

Oracle® VM

Managing Oracle Enterprise Linux with Oracle Enterprise Manager 10g Grid Control Guide

Release 2.1 for Linux

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This document is intended for system administrators who wish to use Oracle Enterprise Manager 10g Grid Control to perform system administration, operating system updates, patching, and maintenance of Oracle Enterprise Linux servers and Oracle Enterprise Linux virtual machines running in Oracle VM (hosts). This document contains:

- [Overview](#)
- [Prerequisites](#)
- [Installation](#)
- [Logging in to the Virtual Machines](#)
- [Configuring Enterprise Manager](#)
- [Configuring Hosts](#)
- [Patching Hosts](#)
- [Managing Hosts](#)
- [Further Reading](#)
- [Documentation Accessibility](#)

1 Overview

Oracle Enterprise Manager 10g Grid Control (Enterprise Manager) is Oracle's system management product for databases, application servers, some hardware components, and operating systems. Oracle VM is Oracle's virtualization product to run and manage virtual machines.

This document shows you how to:

- Use the supplied Oracle VM templates (to be installed as virtual machines on an Oracle VM Server) to quickly deploy the management environment.
- Use Enterprise Manager to configure staging server access, and to perform monitoring, management, and operating system updates and patches for Oracle Enterprise Linux servers and virtual machines.

This document discusses Oracle Enterprise Linux servers and virtual machines. It does not discuss other operating systems or Linux distributions.

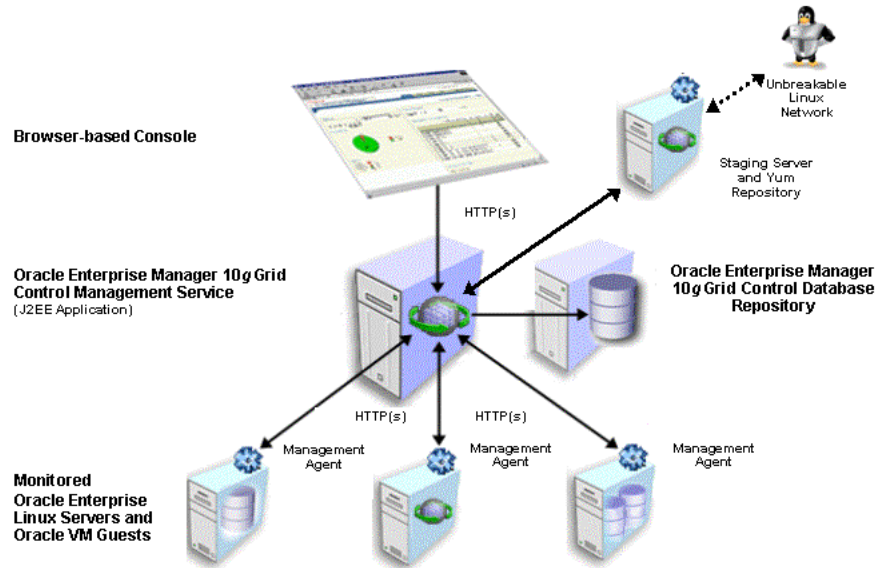
1.1 Management Environment

The management environment consists of:

- Oracle Enterprise Manager 10g Grid Control
- Staging server
- Yum repository

Enterprise Manager, the staging server, and a Yum repository, are included in prebuilt Oracle VM templates to make it easy for you to create and deploy this environment.

Figure 1 Oracle Enterprise Linux Management With Oracle Enterprise Manager 10g Grid Control



Oracle Enterprise Manager 10g Grid Control

An application comprised of a J2EE management server with a database repository, distributed management agents, and a browser-based console. Among other things, Enterprise Manager enables you to:

- Configure the staging server
- Install the Management Agent on Oracle Enterprise Linux servers and virtual machines
- Add Oracle Enterprise Linux servers and virtual machines to be managed
- Manage, monitor and update Oracle Enterprise Linux servers and virtual machines

Staging Server

Hosts the Oracle Enterprise Linux RPMs that are to be installed on Oracle Enterprise Linux servers and virtual machines. You can configure a staging server in the Enterprise Manager virtual machine.

Yum Repository

A repository of RPMs located in the `/var/www/html` directory on the staging server. The `httpd` service must be running on the staging server for the Yum repository to be available.

The staging server can be populated during the installation of the management environment with the Yum repository image file available as an optional download with the Enterprise Manager template, or after installation by downloading RPMs from ULN. Including the Yum repository image file drastically reduces the initial setup and download time as the RPMs may take a very long time to download from ULN. The Yum repository image file provides the complete set of RPMs for the Linux distributions:

- Oracle Enterprise Linux Release 4 for x86
- Oracle Enterprise Linux Release 4 for x86_64
- Oracle Enterprise Linux Release 5 for x86
- Oracle Enterprise Linux Release 5 for x86_64

You can access the Yum repository with the URL:

```
http://<ss_hostname>/yum
```

ss_hostname is the hostname of the staging server.

The Yum repository naming conventions reflect the directory structure used by ULN. The directory path for the Oracle Enterprise Linux base repository is:

```
EnterpriseLinux/<EL_version>/<EL_update>/base/<arch>/
```

For example, the base RPMs for Oracle Enterprise Linux Release 4 Update for x86 platforms is:

```
http://<ss_hostname>/yum/EnterpriseLinux/EL4/6/base/i386
```

The directory path for the Oracle Enterprise Linux latest repository is:

```
EnterpriseLinux/<EL_version>/<EL_update>/latest/<arch>/
```

For example, the latest RPMs for Oracle Enterprise Linux Release 5 Update 1 for x86_64 platforms is:

```
http://<ss_hostname>/yum/EnterpriseLinux/EL5/1/latest/x86_64
```

You can configure the staging server on the Enterprise Manager virtual machine.

Registering a staging server with the Unbreakable Linux Network (ULN) requires a valid Customer Support Identifier (CSI) for the Oracle Unbreakable Linux support programme. For more information on Oracle Unbreakable Linux support, go to:

<http://www.oracle.com/technologies/linux>

The next section of this document discusses the prerequisites required to install the management environment.

2 Prerequisites

This section lists the minimum hardware and software requirements to install the management environment. Resources for running additional Oracle Enterprise Linux servers and virtual machines are not included in this section and should be calculated separately.

2.1 Hardware Requirements

The following machines are required to manage Oracle Enterprise Linux servers and virtual machines with Enterprise Manager:

- One bare-metal computer to install Oracle VM Server and host the virtual machine. The computer must be capable of running at least two virtual machines simultaneously. The minimum hardware requirements for this machine are:
 - 4 CPUs
 - 4 GB RAM
 - 80 GB hard disk space
- One computer to install Oracle VM Manager with one of the following operating systems installed:
 - Oracle Enterprise Linux Release 4 Update 5 or later
 - Red Hat Enterprise Linux Release 4 or later

See the *Oracle VM Server Installation Guide* and the *Oracle VM Manager Installation Guide* for detailed information on hardware requirements.

2.2 Software Requirements

The following software is required to install the Enterprise Manager management environment. Before you begin, download the following Oracle products and Oracle VM templates:

- Oracle VM Server Release 2.1.1 or later.
- Oracle VM Manager Release 2.1.1 or later.
- Oracle VM Grid Control template.

This template includes Oracle Enterprise Linux Release 4 Update 5, Oracle Enterprise Manager 10g Grid Control, a database repository, and a Yum repository.

<http://edelivery.oracle.com/oraclevm>

Optional Software Prerequisites for Managed Servers and Virtual Machines

You may require some or all of the following software to manage hosts:

- Yum Repository image file provided with the Enterprise Manager template and populated with the full RPM distribution of Oracle Enterprise Linux Releases 4 Update 6 and Release 5 Update 1, for both x86 and x86_64 platforms. If you want to reduce the RPM download time when you set up the staging server, you can use this template as only updated RPMs are downloaded from ULN.

