of Oracle 11g Database Release 1

Oracle 11g is also available as a VM template

<http://www.oracle.com/pls/db111/homepage>

Oracle 11g VM Template

<http://www.oracle.com/technetwork/server-storage/vm/database-092479.html>

A.2 CONNECT

Please visit the following links for more information about CONNECT software and documentation:

CONNECT Release Home

<http://developer.connectopensource.org/display/NHINR30/Release+3.0+Home>

CONNECT Software Documentation

<http://developer.connectopensource.org/display/NHINR30/Software+Documentation>

CONNECT Architecture Overview

<http://developer.connectopensource.org/display/NHINR30/Architecture+Overview>

CONNECT Interface Description Document

<http://developer.connectopensource.org/display/NHINR30/Interface+Description+Document>

CONNECT Universal Client GUI User Manual

<http://developer.connectopensource.org/display/NHINR30/UC+GUI+User+Manual>

Using the CONNECT Solution to support Health Information Exchange

[http://developer.connectopensource.org/display/NHINR30/Using+the+CONNECT+Solution+to+Support+Health+Information+Exchange+\(HIE\)](http://developer.connectopensource.org/display/NHINR30/Using+the+CONNECT+Solution+to+Support+Health+Information+Exchange+(HIE))

CONNECT Specifications

<http://www.connectopensource.org/product/connect-nhin-specs>

This section provides a list of commonly used acronyms.

B.1 Acronyms

CCD

Continuity of Care Document

CDA

Clinical Document Architecture

DER

Distinguished Encoding Rules

HIE

Health Information Exchange

HIO

Health Information Organization

HL7

Health Level 7

IHE

Integrating the Healthcare Enterprise

NAV

Notification Of Document Availability

NHIE

Nationwide Health Information Exchange

NHIN

Nationwide Health Information Network

NHIO

Nationwide Health Information Organization

OHIG

Oracle Health Sciences Information Gateway

OHIM

Oracle Health Sciences Information Manager

SAML

Security Assertion Markup Language

VM

Oracle Virtual Machine

WSDL

Web-Service Definition Language

XDM

Cross-Enterprise Document Media Interchange

Glossary

This section provides definitions of commonly used words.

CONNECT

Is a software solution that supports health information exchange that implements Nationwide Health Information Network (NHIN) standards and governance to make sure that health information exchanges are compatible with other exchanges being set up throughout the country. It enables public and private organizations to participate in the NHIN by leveraging their existing health information systems.

CONNECT Adapter

The portion of the CONNECT architecture that encapsulates the components most likely to be customized or replaced by an organization implementing CONNECT.

CONNECT Gateway

The portion of the CONNECT architecture that encapsulates the components most likely to be use as-is by an organization without modification. These components are primarily responsible for orchestrating information exchange with the NHIN.

Health Information Exchange

Health Information Exchange is an entity that enables the movement of health-related data among entities within a state, a region, or a non-jurisdictional participant group, which might include "classic" regional health information organizations at regional and state levels, Health Information Organization integrated delivery systems and health plans, or health data banks that support health information exchange.

Health Information Organization

Health Information Organization is an organization that enables the movement of health-related data among entities, evolving as a replacement term for health information exchange or HIE. Healthcare Information Technology Standards Panel Or simply HITSP, a cooperative partnership between the public and private sectors formed and supported by ONC for the purpose of harmonizing and integrating standards that will meet clinical and business needs established by AHIC use cases for sharing information among organizations and systems.

Integrating the Healthcare Enterprise

Integrating the Healthcare Enterprise is an initiative by healthcare professionals and industry to improve the way computer systems in healthcare share information, promoting and coordinating the use of established standards such as DICOM and HL7 to address specific clinical need in support of optimal patient care. The Nationwide Health Information Network is being developed by ONC to provide a secure,

nationwide, interoperable health information infrastructure that will connect providers, consumers, and others involved in supporting health and healthcare.

Nationwide Health Information Network

Nationwide Health Information Network is a set of standards, services and policies that enable secure health information exchange over the Internet. The network will provide a foundation for the exchange of health information across diverse entities, within communities and across the country, helping to achieve the goals of the HITECH Act. This critical part of the national health IT agenda will enable health information to follow the consumer, be available for clinical decision making, and support appropriate use of healthcare information beyond direct patient care so as to improve population health.

Nationwide Health Information Network Gateway

Within the CONNECT solution, the implementation of the core NHIN services and service interface specifications, comprising the CONNECT gateway and CONNECT adapter. The NHIN health information exchange or NHIE, a health information exchange that implements the NHIN architecture, processes, and procedures, is accredited as a participant of the NHIN.

Oracle Virtual Machine

Oracle Virtual Machine is a platform that provides a fully equipped environment for better leveraging the benefits of virtualization technology. Oracle VM enables you to deploy operating systems and application software within a supported virtualization environment.

Oracle Virtual Machine Manager

Oracle Virtual Machine Manager provides the user interface, which is a standard ADF (Application Development Framework) web application, to manage Oracle VM Servers. It manages virtual machine lifecycle, including creating virtual machines from installation media or from a virtual machine template, deleting, powering off, uploading, deployment and live migration of virtual machines. It manages resources, including ISO files, virtual machine templates, and sharable hard disks.

Oracle Virtual Machine Server

Oracle Virtual Machine Server allows a self-contained virtualization environment designed to provide a lightweight, secure, server-based platform for running virtual machines. Oracle VM Server is based upon an updated version of the underlying Xen hypervisor technology, and includes Oracle VM Agent.

Oracle Virtual Machine Template

Oracle Virtual Machine Template provides an innovative approach to deploying a fully configured software stack by offering pre-installed and pre-configured software images. Use of Oracle VM templates eliminates the installation and configuration costs, and reduces the ongoing maintenance costs helping organizations achieve faster time to market and lower cost of operations.

Security Assertion Markup Language

Security Assertion Markup Language is an XML-based standard for exchanging authentication and authorization data between security domains.

Web Services Description Language

Web Services Description Language is an XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information.

XML Schema

XML Schema is a means for defining the structure, content, and semantics of XML documents.

