Installing Dell™ OpenManage™ 4.5 Software in a VMware® ESX® Server Software 2.5.x Environment

Notes, Notices, and Cautions

NOTE: A NOTE indicates important information that helps you make better use of your computer.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

Contents

1. Overview

This document provides installation steps and support information for the Dell OpenManage systems management suite on VMware® ESX Server software.

2. Supported OpenManage Software Versions

Supported VMware ESX Server software and the corresponding supported OpenManage software versions are listed in the following table:

Supported VMware ESX Server software versions	Supported OpenManage Versions
2.5.2	4.5
2.5.1	4.3, 4.4, 4.5
2.5	4.3, 4.2, 4.1.3
2.1.2	4.1
2.1	3.8
2.0.1	3.6

OpenManage 4.5.1 is <u>not supported</u> in VMware ESX 2.x Server software.

For more information on supported server and storage, consult the document "VMware Software Compatibility Matrix for Dell servers and Dell/EMC storage" at the Resource Center on www.dell.com/vmware.

3. OpenManage Components and Support Information

Dell™ OpenManage™ is a suite of system management applications for managing Dell Servers. This section lists the features available in OpenManage 4.5 and details what is supported and what is not supported in VMware ESX 2.5.2 Server software.

For more information on each of these features, refer to the Dell OpenManage website at www.dell.com/openmanage.

3.1 Server Administrator

Server Administrator provides single server management with a secure command-line or Web-based management graphical user interface. There are several sub-components in Server Administrator:

- **Instrumentation Services:** Provides hardware instrumentation and configuration information. Instrumentation services are supported in VMware ESX Server.
- **Storage Services:** Provides monitoring and instrumentation of the local storage system. OpenManage Storage services are supported in VMware ESX Server
- **Remote Access Service:** The Remote Access Service provides a complete, remote system management solution for systems equipped with a DRAC solution. Remote Access service is supported in VMware ESX Server.
- **Online Diagnostics:** The Diagnostic Service provides a suite of diagnostic programs that run locally on a system or remotely on a system connected to the network. Online diagnostics are not supported in VMware ESX Server. Diagnostics can be performed offline by downloading utilities from http://support.dell.com.

3.2 Dell Remote Access Controller

Dell Remote Access Controller (DRAC) is designed to allow anywhere, anytime "Lights Out" monitoring, troubleshooting, and server repairs/upgrades independent of OS status.

Remote Access Controller is supported with VMware ESX Server.

3.3 IT Assistant

Dell IT Assistant (ITA) provides an integrated view of Dell's comprehensive suite of server monitoring and reporting tools. It includes one-to-many management for Dell Servers.

Hardware monitoring of Dell Servers with VMware ESX Server software is supported. Dell IT Assistant does not monitor or perform operations on the Virtual Machines running on the servers. IT Assistant does not support SNMP traps from VMware Virtual Center.

3.4 IPMI Baseboard Management Controller

IPMI Baseboard Management Controller (BMC) provides a standard interface for monitoring and managing Dell Servers.

IPMI Baseboard Management Controller is supported in VMware ESX Server.

3.5 Server Update Utility

Server Update Utility helps simplify single server updates with the latest system software features - including inventories, reports, and recommendations - and checks for prerequisite conditions.

Server Update Utility is not supported in VMware ESX Server. Use the DOS utilities provided by Dell to perform BIOS and firmware upgrades.

3.6 Server Assistant

Dell Server Assistant includes all necessary tools and the latest drivers to help speed setup, configuration and optimization of Dell PowerEdge™ systems and software.

Server Assistant is not supported in VMware ESX Server.

3.7 Deployment Toolkit

Deployment Toolkit helps provide quick, easy configuration of multiple servers from bare metal all the way through to OS deployment. It provides a framework for updating the BIOS

Deployment Toolkit works independent of Operating System and hence is independent of VMware ESX Server.

3.8 PowerEdge Service and Diagnostics Utilities

PowerEdge Service and Diagnostics Utilities provide operating system-level diagnostics and software components to detect and resolve hardware issues.

Service and diagnostics are not supported in VMware ESX Server. Perform offline diagnostics by downloading utilities from http://support.dell.com.

Refer to section 9 for known issues on the supported OpenManage components.

4. Getting Dell OpenManage Software

Acquire Dell OpenManage software from one of the following sources:

4.1 OpenManage software kits

Dell servers ship with Dell OpenManage systems management software kits. The software kit contains all the software components described in section 3. The software kit includes OpenManage Server Administrator. Refer to section 5 for instructions on installing OpenManage on VMware ESX Server software.

4.2 OpenManage package from support.dell.com

OpenManage systems management software kits can be also downloaded from http://support.dell.com. Use the following steps for downloading OpenManage:

1. Go to http://support.dell.com
2. Select Medium and Large Business
3. Select the appropriate server model (example: PowerEdge Server 2850) or enter the Service Tag of the server
4. Select "Drivers and Downloads"
5. Click on "Go"
6. Select "Red Hat Enterprise Linux 3"
7. Click on "Find Downloads"
8. Select "Systems Management"
9. Click on "Dell OpenManage Server Administrator Managed Node" to download a *tar* package for Server Administrator. Software CD kits can also be downloaded by selecting the appropriate links.