<http://edelivery.oracle.com/oraclevm>

- Management Agent. There are two Management Agents, one for Oracle Enterprise Linux x86 platforms and one for x86_64 platforms. Both Management Agents are included in the Enterprise Manager virtual machine template, and are able to be installed on Oracle Enterprise Linux servers and virtual machines using the Agent Push feature, or the downloaded script feature.

If you want to manually install the Management Agents, download them from:

<http://www.oracle.com/technology/software/products/oem>

- Yast and the Yast Oracle Enterprise Manager wrapper scripts if you want to perform system administration on Oracle Enterprise Linux servers and virtual machines using Enterprise Manager. This is required for remote system administration, not for monitoring:

<http://oss.oracle.com/projects/yast>

The next section discusses installing the downloaded software to create the management environment.

3 Installation

This section contains a high-level overview of the installation process. More detail is given later in this section.

The high-level steps to set up and use Enterprise Manager to manage Oracle Enterprise Linux servers are:

1. Install Oracle VM Server(s). You can install a single instance of Oracle VM Server which will host all virtual machines required in this architecture, or you can install multiple instances for higher availability and better resource utilization.
2. Install and configure Oracle VM Manager.
3. Create Oracle VM virtual machines using the provided templates. The virtual machines must be created in the following order:
 - a. Oracle Enterprise Linux Release 4 Update 5 x86 with Enterprise Manager database repository.
 - b. Oracle Enterprise Linux Release 4 Update 5 x86 with Enterprise Manager. You can optionally include the Yum repository image to reduce the download time for RPMs.
4. Register the staging server to ULN with the up2date tool.
5. Configure the staging server in Enterprise Manager. This step creates an automated 'job' to regularly download updated Oracle Enterprise Linux packages from the subscribed ULN channels to the Yum repository on the staging server.
6. Install the Management Agent on Oracle Enterprise Linux servers and virtual machines that are to be updated and managed by Enterprise Manager. You can install the Management Agent manually on each server and virtual machine, or you can use the Enterprise Manager "Agent Push" functionality to perform batch deployment of the Management Agent to all virtual machines to be managed by Enterprise Manager.
7. Optionally install the Yast administration tool and the Oracle Enterprise Manager wrapper scripts on virtual machines that are to have system administration performed by Enterprise Manager.

After you complete these setup steps, you will have installed and configured Enterprise Manager, the database repository, staging server and Yum repository. All of these environments are running as Oracle VM virtual machines.

You may also have a number of hosts with the Management Agent installed that can be managed, patched, configured, monitored and administered by Enterprise Manager.

The following section contains detailed information on creating the management environment, including:

- Installing Oracle VM Server
- Installing and configuring Oracle VM Manager
- Creating the Enterprise Manager virtual machines

3.1 Installing Oracle VM Server

Installing Oracle VM Server deletes any previous operating system and data on the computer. To install Oracle VM Server:

1. Burn the Oracle VM Server ISO file to a bootable CD.
2. Boot the computer on which you want to Oracle VM Server with your Oracle VM Server CD.
3. At the boot prompt, press **Enter**.
4. Follow the prompts to install Oracle VM Server.
5. Log in to Oracle VM Server as the root user with the password you set during the installation.

See the *Oracle VM Server Installation Guide* for detailed information on installing Oracle VM Server.

3.2 Installing Oracle VM Manager

To install Oracle VM Manager:

1. Burn the Oracle VM Manager ISO file to a CD.
2. Start up the operating system on the computer on which you want to install Oracle VM Manager.
3. Insert and mount the Oracle VM Manager CD.
4. As the root user, start the Oracle VM Manager installation script:

```
sh runInstaller.sh
```
5. Follow the prompts to install Oracle VM Manager.

See the *Oracle VM Manager Installation Guide* for detailed information on installing Oracle VM Manager.

3.2.1 Configuring Oracle VM Manager

You can use Oracle VM Manager to create and manage the virtual machines required for this environment on Oracle VM Server. You must first set up a Server Pool containing a Server Pool Master, a Utility Server and a Virtual Machine Server. To do this, perform the following steps:

1. Open a web browser and log in to the Oracle VM Manager web interface. Use the default administrator username, admin, with the password you set during the installation. The URL is:

```
http://hostname:8888/OVS
```

hostname is the name or IP address of the Oracle VM Manager host computer.

2. Create a Server Pool.
3. Add the Oracle VM Server to the Server Pool. Select whether the Oracle VM Server is to be used as a Server Pool Master, a Utility Server, and/or a Virtual Machine Server.

See the *Oracle VM Manager User's Guide* for more detailed information.

3.3 Creating the Enterprise Manager Virtual Machines

Oracle VM templates are provided to quickly install the management environment. This section describes how to install the templates, and create Oracle VM virtual machines for:

- Oracle Enterprise Linux Release 4 Update 5 x86 with Enterprise Manager database repository.
- Oracle Enterprise Linux Release 4 Update 5 x86 with Enterprise Manager. You can optionally include the Yum repository image to reduce the download time for RPMs.

Note: The default operating system usernames and passwords for the virtual machines are:

Username: root

Password: ovsroot

Username: oracle

Password: oracle

To create the virtual machines:

1. Install the Oracle VM templates.
2. Import the Oracle VM templates into Oracle VM Manager and create the virtual machines.
3. Run the cloning scripts.
4. Install the Management Agent on the Enterprise Manager database repository virtual machine.

3.3.1 Installing the Oracle VM Templates

To install the Enterprise Manager database repository template:

1. Copy the downloaded Enterprise Manager template file (GC_Container.tar.gz) to the /OVS/seed_pool directory of an Oracle VM Server.
2. Uncompress the GC_Container.tar.gz file:

```
# tar -xzf /OVS/seed_pool/GC_Container.tar.gz
```

This step creates two directories under the /OVS/seed_pool directory:

- GC_DB_TEMPLATE. This directory contains Oracle Enterprise Linux Release 4 Update 5 x86 with the Enterprise Manager database repository.
 - GC_TEMPLATE. This directory contains Oracle Enterprise Linux Release 4 Update 5 x86 and Enterprise Manager. This template also includes the staging server.
3. If you want to include the optional Yum repository in Enterprise Manager to reduce the initial RPM download time from ULN:
 - a. Copy the downloaded Yum repository template file (yum.tar.gz) to the /OVS/seed_pool/GC_TEMPLATE directory.
 - b. Uncompress the yum.tar.gz file:

```
# tar -xzf /OVS/seed_pool/GC_TEMPLATE/yum.tar.gz
```

- c. Modify the /OVS/seed_pool/GC_TEMPLATE/vm.cfg file to include the Yum repository image, for example:

```
disk = [ 'file:/OVS/seed_pool/GC_TEMPLATE/system.img,hda,w',  
'file:/OVS/seed_pool/GC_TEMPLATE/gc.img,hdb,w', 'file:/OVS/seed_pool/GC_  
TEMPLATE/yum.img,hdd,w' ]
```

The templates are installed and ready to be imported into Oracle VM Manager.

