

**Oracle® Health Sciences Information Gateway**

Installation Guide

Release 1.0

**E18600-01**

November 2010

Copyright © 2010 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 USA, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

This software 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 in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure the safe use of this software. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software in dangerous applications.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

This software 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

<b>Preface</b> .....	v
<b>1 Minimum Hardware and Software Requirements</b>	
1.1 Hardware Requirements.....	1-1
1.2 Software Requirements .....	1-1
1.2.1 Downloading and Installing Oracle VM Manager Release 2.2 .....	1-1
1.2.2 Downloading and Installing Oracle VM Server Release 2.2 .....	1-2
1.2.3 Downloading and Installing the Oracle 11g Database.....	1-3
1.3 Adding a VM Server.....	1-3
<b>2 Installing the Oracle Health Sciences Information Gateway (HIG)</b>	
2.1 Understanding the HIG Gateway and Adapter Components .....	2-1
2.2 Downloading and Importing HIG Gateway and Adapter VM Templates .....	2-2
2.2.1 Importing the HIG Gateway and Adapter Templates .....	2-3
2.3 Creating the HIG Gateway and Adapter VMs .....	2-4
2.4 Configuring the HIG Gateway and Adapter VMs.....	2-4
2.4.1 How to VNC into a VM .....	2-4
2.4.2 Preparing the HIG Database .....	2-5
2.4.3 Configuring the VM Network Settings .....	2-6
2.4.4 Configuring CONNECT on HIG Gateway and Adapter VMs .....	2-7
2.5 Validating CONNECT on HIG Gateway and Adapter VMs .....	2-8
<b>A References</b>	
A.1 Oracle Virtual Machine .....	A-1
A.2 CONNECT .....	A-2
<b>B Acronyms</b>	
B.1 Acronyms .....	B-1



---

---

# Preface

The Oracle Health Sciences Information Gateway (HIG) 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 HIG 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 HIG installation process, and includes the following two chapters and two appendices:

### **Chapter 1, "Minimum Hardware and Software Requirements"**

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

### **Chapter 2, "Installing the Oracle Health Sciences Information Gateway (HIG)"**

This chapter provides instructions for installing HIG.

### **Appendix A, "References"**

This appendix provides links to supporting documentation and resources.

### **Appendix B, "Acronyms"**

This appendix provides a list of commonly used acronyms.

## Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible to all users, including users that are disabled. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at <http://www.oracle.com/accessibility/>.

### Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

### Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

### Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/support/contact.html> or visit <http://www.oracle.com/accessibility/support.html> if you are hearing impaired.

## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	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 HIG.

This chapter includes the following sections:

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

## 1.1 Hardware Requirements

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

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

- 2 GB (2048 MB) of RAM
- 12 GB of Disk Space

## 1.2 Software Requirements

HIG relies on the prior installation of Oracle VM Manager Release 2.2, Oracle VM Server Release 2.2, and Oracle 11g Database. HIG 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](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](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 HIG 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 (HIG)

This chapter provides instructions for installing the HIG 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 HIG Gateway and Adapter Components](#)
- [Downloading and Importing HIG Gateway and Adapter VM Templates](#)
- [Creating the HIG Gateway and Adapter VMs](#)
- [Configuring the HIG Gateway and Adapter VMs](#)
- [Validating CONNECT on HIG Gateway and Adapter VMs](#)

## 2.1 Understanding the HIG Gateway and Adapter Components

The HIG 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. HIG 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:

- HIG 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. HIG 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 HIG 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 1.0 Media Pack link.
7. Click the Download button for the following:
  - V22943-01 Oracle HIG Gateway VM Template 1.0
  - V22944-01 Oracle HIG Adapter VM Template 1.0
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 HIG Gateway and Adapter Templates

To import the HIG Gateway and Adapter VM templates:

1. Copy the HIG 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_HIGV1_X86_GATEWAY_PVM.tgz
```

Creates the directory:

```
/OVS/seed_pool/OVM_HIGV1_X86_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 HIG Gateway and Adapter VMs

To create the HIG 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 HIG Gateway and Adapter VMs

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

- [How to VNC into a VM](#)
- [Preparing the HIG Database](#)
- [Configuring the VM Network Settings](#)
- [Configuring CONNECT on HIG 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 HIG Database

To prepare the HIG 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 HIG database tables and HIG 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 HIG database tables and HIG 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 HIG 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 HIG 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 HIG database tables and HIG 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 HIG database tables and HIG 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 HIG 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>`
  - 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>

## 2.4.4 Configuring CONNECT on HIG 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 HIG Gateway and Adapter VMs

To validate the CONNECT software on the HIG 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.

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](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](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](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](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](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](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](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

**HIE**

Health Information Exchange

**HIG**

Oracle Health Sciences Information Gateway

**HIO**

Health Information Organization

**HL7**

Health Level 7

**IHE**

Integrating the Healthcare Enterprise

**NHIE**

Nationwide Health Information Exchange

**NHIN**

Nationwide Health Information Network

**NHIO**

Nationwide Health Information Organization

**SAML**

Security Assertion Markup Language

**VM**

Oracle Virtual Machine

**Web-Service Definition Language**

Web-Service Definition Language



---

---

# 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.