4.3 Subscribing to OpenManage updates

To stay updated with the latest OpenManage software releases, enroll in the OpenManage Subscription Service. Visit www.dell.com/openmanage for more information.

5. Installing OpenManage Server Administrator

◒ **NOTICE:** Before installing OpenManage, Dell recommends increasing the size of the Service Console memory by 128MB. This is in addition to the amount of memory already allocated to the Service Console for the number of expected virtual machines.

1. Log on with administrator privileges (root) to the Service Console.

2. Make sure there is at least 512MB of free disk space in the */root* partition of ESX Server service console. This can be verified by running the `df -lh` command in the service console.

3. Prepare the Service Console for OpenManage installation using the following command:

    ```
    omasetup.sh install
    ```

    Insert the ESX Server Installation CD when prompted to do so.

4. After the script completes, use the following steps to install OpenManage Server Administrator:

   a. If you are using OpenManage CD, mount the CD and change the working directory with the following command:

   ```
   mount /dev/cdrom /mnt/cdrom
   cd /mnt/cdrom/srvadmin/linux/supportscripts
   ```

   b. If you are using tar file from support.dell.com, download the file to a temporary directory and extract the files:

   ```
   tar -zxvf OMI-SrvAdmin-Dell-Web-LX-450-32-335_A00.tar.gz
   ```

5. Install OpenManage by executing one of the following commands:

   a. If you are installing OpenManage on a PowerEdge 1855 system, or on a system that does not have a Remote Access Card (RAC), use the following command:

   ```
   ./srvadmin-install.sh –b –w -s
   ```

   b. For all other configurations, use the following command:

   ```
   ./srvadmin-install.sh –b –w –r -s
   ```

The options used in the OpenManage installation script expand as:

   > `b`: Base install of OpenManage Server Administrator
   > `w`: Web interface for OpenManage Server Administrator
   > `r`: Dell Remote Access Controller (DRAC) services
   > `s`: OpenManage Storage Services (OMSS)

⬤ **NOTICE:** Failure to use the correct command options may result in errors during the OpenManage startup sequence.

⬤ **NOTICE:** ESX Server Software does not support OpenManage diagnostics. The above command omits diagnostics installation.

6. If you have installed the ITA management application on your network, configure the SNMP daemon to send SNMP trap messages to the management console. Edit /etc/snmp/snmpd.conf and add the following line to the end of the file:

   ```
   trapsink <ITA_IP_Address> <community name>
   ```

7. If you are installing OpenManage on a PowerEdge 1855 system, execute the following commands after completing OM installation:

   ```
   chkconfig mptctlnode on
   service mptctlnode start
   ```

8. Unmount and eject the CD with the following command:

   ```
   eject
   ```

6. Updating from a previous version of OpenManage

If both VMware ESX Server software and OpenManage need to be updated, Dell recommends updating VMware ESX Server before updating OpenManage.

If your system is running Dell OpenManage software older than version 4.3, uninstall the current version before attempting to install the new version.

For Dell OpenManage software versions 4.3 and later, upgrade the system using the following commands:

1. Log on with administrator privileges (root) to the Service Console.

2. After the script completes, use the following steps to upgrade OpenManage Server Administrator:

   a. If you are using OpenManage CD, mount the CD and change the working directory with the following command:

      ```
      mount /dev/cdrom /mnt/cdrom
      cd /mnt/cdrom/srvadmin/linux/supportscripts
      ```

   b. If you are using tar file from support.dell.com, download the file to a temporary directory and extract the files:

      ```
      tar -zxvf OMI-SrvAdmin-Dell-Web-LX-450-32-335_A00.tar.gz
      ```

3. Run the following script and follow the instructions on the screen:

   ```
   ./srvadmin-install.sh
   ```

The script detects previous version of Server Administrator and upgrades the components to the latest version.

7. Using OpenManage in an ESX Server Environment

To start OpenManage services from ESX Service Console, issue the command:

```
srvadmin-services.sh start
```

To stop OpenManage services from ESX Service Console, issue the command:

```
srvadmin-services.sh stop
```

For information about using OpenManage to manage Dell Servers, refer to the *OpenManage Documentation CD-ROM,* which comes with the Dell Server and also available at www.dell.com/openmanage.