3.3.2 Importing the Oracle VM Templates into Oracle VM Manager and Creating Virtual Machines

Repeat the following procedure for both the GC_DB_TEMPLATE and the GC_TEMPLATE, in that order. To import the templates into Oracle VM Manager and create the virtual machines:

1. Log in to Oracle VM Manager and navigate to the **Resources** tab. The Virtual Machine Templates page is displayed. Click **Import**. The Source page is displayed.
2. Choose **Select from Server Pool (Discover and register)** and click **Next**. The General Information page is displayed.
3. Enter or select the following information:
 - Server Pool Name:** Select the server pool on which the virtual machine will be located.
 - Virtual Machine Template Name:** Select the Oracle VM template to be imported.
 - Operating System:** Select **Oracle Enterprise Linux 4** as the operating system of the virtual machine.
 - Virtual Machine System Username:** Enter the username **root**, which is used to log in to the virtual machine.
 - Virtual Machine System Password:** Enter the password **ovsroot**, which is used to log in to the virtual machine.
 - Description:** Enter a description of the virtual machine.Click **Next**. The Confirm Information page is displayed.
4. Click **Confirm**. The Virtual Machine Template page is displayed with a message to confirm the template is imported.
5. To make the virtual machine template available for use, select the virtual machine template and click **Approve**. The View Virtual Machine Template page is displayed. Click **Approve**.
6. Click the **Virtual Machines** tab. The Virtual Machines page is displayed.
7. Click **Create Virtual Machine**. The Creation Method page is displayed.
8. Select **Create virtual machine based on virtual machine template**. Click **Next**. The Server Pool page is displayed.
9. Select the Server Pool in which to create the virtual machine. Select an option from the Preferred Server drop down. Click **Next**. The Source page is displayed.
10. Select the template you imported in Step 1, and click **Next**. The Virtual Machine Information page is displayed.
11. Enter the virtual machine name in the **Virtual Machine Name** field.

Enter a password for the console in the **Console Password** field.

Confirm the console password by entering it again in the **Confirm Console Password** field.

Select the **Network Interface Card**. Click **Next**. The Confirm Information page is displayed.

12. Confirm the virtual machine information, and click **Confirm**. The Virtual Machine page is displayed with the message **Creating Virtual Machine**.
13. When the virtual machine is created, the Status changes from **Creating** to **Powered Off**. To power on the virtual machine, click **Power On**.
14. Click **Console** to access the virtual machine's console and continue the installation.

When the virtual machine first boots up, the guest is cloned. If you are cloning the Enterprise Manager database repository virtual machine, see [Section 3.3.3, "Cloning the Enterprise Manager Database Repository Virtual Machine"](#). If you are cloning the Enterprise Manager virtual machine, see [Section 3.3.4, "Cloning the Enterprise Manager Virtual Machine"](#).

3.3.3 Cloning the Enterprise Manager Database Repository Virtual Machine

When the virtual machine created with the GC_DB_TEMPLATE first boots up, the Enterprise Manager database repository is cloned. The following cloning script is executed, and you are prompted to enter values for a number of setup options for the virtual machine:

```
=====
Start cloning Oracle database 10.2.0.4 X86
=====
Configuring network setting for Oracle Database.
A static IP address is recommended.
Enter IP address:
```

Oracle recommends using a static IP address. Enter the IP address of the virtual machine. Press **Enter**.

Enter netmask address:

Enter the netmask address. Press **Enter**.

Enter hostname:

Enter the hostname for the virtual machine. Press **Enter**.

Enter default gateway IP address:

Enter the default gateway for the virtual machine. Press **Enter**.

Enter DNS server IP address:

Enter the DNS server IP address. Press **Enter**.

```
Restarting networking...
Running /u01/app/oracle/product/db10g/root.sh
Running Oracle10 root.sh script...
```

```
The following environment variables are set as:
ORACLE_OWNER= oracle
ORACLE_HOME= /u01/app/oracle/product/db10g
```

Enter the full pathname of the local bin directory: [/usr/local/bin]:

Enter the pathname of the local bin directory. If you want to use the default directory, leave this field empty. Press **Enter**.

Please specify a password for database accounts SYS, SYSTEM, SYSMAN and DBSNMP. Your password must be at least 6 characters in length, also contains at least one numeral character.

Enter password:

Enter a password to use for the Oracle SYS, SYSTEM, SYSMAN, and DBSNMP user accounts. The same password is used for all accounts. Press **Enter**.

Oracle database 10.2.0.4 X86 cloning completed successfully at
Mon May 19 19:12:08 EDT 2008

database information:

ORACLE_BASE = /u01/app

ORACLE_HOME = /u01/app/oracle/product/db10g

ORACLE_SID = orcl

=====
Press any key to continue...

Press any key on the keyboard to complete the virtual machine cloning script.

The Enterprise Manager database repository virtual machine is installed, configured and running.

3.3.4 Cloning the Enterprise Manager Virtual Machine

When the virtual machine created with the GC_TEMPLATE first boots up, Enterprise Manager is cloned. The following cloning script is executed, and you are prompted to enter values for a number of setup options for the virtual machine:

```
=====  
Start cloning Oracle Enterprise Manager Grid Control 10.2.0.4 X86  
=====  
Configuring network setting for EMGC.  
A static IP address is recommended.  
Enter IP address:
```

Oracle recommends using a static IP address. Enter the IP address of the virtual machine. Press **Enter**.

Enter netmask address:

Enter the netmask address. Press **Enter**.

Enter hostname:

Enter the hostname for the virtual machine. Press **Enter**.

Enter default gateway IP address:

Enter the default gateway for the virtual machine. Press **Enter**.

Enter DNS server IP address:

Enter the DNS server IP address. Press **Enter**.

Restarting networking...

Running /u01/app/oracle/product/oms10g/root.sh

Running Oracle10 10g root.sh script...

The following environment variables are set as:
ORACLE_OWNER= oracle
ORACLE_HOME= /u01/app/oracle/product/oms10g

Enter the full pathname of the local bin directory: [/usr/local/bin]:

Enter the pathname of the local bin directory. If you want to use the default directory, leave this field empty. Press **Enter**.

Enter repository database hostname:

Enter the hostname you created for the Enterprise Manager database repository in [Section 3.3.1, "Installing the Oracle VM Templates"](#). Press **Enter**.

Enter password of repository database account SYSMAN:

Enter the password you created for the Enterprise Manager database repository SYSMAN user in [Section 3.3.1, "Installing the Oracle VM Templates"](#). Press **Enter**.

Enter new password for Agent Secure Registration:

If you want to use a password when registering Management Agents on hosts, enter a password. If you do not want to use a password when registering Management Agents, leave this field empty. Press **Enter**.

Running /u01/app/oracle/product/agent10g/root.sh...
Running Oracle10 root.sh script...

The following environment variables are set as:
ORACLE_OWNER= oracle
ORACLE_HOME= /u01/app/oracle/product/agent10g

Enter the full pathname of the local bin directory: [/usr/local/bin]:

Enter the pathname of the local bin directory. If you want to use the default directory, leave this field empty. Press **Enter**.

If the any of the dbhome, oraenv, coraenv files already exist, you are prompted whether to overwrite them.

The file "dbhome" already exists in /usr/local/bin. Overwrite it? (y/n)
[n]:
The file "oraenv" already exists in /usr/local/bin. Overwrite it? (y/n)
[n]:
The file "coraenv" already exists in /usr/local/bin. Overwrite it? (y/n)
[n]:

At each prompt, enter **y** and press **Enter** to overwrite the file.

Oracle Enterprise Manager Grid Control 10.2.0.4 X86 cloning completed successfully
at

Mon May 19 19:33:33 EDT 2008

EMGC information:

ORACLE_BASE = /u01/app
OMS_HOME = /u01/app/oracle/product/oms10g
AGENT_HOME= /u01/app/oracle/product/agent10g

=====
Press any key to continue...

Press any key on the keyboard to complete the virtual machine cloning script.
Enterprise Manager is installed, configured and running.

3.3.5 Installing the Management Agent on the Enterprise Manager Database Repository Virtual Machine

To install the Management Agent on the Enterprise Manager database repository virtual machine:

1. Log in to the Enterprise Manager database repository virtual machine as the root user.

2. Run the Management Agent installation script:

```
# /u01/scripts/installagent.sh
```

3. The installer prompts you for a management service hostname.

```
=====
Start installing Management Agent 10.2.0.4 X86
=====
```

Provide Management Service hostname that the Management Agent will communicate with.

