

This document outlines the upgrade process for all the components of Oracle VM, to minimize down time and make sure the upgrade process is performed in the correct order. This document contains:

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1 Planning the Upgrade

If you upgrade your Oracle VM Release 2.1.x server pool to Oracle VM Release 2.2, you should properly plan to make sure the upgrade can be easily performed. There are some important factors to consider. Mixing Release 2.1.x and Release 2.2 Oracle VM Servers in the same server pool is not supported. All Oracle VM Servers in the server pool must be running the same version.

There will be planned down time during the upgrade; however, the stored guest virtual machines in the storage repositories remain intact. Upgrading Oracle VM Manager is expected to take only a few minutes to complete, and each Oracle VM Server upgrade is also expected to take only a few minutes. So the entire upgrade process should not take much time, depending on the size of your server pool.

Before you start the upgrade, make sure that your existing server pool has been correctly configured:

- The host name in the `/etc/hosts` file must be associated with the public IP address, and not with 127.0.0.1.
- You have all the Oracle VM Server entries in your DNS server. If you do not use DNS, make sure the correct setting is in the `/etc/hosts` file for all the Oracle VM Servers in the server pool. If you plan to use DNS for all Oracle VM Servers, but DNS was not specified during the Oracle VM Server installation, update the `/etc/resolv.conf` file and add your domain name to it.
- All the Oracle VM Servers in the server pool must use consistent name resolution, either using a DNS server, or using the `/etc/hosts` file. You should not have mixed name services for the Oracle VM Servers a server pool. For example, some Oracle VM Servers use DNS, while others use the `/etc/hosts` file to resolve host names.

2 Upgrading Oracle VM Overview

To upgrade Oracle VM, you should upgrade the Oracle VM components in the following order:

1. Upgrade Oracle VM Manager.
2. Upgrade the Oracle VM Servers in the server pool which do *not* act as the Server Pool Master. Do *not* restart the Oracle VM Server(s).
3. Upgrade the Oracle VM Server in the server pool which does act as the Server Pool Master. Restart the Oracle VM Server.
4. If required, enable the new OCFS2 Release 1.4 features.
5. Restart the remaining Oracle VM Servers in the server pool. The Oracle VM Agent on the Server Pool Master communicates with the other nodes in the server pool to populate the configuration changes to the server pool and storage repository.
6. If required, and the server pool is the HA-enabled, you can use Oracle VM Manager to add the virtual IP address for the server pool to enable the Server Pool Master fail over feature.

The following sections guide you through these upgrade steps in more detail.

3 Upgrading Oracle VM Manager

If you are using an earlier release of Oracle VM Manager you can upgrade it to Release 2.2. During the upgrade, the database and the Oracle VM Manager application are updated.

Oracle VM Manager is backwardly compatible with previous Oracle VM Server releases. To make sure you are not using a newer version of Oracle VM Server that cannot be managed Oracle VM Manager, you should upgrade Oracle VM Manager to Release 2.2 *before* you upgrade your Oracle VM Servers to Release 2.2.

To upgrade Oracle VM Manager:

1. Back up Oracle VM Manager:
 - a. Log in to an Oracle VM Server in the server pool as the *root* user.
 - b. Back up the storage repositories for virtual machine images, virtual machine templates, virtual machines deployed as public, ISO files, shared virtual disks. Skip this step if you have enabled a storage backup mechanism.
 - c. Log into the Oracle VM Manager host as the *root* user.
 - d. Back up the existing Oracle VM Manager data:

```
# sh /opt/ovs-manager-2.2/bin/backup.sh
```

Enter 1 to back up the data.

```
Please enter the choice: [1|2]
```

- ```
1. Back up Oracle VM Manager,
2. Restore Oracle VM Manager
```

Enter the database information, and the path for the dump and log files.

```
Back up data now ...
```

```
Please enter the password for database account 'OVS':
```

```
Please specify the path for dump file?
```

Please specify the path for log file?

Oracle VM Manager is backed up. See "Backing Up and Restoring Oracle VM Manager" in *Oracle VM Manager User's Guide*.

2. Download the Oracle VM Manager Release 2.2 ISO file from:

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

3. Log in to the Oracle VM Manager host as the *root* user.
4. You can install Oracle VM Manager from a CDROM drive or from an ISO file from the hard drive.

- To install Oracle VM Manager from a CDROM, burn the Oracle VM Manager ISO file to a CDROM. Insert and mount the Oracle VM Manager CDROM using the following commands:

```
mkdir mount-point
mount /dev/cdrom mount-point
```

Where *mount-point* refers to the directory on which you mount the ISO file.

- To install Oracle VM Manager from a hard drive, locate the folder that contains the ISO file. Mount the ISO file to an existing directory using the following commands:

```
mkdir mount-point
mount -o loop,ro OracleVM-Manager-version.iso mount-point
```

Where *mount-point* refers to the directory on which you mount the ISO file. For example:

```
mkdir /OVMCD
mount -o loop,ro OracleVM-Manager-2.2.0.iso /OVMCD
```

You can find all the mounted files under the directory */OVMCD*.