8. Uninstalling OpenManage from ESX Server

1. Log on with administrator privileges (root) to the Service Console.

2. Uninstall OpenManage using the following command:

   ```
   srvadmin-uninstall.sh
   ```

9. Known Issues

Issue	Description	Resolution
Unsupported kernel version and non-RAID SCSI driver error message in OpenManage logs	When OpenManage is installed, the following error message is displayed in the log: "Unsupported kernel version and non-RAID SCSI drivers."	OpenManage Storage Services installation checks for specific versions of Linux® and generates warning messages if an unexpected version is detected. Since the ESX Server service console is a customized version of Linux, OpenManage does not recognize it. The warning messages are harmless and may be safely ignored.
Poor Graphics in remote installation through Console Redirect in DRAC IV	When ESX Server is installed using Console Redirect in DRAC IV, the installation has poor graphics display.	When using DRAC IV's Console Redirect function, switch to the text based ESX Server installation interface. This is done by typing "text" in the installation options menu.
Unable to use remote floppy disk and CD-ROM in VMs using DRAC Remote media	When using DRAC IV, remote media like floppy disks and CD-ROMs can be mounted by the Service Console but they cannot be accessed by VMs. When using Avocent Digital KVM Access Module in PE 1855, remote floppy media cannot be accessed by VMs.	Accessing remote floppy disks and CD-ROMs from VMs is not supported. Only devices directly connected to an ESX server or a floppy or CD-ROM ISO image present in the ESX Service Console can be made accessible to the VMs. Avoid this issue by creating an image of the floppy or CDROM and copying it to the Service Console.
Unable to delete virtual RAID disks using OpenManage Storage Services	When virtual RAID disks are deleted using OpenManage Storage Services, the operation fails and reports the following error "Delete virtual disk failed."	Creating and deleting virtual RAID disks through OpenManage Storage services is not supported with ESX 2.5.x. To create and delete RAID disks, use the boot menu of the PERC controller, which can be invoked by pressing <Ctl+M> during boot-up.
Newly created RAID Virtual Disks using OpenManage Storage Services (OMSS) map to the same device name	All newly created RAID virtual disks using Open Manage Storage Services map to /dev/sda.	Creating and deleting virtual RAID disks through OMSS is not supported with ESX 2.5.2. To create and delete RAID disks, use the boot menu of the PERC controller, which can be invoked by pressing <Ctl+M> during boot-up.
OpenManage diagnostics are not available when OpenManage 4.5 is installed in ESX	After OpenManage is installed, online diagnostics are not available and cannot be performed.	Online diagnostics are not supported in ESX. Offline diagnostics must be used. When installing OM 4.5 on ESX 2.5.2, do not install the diagnostics portion.

Issue	Description	Resolution
OpenManage does not report Connectivity status, IP address and MAC address for the NICs dedicated to the the Virtual Machines	Both the OpenManage web interface and CLI, does not report Connectivity status, IP address and MAC address for the NICs dedicated to the the Virtual Machines. Information is reported as "[Not Obtained]". Information is only reported for the NIC dedicated to service console.	This is a known issue and this feature is not available in OpenManage 4.5.
OpenManage incorrectly reports total memory available to the Operating System	OpenManage is installed on the service console. It only reports the total memory available to the service console. It does not report the memory available for the virtual machines.	Total installed Capacity represents the memory available to the ESX Server, including the virtual machines and the service console.
Remote shutdown option using `ipmish` through BMC does not gracefullyshutdown the ESX Server	When a remote shutdown command is issued through BMC using ipmsh command, the ESX server does a hard shutdown, instead of a graceful shutdown.	This is a known issue. To do a graceful shutdown on VMware ESX Server, use the remote shutdown option using DRAC or use remote `ssh`.
SNMP traps from the VMware VirtualCenter are displayed in IT Assistant as expected.	SNMP traps from the VMware VirtualCenter are displayed as 'undefined' in IT Assistant.	This feature is not supported in IT Assistant. SNMP MIBs from VMware VirtualCenter are not compiled into the IT Assistant.
ESX Server software installation deletes the Utility Partition in the Dell Servers	When ESX Server is installed, it deletes the Utility Partition that ships will the Dell Servers	Utility Partition is not supported in VMware ESX Server. Utility Partition is used to rub diagnostics on the server. Diagnostics can be downloaded from support.dell.com, or is available in the OpenManage software kits.
Remote shutdown option using DRAC does not gracefully shutdown the ESX server on Dell blades	When a remote shutdown command is issued through DRAC, the ESX server does a hard shutdown, instead of a graceful shutdown.	This is a known issue. Use remote `ssh` commands to do a graceful shutdown of VMware ESX Server.

10. Troubleshooting

Issue	Description	Resolution
OpenManage installation fails with failed dependencies	OpenManage installation fails with the error: "Error failed dependencies: unzip is needed by srvadmin-omacore.4.x.0-xxx"	Make sure that all the installation instructions in this document are followed. This error message is displayed when `omasetup.sh install` command is omitted during installation.

11. Reference

The following documents are available at the Resource Center on www.dell.com/vmware:

- Remote Installation of VMware ESX Server Software Using Dell Remote Access Controller
- Console Redirection on VMware ESX Server Software and PowerEdge Servers
- VMware Software Compatibility Matrix for Dell servers and Dell|EMC storage
- VMware ESX Server 2.5.2 Software for Dell PowerEdge Servers - Release Notes