Enter OMS hostname:

Enter the hostname for the Enterprise Manager virtual machine you created in [Section 3.3.4, "Cloning the Enterprise Manager Virtual Machine"](#). Press **Enter**.

4. The installer prompts you for the SYSMAN user's password:

Enter password of database account SYSMAN:

Enter the password you created for the Enterprise Manager database repository SYSMAN user in [Section 3.3.3, "Cloning the Enterprise Manager Database Repository Virtual Machine"](#). Press **Enter**.

5. The installation script completes.

```
=====
Management Agent 10.2.0.4 X86 cloning completed successfully.
The following env variables are set for user oracle:
  ORACLE_BASE = $ORACLE_BASE
  AGENT_HOME = $TARGET_AGENT_HOME
=====
Press any key to continue...
```

Press any key on the keyboard to exit the installer.

The Management Agent is installed on the Enterprise Manager database repository virtual machine. Enterprise Manager automatically discovers the host.

4 Logging in to the Virtual Machines

There are a number of ways of logging in to the virtual machines. Among many, are with:

- An SSH client
- A VNC client
- The Oracle VM Manager console

- The Enterprise Manager console.

The following sections describe logging in using the Oracle VM Manager console, and the Enterprise Manager console.

4.1 Logging in Using the Oracle VM Manager Console

To log in to the virtual machine using the Oracle VM Manager console:

1. Start up a web browser.
2. Enter the Oracle VM Manager URL:
`http://hostname:8888/OVS`
3. Log in to Oracle VM Manager as the admin user with the password you set when you installed Oracle VM Manager.
4. Navigate to the virtual machine.
5. Click **Console**.
6. Log in to the virtual machine's console using the password you set when you created the virtual machine.
7. Log in to the virtual machine as the root user with the password `ovsroot`, or as the oracle user with the password `oracle`.

You are logged into the virtual machine.

4.2 Logging in Using the Enterprise Manager Console

To log in to virtual machine using the Enterprise Manager console:

1. Start up a web browser.
2. Enter the Enterprise Manager URL:
`http://hostname:4889/em`
3. Log in to Enterprise Manager as the sysman user with the password you set when you created the virtual machine.

You are logged into the Enterprise Manager console.

4.3 Logging in to the Enterprise Manager Database Repository

To log in to the Enterprise Manager database repository and start SQL*Plus (the Oracle Database command-line tool):

1. Connect to the Enterprise Manager database repository virtual machine using an SSH client, a VNC client, the Oracle VM Manager console, or some other remote connection tool.
2. Log in to the virtual machine as the oracle user with the password `oracle`.
3. To start SQL*Plus enter

```
$ORACLE_HOME/bin/sqlplus /nolog
```

The `$ORACLE_HOME` environment variable is set to `/u01/app/oracle/product/db10g`, which is the location of the Oracle Database installation (the Oracle Home).

4. At the SQL*Plus prompt, log in as the sysdba user using operating system authentication:

```
SQL> connect / as sysdba
```

You are logged into SQL*Plus and connected to the Oracle Database with full database administration privileges.

5 Configuring Enterprise Manager

The Enhanced Linux Patching feature of Enterprise Manager supports patching of Oracle Enterprise Linux servers and virtual machines using RPM updates from a staging server. The Linux Staging Server Setup page in Enterprise Manager enables you to set up a staging server for Oracle Enterprise Linux patching. You can select the machine to set up as the staging server, and register the staging server to ULN.

The processes involved in setting up a staging server are:

- Registering the staging server with ULN.
- Subscribing the staging server to ULN channels. Every 24 hours, the staging server downloads new and updated packages from the subscribed channels to the staging server.
- Registering the staging server with Enterprise Manager.
- Registering hosts with Enterprise Manager.

5.1 Registering the Staging Server with ULN

A staging server is included in the Enterprise Manager virtual machine template. If you installed the Yum repository image, the staging server contains a Yum repository, populated with the full RPM distributions for Oracle Enterprise Linux Releases 4 and 5, for the x86 and x86_64 platforms.

Register the staging server to ULN with the up2date tool and subscribe to the default ULN channel, or to multiple channels. The up2date tool is a program that allows a machine to be synchronized with the latest packages. The ULN channel containing the latest version for the staging server's operating system and hardware is automatically chosen during registration. In the case of the Enterprise Manager virtual machine template, the el4_i386_latest channel is selected.

Registering a staging server with ULN requires a valid Customer Support Identifier (CSI) for the Oracle Unbreakable Linux support programme. For more information on Oracle Unbreakable Linux support, go to:

<http://www.oracle.com/technologies/linux>

To register the staging server contained in the Enterprise Manager virtual machine with ULN, enter the following command in a terminal on the Enterprise Manager virtual machine:

```
# up2date --nox --register
```

Executing this command takes you through a series of screens. At the end of the screens, the staging server is registered to the el4_i386_latest channel.

5.2 Subscribing the Staging Server to ULN Channels

You can use the web interface provided by ULN to subscribe to additional ULN channels. The web-interface is accessed through <http://linux.oracle.com>, and you can log on using the username and password supplied at the time of registration. This process needs to be done whenever you want to subscribe the staging server to a new ULN channel.

5.3 Registering the Staging Server with Enterprise Manager

To register the staging server in Enterprise Manager:

1. Log in to Enterprise Manager.
2. Navigate to **Setup > Patching Setup > Linux Staging Server Setup**. The Linux Staging Server Setup page is displayed.
3. Enter the hostname of the staging server that is to be registered. This is the same name as the Enterprise Manager server.

Select **Override Preferred Credentials** and enter the login credentials for the root user. Click **Apply**.

A deployment procedure is submitted to the staging server. Enterprise Manager schedules a recurring job that drives the download of the latest packages from the subscribed ULN channels to the staging server. This job also extracts header information of the packages by running the yum-arch and up2date commands.

5.4 Registering Hosts with Enterprise Manager

Hosts are automatically registered with Enterprise Manager when the Management Agent is installed. See [Section 6, "Configuring Hosts"](#) for information on installing the Management Agent.

6 Configuring Hosts

To configure hosts to enable them to be managed by Enterprise Manager:

- Install the Management Agent
- Optionally, install the Yast administration tool and the Oracle Enterprise Manager 10g Grid Control wrappers scripts if you want to perform system administration

The following sections discuss installing the Management Agent, and Yast and the wrapper scripts.

6.1 Installing the Management Agent on Hosts

The Management Agents for Oracle Enterprise Linux x86 and x86_64 platforms are included in the Enterprise Manager virtual machine template. They are located in the `$OMS_HOME/sysman/agent_download/version/platform` directory of the staging server.

You must install the Management Agent on all hosts that are to be updated and managed by Enterprise Manager. There are a number of ways you can install the Management Agent:

- Using the Enterprise Manager Agent Push Feature to push the Management Agent onto multiple hosts (batch deployment).

- Downloading the install script to the host from Enterprise Manager.
- Manually installing the Management Agent using the downloaded .zip files.

A future release will also include a Management Agent RPM installation option.