5. Enter the CD location or mount point you created in the previous step, for example, */OVMCD* and start the installation with the *runInstaller* script:

```
cd /OVMCD
sh runInstaller.sh
```

On the command prompt, enter **3** to upgrade Oracle VM Manager.

```
Please enter the choice: [1|2|3]
1. Install Oracle VM Manager
2. Uninstall Oracle VM Manager
3. Upgrade Oracle VM Manager
```

The upgrade process begins.

6. Upgrade Oracle VM Manager. See "Upgrading Oracle VM Manager" in *Oracle VM Manager Installation Guide*.

## 4 Upgrading Oracle VM Server

If you have multiple Oracle VM Servers in a server pool, first upgrade the Oracle VM Servers which do *not* function as the Server Pool Master. The final Oracle VM Server in the server pool to be upgraded should be the Server Pool Master.

### To upgrade the Oracle VM Servers in a server pool:

1. Power off any guest virtual machines running on the Oracle VM Server.
2. Upgrade the Oracle VM Server. You can upgrade the Oracle VM Server in two ways:
  - [Upgrading Oracle VM Server Using The CD](#)
  - [Upgrading Oracle VM Server Using ULN](#)

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**Note:** Do not reboot any Oracle VM Servers until all Oracle VM Servers in the server pool have been upgraded.

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3. When all the Oracle VM Servers in the server pool have been upgraded, restart the Oracle VM Server which acts as the Server Pool Master.
4. You can now enable the new OCFS2 Release 1.4 features, such as sparse files and unwritten extents.

To enable OCFS2 sparse files support and reduce the time it takes to create shared virtual disks, you must reconfigure the external storage. You can reconfigure the external storage from any of the Oracle VM Servers in the server pool.

The external storage must be unmounted before enabling any new OCFS2 features. To unmount the external storage, enter:

```
umount device
```

Reconfigure the external storage:

```
tunefs.ocfs2 --fs-features=sparse,unwritten device
```

If you encounter the following error, the external storage device is still mounted.

```
tunefs.ocfs2: Trylock failed while opening device "device"
```

For more information on sparse files and the new features in OCFS2 Release 1.4, see "New Features" in *OCFS2 User's Guide*, Release 1.4:

[http://oss.oracle.com/projects/ocfs2/dist/documentation/v1.4/ocfs2-1\\_4-usersguide.pdf](http://oss.oracle.com/projects/ocfs2/dist/documentation/v1.4/ocfs2-1_4-usersguide.pdf)

5. Restart the remaining Oracle VM Servers in the server pool. The Oracle VM Agent on the Server Pool Master communicates with the other nodes in the server pool to populate the configuration changes made to the storage repository.
6. If the server pool is HA-enabled, and you want to enable the Server Pool Master fail over feature, use Oracle VM Manager to add the virtual IP address for the server pool. See "Editing a Server Pool" in *Oracle VM Manager User's Guide*.

## 4.1 Upgrading Oracle VM Server Using The CD

To upgrade the Oracle VM Server using the Oracle VM Server CD:

1. Download the Oracle VM Server Release 2.2 ISO file from:  
<http://edelivery.oracle.com/oraclevm>
2. Burn the ISO file to a bootable CD.
3. Start up (boot) the Oracle VM Server with the Oracle VM Server Release 2.2 CD.

4. Upgrade the Oracle VM Server. See "Upgrading Oracle VM Server" in *Oracle VM Server Installation Guide*.

## 4.2 Upgrading Oracle VM Server Using ULN

To upgrade the Oracle VM Server using the Unbreakable Linux Network (ULN):

1. If it is not already installed, install the up2date ULN package on the Oracle VM Server. For more information on installing up2date, see:

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

2. Use the up2date package to install the ovm22upgrade package:

```
up2date ovm22upgrade
```

3. Run the ovm22upgrade.py script:

```
/usr/local/sbin/ovm22upgrade.py
```

4. Upgrade the Oracle VM Server packages:

```
up2date -fu
```

## 4.3 Upgrading Oracle VM Server from a Previous 2.2.x Release to 2.2.2

Live migration works across 2.2.x Oracle VM Servers; however, you should minimize unnecessary options to minimize downtime when you schedule an upgrade of Oracle VM Servers. To upgrade Oracle VM Servers from Release 2.2.0 or 2.2.1 to Release 2.2.2, you can perform the following steps based on your server pool setup.

### Non-HA Server Pool

You can upgrade the Oracle VM Servers in any order.

### HA-Enabled Server Pool

If Virtual IP (VIP) is not set, you do not have Server Pool Master auto-failover configured. You should upgrade the Server Pool Master first; then upgrade the rest of the Oracle VM Servers.

If VIP is set, Server Pool Master auto-failover is configured. In that case, follow these steps:

1. Disable Server Pool Master auto-failover by removing VIP from Oracle VM Manager.
2. Upgrade the Server Pool Master.
3. Upgrade rest of the Oracle VM Servers.
4. Enable Server Pool Master auto-failover by setting VIP.

**Note:** The Oracle VM Agent install fails if Server Pool Master auto-failover is enabled. Also, the Oracle VM Agent install fails on Oracle VM Servers if the Server Pool Master is not upgraded first. The server pool is temporarily not accessible via Oracle VM Manager when the Server Pool Master is rebooted after the upgrade.

## 5 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

### Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

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