6.1.1 Management Agent Installation Prerequisites

Before you install the Management Agent on a host, there are a number of prerequisite steps which must be performed. Perform the following preinstallation steps as the root user on the target host (unless otherwise stated):

1. Check you have the prerequisite packages installed.

For Oracle Enterprise Linux 4 you must have:

- gcc-3.4.6-8.0.1.i386 or higher
- binutils-2.15.92.0.2-22.i386 or higher
- xorg-x11-deprecated-libs-6.8.2-1.EL.18.0.1.i386.rpm or higher

To check if you have these RPMs and which versions enter

```
# rpm -qa gcc binutils xorg-x11-deprecated-libs
```

For Oracle Enterprise Linux 5 you must have:

- gcc-4.1.1-52.el5.i386 or higher
- libXp-1.0.0-8.i386 or higher
- binutils-2.17.50.0.6-2.el5.i386 or higher

To check if you have these RPMs and which versions enter

```
# rpm -qa gcc libXp binutils
```

Import the public key:

```
# rpm --import /usr/share/rhn/RPM-GPG-KEY
```

2. On the host, create an oracle user, and an oinstall group. Add the oracle user to the oinstall group and set a password for the oracle user:

```
# groupadd oinstall
# /usr/sbin/useradd -g oinstall oracle
# passwd oracle
```

3. On the host, create a directory to install the Management Agent (the *agent_home*). Make sure the oracle user owns the directory, for example:

```
# mkdir /u01/app/oracle/product/
# chown -R oracle:dba /u01/app
```

4. On the host, open port 3872 in the firewall:

```
# system-config-securitylevel-tui -q -p 3872
```

5. On the host, use the visudo command-line tool to add the following line:

```
oracle ALL=(ALL) NOPASSWD: ALL
```

For Oracle Enterprise Linux 5, also comment out the line:

```
Defaults    requiretty
```

6. If you are using DHCP, make sure the hostnames are resolved between Enterprise Manager and the host.
7. The following preinstallation step is required on the Enterprise Manager host only if you are installing the Management Agent using the Agent Push feature. If you are installing the Management Agent using any other method, this step is not required. Run the following on the Enterprise Manager host as the oracle user:

```
$ OMS
$ cd $OMS_HOME/sysman/prov/resources/scripts
$ ./sshConnectivity.sh -user oracle -hosts "targethostname"
```

The following output is displayed:

```
NOTE :
As part of the setup procedure, this script will use ssh and scp to copy
files between the local host and the remote hosts. You may be prompted for
the password during the execution of the script.
AS PER SSH REQUIREMENTS, THIS SCRIPT WILL SECURE THE USER HOME DIRECTORY
AND THE .ssh DIRECTORY BY REVOKING GROUP AND WORLD WRITE PRIVILEGES TO THESE
directories.
Do you want to continue and let the script make the above mentioned changes
(yes/no)?
```

Enter **yes** and press **Enter**. The following output is displayed:

```
If The files containing the client public and private keys already exist on the
local host. The current private key may or may not have a passphrase associated
with it. In case you remember the passphrase and do not want to re-run
ssh-keygen, type 'no'. If you type 'yes', the script will remove the old
private/public key files and, any previous SSH user setups would be reset.
Enter 'yes', 'no'
```

If this is the first time you have executed this script, enter **yes** to generate an SSH key pair. If you have already executed this script and generated an SSH key pair, enter **no**. Press **Enter**. The following output is displayed:

```
Enter the password:
```

Enter the password for the oracle user on the host. Press **Enter**. The following output is displayed:

```
Enter the passphrase:
```

Leave this blank. Press **Enter**. The configuration script ends.

To test SSH has been correctly configured between the Enterprise Manager host and the target host, enter:

```
# ssh targethostname date
```

The system date is returned.

Both the Enterprise Manager host and the target host are configured and ready for the Management Agent installation.

6.1.2 Agent Push Installation

To install the Management Agent on hosts using the Agent Push feature:

1. Log in to Enterprise Manager
2. Navigate to **Deployments > Install Agent > Fresh Install**. The New Agent Installation: Installation Details page is displayed.
3. Under Source Software, select **Default, from Management Server location** as the Source Shiphome Directory.
4. Under Version, select **10.2.0.4.0** as the Version.
5. Under Hosts, select **Linux** as the Platform, and enter a list of hosts.
6. Under OS Credentials, enter the username and password for the host(s). This is likely to be the oracle user. Check **Run root.sh**.
7. Under Destination, enter the location under which to install the Management Agent as the Installation Base Directory (*agent_home*), for example, /u01/app/oracle/product.
8. Under Port, enter the port number on which the Management Agent should listen. The default port is 3872. Make sure the Oracle Enterprise Linux server or virtual machine has the port number you use available through the firewall. If you provide no port number, a free port is automatically selected within the default range [1830-1849].
9. If you want to use a password when registering Management Agents with Enterprise Manager, under Management Server Security, enter the Management Server Registration Password you set in section [Section 3.3.4, "Cloning the Enterprise Manager Virtual Machine"](#).
10. Click **Continue**. The New Agent Installation: Oracle Configuration Manager Details page is displayed.
11. Accept the license agreement. Complete any other questions on this page as applicable to your needs. Click **Continue**.

The Management Agent is deployed to the host(s).

6.1.3 Download Script Installation

You can download the Management Agent installation script from the Enterprise Manager server and use the installation script to install the Management Agent on the host. To install the Management Agent on hosts using the Management Agent download script:

1. On the host, as the oracle user, download the Management Agent script from the Enterprise Manager server, for example

For Oracle Enterprise Linux x86:

```
$ wget http://oms_hostname:4889/agent_
download/10.2.0.4.0/linux/agentDownload.linux
```

For Oracle Enterprise Linux x86_64:

```
$ wget http://oms_hostname:4889/agent_
download/10.2.0.4.0/linux_x64/agentDownload.linux_x64
```

oms_hostname is the name of the Enterprise Manager virtual machine. The agentDownload.linux script is downloaded.

2. Run the installation script.

For Oracle Enterprise Linux x86:

```
$ sh agentDownload.linux -b agent_home
```

For Oracle Enterprise Linux x86_64:

```
$ sh agentDownload.linux_64 -b agent_home
```

agent_home is the Management Agent base installation directory you created in the setup steps, for example, /u01/app/oracle/product. The installer prompts you for a password for the Enterprise Manager host.

Provide the Agent Registration password so that the Management Agent can communicate with Secure Management Service.

Note: You may proceed with the installation without supplying the password; however, Management Agent can be secured manually after the installation. If Oracle Management Service is not secured, agent will not be secured, so continue by pressing Enter Key.

Enter Agent Registration Password:

If you set an Agent Registration password in Enterprise Manager, enter the password here. If you did not set an Agent Registration password, leave this field empty. Press **Enter**. The installation completes.

3. As the root user, run:

```
# agent_home/root.sh
```

4. If the following error is displayed:

```
SEVERE:OUI-10104:Some of the configuration assistants failed.
```

You entered an incorrect Agent Registration password. You can manually secure the Management Agent registration by entering:

```
# agent_home/bin/emctl secure agent password
```

5. If you did not install the Management Agent into an existing Oracle Home, you may also need to run an additional configuration script as the root user:

```
# oracle_base/orainventory/orainstRoot.sh
```

oracle_base is the directory in which you installed the Management Agent.

The Management Agent is installed on the host. Enterprise Manager automatically discovers the host.

6.1.4 Manual Installation

You can download the Management Agent installation files from the Oracle Technology Network, and manually install the Management Agent on a host. To manually install the Management Agent on hosts:

1. On the host, copy the Management Agent tar file to the host.
2. Unzip the Management Agent zip file. The files are unzipped into a directory named linux/agent.
3. As the oracle user, change to the linux/agent directory and run the Oracle Installer:

```
$ ./runInstall
```

The Oracle Universal Installer (OUI) starts and guides you through the Management Agent installation. Note that OUI is a graphical installer. If you are

using X emulation you must set the DISPLAY environmental variable. If you are using an SSH client, you can start the SSH session with the ssh -X command to enable X-forwarding.

4. As the root user, run:

```
# agent_home/root.sh
```

5. If you did not install the Management Agent into an existing Oracle Home, you may also need to run an additional configuration script as the root user:

```
# agent_home/oraInventory/orainstRoot.sh
```

The Management Agent is installed on the host. Enterprise Manager automatically discovers the host.

6.1.5 Checking the Management Agent Status

After installing the Management Agent on a host, you can check the status of the Management Agent daemon with the emctl command. For example, enter the following as the oracle user on the host target:

```
$ /agent_home/bin/emctl status agent
```

Output similar to the following is displayed to show the status of the Management Agent:

```
Oracle Enterprise Manager 10g Release 4 Grid Control 10.2.0.4.0.  
Copyright (c) 1996, 2007 Oracle Corporation. All rights reserved.  
-----  
Agent Version      : 10.2.0.4.0  
OMS Version        : 10.2.0.4.0  
Protocol Version   : 10.2.0.4.0  
Agent Home         : /u01/app/oracle/product/agent10g  
Agent binaries     : /u01/app/oracle/product/agent10g  
Agent Process ID   : 20872  
Parent Process ID  : 20855  
Agent URL          : https://myoelguest.example.com:3872/emd/main/  
Repository URL     : https://emgc.example.com:1159/em/upload  
Started at         : 2008-05-22 12:15:42  
Started by user    : oracle  
Last Reload        : 2008-05-22 12:17:35  
Last successful upload          : 2008-05-23 04:12:25  
Total Megabytes of XML files uploaded so far : 13.37  
Number of XML files pending upload           : 0  
Size of XML files pending upload(MB)        : 0.00  
Available disk space on upload filesystem   : 87.46%  
Last successful heartbeat to OMS           : 2008-05-23 04:14:42  
-----  
Agent is Running and Ready
```

To see more options available with the emctl command, enter

```
$ /agent_home/bin/emctl -help
```

6.2 Installing Yast and Enterprise Manager Wrapper Scripts on Hosts

Install the Yast administration tool and the Yast Oracle Enterprise Manager wrapper scripts if you want to perform system administration on hosts using Enterprise Manager. This is required for system administration, and not for monitoring. Yast is

available for Oracle Enterprise Linux x86 and x86_64 platforms. To install Yast, on the host, as the root user:

1. Check that you have the perl-Digest-SHA1 RPM installed

```
# rpm -qa perl-Digest-SHA1
```

You can download the perl-Digest-SHA1 RPM from the ULN web interface.

2. Copy the Yast tar file to the host.

3. Untar the tar file:

```
# tar -xvf yast_el4_x86_32.tar
```

or

```
# tar -xvf yast_el4_x86_64.tar
```

4. Change directory to the Yast installation directory and run the Yast installer:

```
# ./install.sh
```

The Yast installer installs and configures Yast. If the Management Agent is installed and configured with Enterprise Manager, you can perform system administration on the host from within the Enterprise Manager console. See [Section 9.3, "Remote Host System Administration"](#) for more information on using the Yast administration tool.

7 Patching Hosts

Using the Enterprise Manager console you can create scheduled patch updates for groups of hosts, or perform ad hoc emergency patching of specific RPMs.

To perform patch updates on hosts, the hosts must be part of a patching group. A patching group is a set of managed Oracle Enterprise Linux hosts that are associated with a common set of package repositories. Every group is configured with an update schedule according to which, a recurring job is triggered that will update the hosts of the patching group with the associated package repositories.

Note: You can access patching-related activity logs in the *agent_home/sysman/log/patching/* directory.

This section contains:

- Creating patching groups
- Creating emergency patches
- Checking system compliance

7.1 Creating Patching Groups

To create a patching group and schedule automatic package updates:

1. Log in to Enterprise Manager.
2. Click **Deployments**. The Deployments page is displayed.
3. Click **Patch Linux Hosts**. The Patch Linux Hosts page is displayed.
4. Click **Groups**. Click **Create** to begin creating a new group to contain the hosts to be updated. The Create Group: Properties page is displayed.

5. Enter a **Name** for the group. Under the Linux Hosts heading, add the hosts to be included in the group. Click **Next**. The Create Group: Package Repositories page is displayed.
6. Under the Package Repositories heading, enter the Yum repository URL(s) which contain the packages for the operating system(s) to be updated. For example, enter `http://oms.example.com/yum/EnterpriseLinux/EL4/latest/i386/`
If you want the hosts to be automatically updated, check the Automatically Update Hosts check box under the Update Hosts heading. Click **Next**. The Create Group: Credentials page is displayed.
7. Set the login credentials to be used for the hosts. Click **Next**. The Create Group: Patching Scripts page is displayed.
8. If you have any pre- or post-patching scripts to execute, enter the location(s) for them. Click **Next**. The Create Group: Schedule page is displayed.
9. Set the schedule for the updates to be performed on the host(s) in the group. Click **Next**. The Create Group: Review page is displayed.
10. Click **Finish** to create the group.

The group is created and the updates are scheduled. To review or edit the group or scheduled updates, navigate to **Deployments > Patch Linux Hosts > Groups**.

7.2 Creating Emergency Patches

To perform ad hoc emergency patching of specific RPMs for patching groups:

1. Log in to Enterprise Manager.
2. Click **Deployments**. The Deployments page is displayed.
3. Click **Patch Linux Hosts**. The Patch Linux Hosts page is displayed.
4. Click **Emergency Patching**. Select the packages to be updated and move them from the Available Patches list to the Selected Packages list. Click **Next**. The Emergency Patching: Hosts page is displayed.
5. Select the group(s) of hosts to be updated. Click **Next**. The Emergency Patching: Credentials page is displayed.
6. Set the login credentials to be used for the hosts. Click **Next**. The Emergency Patching: Patching Scripts page is displayed.
7. If you have any pre- or post-patching scripts to execute, enter the location(s) for them. Click **Next**. The Emergency Patching: Review page is displayed.
8. Click **Finish** to start the emergency patch process.

The update job is created and immediately started. To review the update status, click the **Jobs** tab.

7.3 Checking System Compliance

The Enterprise Manager Compliance feature helps you manage and monitor the out-of-date and rogue packages for Oracle Enterprise Linux hosts. It provides information on the number of hosts that are compliant with the associated package repositories, and identifies the rogue packages on each host.

The Compliance History page shows the change in compliance of an Oracle Enterprise Linux patching group over a period of time. The compliance score of a patching group is the percentage of the compliant hosts among the hosts comprising that group.

The Groups page helps you to perform a search for existing Oracle Enterprise Linux patching groups and to create new Linux patching groups.

You can view the number of patchable Oracle Enterprise Linux patching groups and hosts, search for specific patching groups and hosts, and view the Job status for all the available patching groups.

To view the operating system compliance of groups of hosts:

1. Log in to Enterprise Manager.
2. Click **Compliance**. The Policy Violations page is displayed. A list of all managed instances and policy violation information is displayed. You can refine the search to groups or hosts with the Target Type drop down in the Simple Search field.

Click the **Target** to display the host's main page. This page displays general information, performance statistics, alert summaries, policy violations, security evaluations, critical patch advisories and job activities. It also contains links to more detailed information on performance, system administration, and configuration.

3. For another compliance view, you can click **Deployments**. The Deployments page is displayed. A graph and a table are displayed which give an overview of the compliance status of the hosts. You can drill down on entries in the overview for more information.

Click **Compliance History**. The Compliance History page is displayed. a list of patch groups is displayed, with a graph to show compliance scores over time.

4. For yet another compliance view, you can click **Deployments**. The Deployments page is displayed.

Under the Deployments Summary heading, select **Operating Systems** from the View drop down. The Deployments Summary table displays the number of discovered hosts for which Enterprise Manager has collected operating system configuration information. It also displays whether any operating system patches are installed on those hosts and provides a link to the installed patches. Click the **Hosts** column for an operating system group for more detailed information. The Operating System: *name* page is displayed.

A list of hosts for the operating system is displayed.

Alternatively, click the **Operating System Details** icon for the row. The Operating System Details page is displayed. This page contains detailed information on the operating system properties, and links to details on the file system and installed packages. Click the **Packages** sub-tab. A list of all the installed packages is displayed.

5. You can also view reports patch compliance of hosts and groups. To view these reports click the **Reports** tab. Enter `linux` in the Title search box. Click **Go**. The Patchable Linux Groups Compliance and Patchable Linux Hosts Compliance report links are displayed. Click either of the report links to run the report.

8 Comparing Hosts

You can compare hosts with other hosts to show differences between the hardware, operating system, installed Oracle software, and installed operating system software. To compare hosts:

1. Log in to Enterprise Manager.
2. Click **Deployments**. The Deployments page is displayed.
3. Click **Compare Configuration**. The Compare Configurations: First Configuration page is displayed.

Tip: To compare multiple configurations, click **Compare to Multiple Configurations (Job)**. This link creates a job, submits it and displays multiple reports.

4. Select the first configuration host to compare. Click **Continue**. The Compare Configurations: Second Configuration page is displayed.
5. Click **Compare**. The Comparison Results Summary page is displayed:

Figure 2 Comparison Results Summary page

The screenshot displays the Oracle Enterprise Manager 10g interface for the 'Comparison Results Summary' page. The page is titled 'Comparison Results Summary' and shows a comparison between two hosts: 'myoelguest.us.oracle.com' (First Host, Date: May 20, 2008 2:53:10 AM EDT) and 'joliet.us.oracle.com' (Second Host, Date: May 19, 2008 5:52:13 PM PDT).

Hardware & Operating System

Comparison Result	myoelguest.us.oracle.com	joliet.us.oracle.com
Different	i686, 2 CPUs, 512 MB Memory	i686, 2 CPUs, 256 MB Memory
Different	Enterprise Linux Enterprise Linux AS release 4 (October Update 5) 2.6.9-55.0.12.9.1.ELxenU (32-bit)	Enterprise Linux Enterprise Linux AS rel

Oracle Software

Product	myoelguest.us.oracle.com	joliet.us.oracle.com
Oracle Management Agent 10.2.0.4.0	✓ (2 Installations)	✓

OS-Registered Software

Product	Vendor	myoelguest.us.oracle.com	joliet.us.oracle.com
4Suite 1.0-3		✓	✓
a2ps 4.13b-41.6	Oracle USA	✓	✓
aaa_base 9.1-0		✓	
acl 2.2.23-5.3.el4	Oracle USA	✓	✓
acpid 1.0.3-2		✓	✓

9 Managing Hosts

You can monitor, manage and perform system administration on hosts using the Enterprise Manager console. This section describes how to perform the following on hosts:

- View an overview of statistics
- View performance statistics
- Perform remote system administration
- Manage targets

- Display hardware and software configuration

The following sections give an introduction to the features available in Enterprise Manager to manage hosts.

9.1 Viewing Host Statistics Overview

The Host Home page provides an overview of the vital statistics for the host. Using the Host Home page, you can:

- Drill down to view detailed statistics about this host
- Study the policy violations for the host
- Study all the alerts associated with this host
- Analyze the job activity
- Determine whether there are outstanding patch advisories
- Determine the last security evaluation of the host
- Investigate further the health of the host

To navigate to the Hosts page:

1. Log in to Enterprise Manager.
2. Navigate to **Targets > Hosts**. The Hosts page is displayed.
3. Click the link for host you want to view. The Host: *hostname* page is displayed.

Figure 3 Host home page

ORACLE Enterprise Manager 10g
Grid Control

Home **Targets** Deployments Alerts Compliance Jobs Reports

All Targets | Hosts | Databases | Application Servers | Web Applications | Services | Systems | Groups


Host: myoelquest.us.oracle.com

Latest Data Collected From Target May 18, 2008 6:04:38 AM EDT Refresh

Home Performance Administration **Targets** Configuration

General

Status **Up** [Black Out](#)

 **Before 1 Days 15 Hours (May 16, 2008 2:35:57 PM (UTC-04:00))**
Last Booted

Logons **0** [View Current Users](#)

Availability (%) **100**
(Last 24 Hours)

Configuration

Operating System [Enterprise Linux Enterprise Linux AS release 4 \(October Update 5\) 2.6.9-55.0.12.9.1.ELxenU \(32-bit\)](#)

Hardware Platform [i686](#)

IP Address **139.185.48.168**

CPUs **2**

Memory Size (MB) **512**

Local File Systems (GB) [5.3](#)

Alerts

Metric Name	Severity	Alert Triggered	Value Last Checked
No alerts found			

Policy Violations

9.2 Viewing Host Performance Statistics

The Host Performance page provides the utilization statistics (CPU, Memory, Disk I/O, and Program Resource Utilization) for the host. With this information, you can

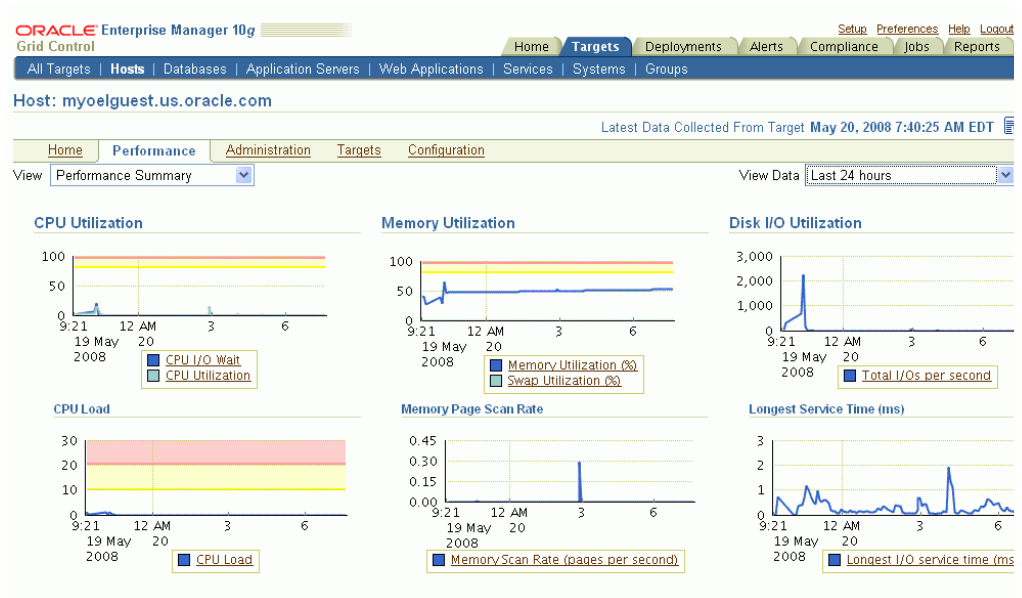
determine whether resources need to be added or redistributed. Using the Performance page, you can:

- View the CPU, Memory, Disk, and Program Resource Utilization detail pages. Each of these pages analyzes the metrics for that category in more detail.
- View the Metric Detail pages associated with the CPU, Memory, Disk I/O, and Program Resource utilization metrics for the host. Click the value associated with each metric to access the detailed information for that metric.
- View the processes that are using the most CPU resources or Memory resources.

To view host performance statistics:

1. Log in to Enterprise Manager.
2. Navigate to **Targets > Hosts**. The Hosts page is displayed.
3. Click the link for host you want to view. The Host: *hostname* page is displayed.
4. Click **Performance**. Performance information on the host is displayed

Figure 4 Host Performance page



9.3 Remote Host System Administration

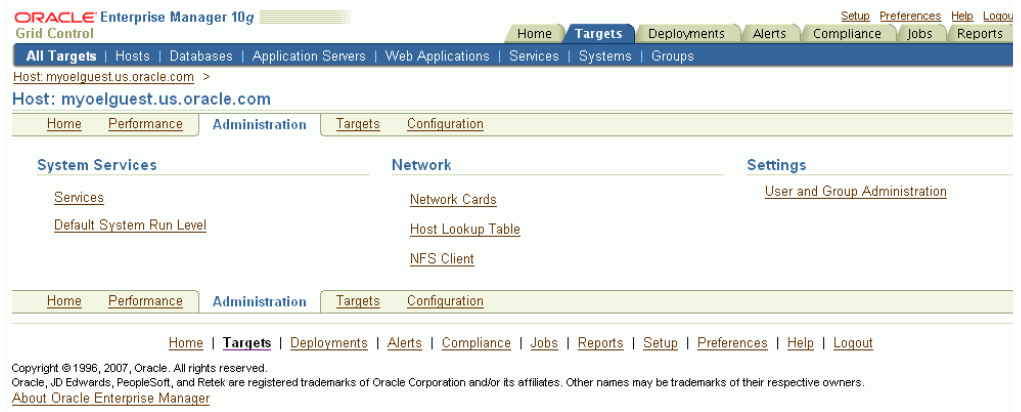
If you have the Yast utility installed on the host, you can perform remote system administration on the host.

1. Log in to Enterprise Manager.
2. Navigate to **Targets > Hosts**. The Hosts page is displayed.
3. Click the link for host you want to view. The Host: *hostname* page is displayed.
4. Click **Administration**. A list of administration options are displayed:
 - Services
 - Default system run level

- Network Cards
- Host lookup table
- NFS client
- User and group administration

Click one of the links to access the administration option.

Figure 5 Host Administration page



9.4 Managing Targets

The Host Targets page displays the targets on the host such as Database Instance, Web Cache, and Oracle HTTP Server. Using the Host Targets page, you can:

- View the statistics of a particular target
- View the patch set information regarding a particular Oracle Home
- Study alerts information
- Determine whether there are any policy violations against the host
- Remove multiple targets from the host

To view host targets:

1. Log in to Enterprise Manager.
2. Navigate to **Targets > Hosts**. The Hosts page is displayed.
3. Click the link for the host you want to view. The Host: *hostname* page is displayed.
4. Click **Targets**. A list of targets is displayed. Click one of the links to access the target option.

Figure 6 Host Targets page

ORACLE Enterprise Manager 10g
Grid Control

Home | **Targets** | Deployments | Alerts | Compliance | Jobs | Reports

All Targets | Hosts | Databases | Application Servers | Web Applications | Services | Systems | Groups

Host: myoelquest.us.oracle.com

Page Refreshed May 18, 2008 6:06:14 AM EDT

Home | Performance | Administration | **Targets** | Configuration

Remove

Select All | Select None

Select	Name	Oracle Home	Availability	Alerts	Policy Violations	Compliance Score (%)	Type	Last Load Time
<input type="checkbox"/>	myoelquest.us.oracle.com:1830	/u01/app/oracle/product/agent10g		0 0	0 0 0		Agent	May 18, 2008 5:34:37 AM
<input type="checkbox"/>	myoelquest.us.oracle.com:3872	/u01/app/oracle/product/db10g/agent10g		0 1	0 0 0		Agent	May 18, 2008 6:04:56 AM

TIP For an explanation of the icons and symbols used in this page, see the [Icon Key](#).

Home | Performance | Administration | **Targets** | Configuration

Home | **Targets** | Deployments | Alerts | Compliance | Jobs | Reports | Setup | Preferences | Help | Logout

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[About Oracle Enterprise Manager](#)

9.5 Host Configuration

On the Host Configuration page, you can:

- View a summary of all the categories of host configuration information (hardware, operating system software, Oracle software, and operating system-registered software) for the host.
- From the summary information for any configuration category, navigate to more detailed configuration information for that category. For example, the more detailed configuration information for each category includes history information that lists the changes that have been made to that configuration category over time.
- Determine the date and time that the host configuration was last collected (this information is displayed in the Latest Data Collected From Target field).
- Manually refresh the host configuration by clicking **Refresh**.
- Perform other operations involving host configurations and configuration files, such as saving a host configuration to a configuration file and comparing host configurations or configuration files.

To view host configuration:

1. Log in to Enterprise Manager.
2. Navigate to **Targets > Hosts**. The Hosts page is displayed.
3. Click the link for the host you want to view. The Host: *hostname* page is displayed.
4. Click **Configuration**. A configuration summary is displayed. Click one of the links to access the configuration option.

Figure 7 Host Configuration page

ORACLE Enterprise Manager 10g Grid Control

Home Targets Deployments Alerts Compliance Jobs Reports

All Targets Hosts Databases Application Servers Web Applications Services Systems Groups

Host: myoelquest.us.oracle.com

Latest Data Collected From Target May 17, 2008 11:05:53 PM EDT Refresh

Home Performance Administration Targets Configuration

Save History Compare Configuration Compare to Multiple Configurations(Job)

Hardware

System Configuration: i686
 Hardware Provider: Intel Based Hardware
 Number of CPUs: 2
 Memory Size (MB): 512
 Related Link: Hardware Details
 Hardware Collection Warnings

Operating System

Operating System: Enterprise Linux Enterprise Linux AS release 4 (October Update 5) 2.6.9
 Packages: 846
 Related Link: Operating System Details

Oracle Software

Product	Oracle Home	Installation Time
Oracle Management Agent 10.2.0.4.0	/u01/app/oracle/product/db10g/agent10g (agent10g)	May 16, 2008 7:13:11 AM
Oracle Management Agent 10.2.0.4.0	/u01/app/oracle/product/agent10g (agent10g1)	May 17, 2008 3:04:50 AM

Related Link: Search Oracle Products Installed in Oracle Homes

OS-Registered Software

Product	Vendor	Location	Installation Time
4Suite 1.0.3	N/A	N/A	Feb 19, 2008 6:04:06 AM

10 Further Reading

More information on using Oracle VM, and using Oracle Enterprise Manager 10g Grid Control to manage and patch Oracle Enterprise Linux servers and virtual machines is available in the following Oracle documentation and whitepapers.

- Oracle VM Release 2.1 documentation
http://download.oracle.com/docs/cd/E11081_01/welcome.html
- Oracle Enterprise Manager 10g Grid Control online help
- *Using Enterprise Manager For Grid Automation With Deployment Procedures*, Chapter 10 of the *Oracle Enterprise Manager Advanced Configuration 10g Release 4 (10.2.0.4.0) Guide*
http://download.oracle.com/docs/cd/B16240_01/doc/em.102/e10954/deploy_proc.htm
- *10gR2 Management Agent Deployment Best Practice* whitepaper
http://www.oracle.com/technology/products/oem/pdf/10gr2_agent_deploy_bp.pdf
- *Provisioning and Patching Your Oracle Environment with Oracle Enterprise Manager 10g Grid Control* whitepaper
http://www.oracle.com/technology/products/oem/pdf/prov_patch.pdf
- Applying Oracle patches from Oracle Enterprise Manager 10g Grid Control screenwatch
http://download.oracle.com/enterprise_manager/10203_CPU_Patching/10203_CPU_Patching.html

- *Best Practices for Bare Metal Provisioning of Linux using Oracle Enterprise Manager 10g Grid Control* whitepaper
http://www.oracle.com/technology/products/oem/pdf/BMP_best_practice.pdf
- Yum Repository Setup
<http://www.oracle.com/technology/tech/linux/htdocs/yum-repository-setup.html>

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