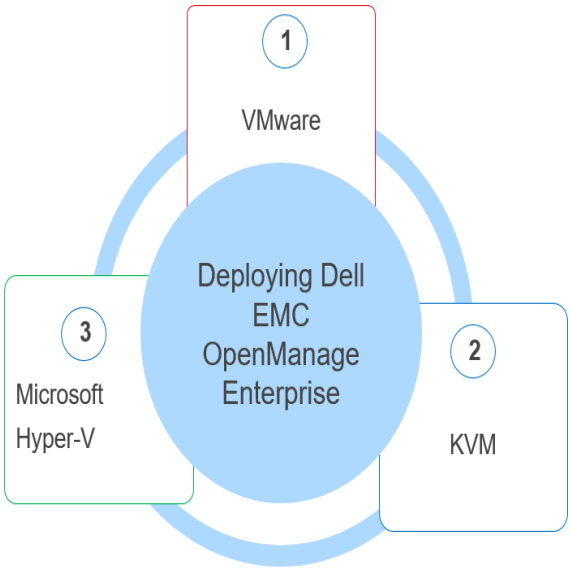
Deploy Dell EMC OpenManage Enterprise Virtual Appliance on Different Hypervisors

This Dell EMC technical white paper describes the process of deploying Dell EMC OpenManage Enterprise as a virtual appliance on hypervisors such as VMware, Microsoft Hyper-V, and KVM.



Abstract

This technical white paper discusses the procedure to deploy Dell EMC OpenManage Enterprise on the following hypervisors: VMware, Hyper-V, and KVM. The Do's and Dont's in deploying are also discussed. Where available, links to the relevant videos are also provided.

January 2019

Revisions

Date	Description
October 2018	Initial release

Acknowledgements

This paper was produced by the following members of the Dell EMC Enterprise Management engineering team:

Author— Anil Kumar V K R and Mark E. Scott, Jr

Support— Sheshadri PR Rao (InfoDev)

Other—N/A

Contents

Terminology

Table 1 List of terminologies used in this technical white paper

EULA	**End**
GUI	Graphical User Interface
NIC	Network Interface Card
NPAPI	Netscape Plugin Application Programming Interface
OS	Operating System
OVF	Open Virtual Machine Format
VHD file	Virtual Hard Disk file
EULA	End User License Agreement

Executive summary

Dell EMC OpenManage Enterprise is designed to be deployed as a virtual appliance for a variety of supported hypervisors (VMware, Hyper-V, and KVM). In general, it can be used in environments that support loading the VMDK or VHD formats, as long as you have the minimum system resources required (4 virtual CPUs and 16 GB of RAM).

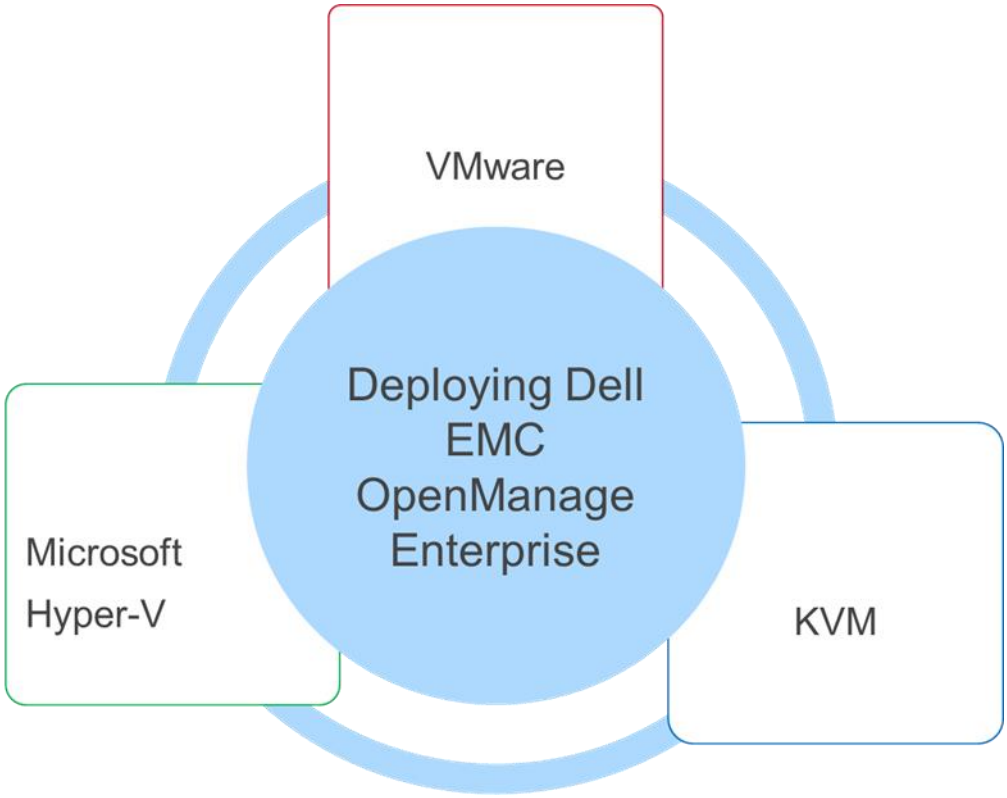


Figure 1 Supported hypervisors for Dell EMC OpenManage Enterprise

You can also view the following videos to get more information about using the unmatched features of Dell EMC OpenManage Enterprise Graphical User Interface (GUI):

- Dell EMC OpenManage Enterprise Systems Management Console (02:02 m)
- Dell EMC OpenManage Enterprise (01:44 m)

1 Installation notes for deploying OpenManage Enterprise

- OpenManage Enterprise is deployed as a virtual appliance, compared to OpenManage Essentials, which is installed into an environment already running Microsoft Windows.
    - All operating system maintenance is performed by OpenManage Enterprise, including even the network configuration.
    - A single network adapter is officially supported—using more than one is not supported in the current Dell EMC OpenManage Enterprise at the time of release of this technical white paper.
    - Ensure that all necessary subnets are routable to the interface given to the OpenManage Enterprise appliance.
- The OpenManage Enterprise appliance is not functional until you have accessed the TUI (Text User Interface) and set the administrator password.
- During first boot, by default, OpenManage Enterprise directs to a static IP—this must be changed to match network configurations appropriate to the customers' environment.

1.1 Do's for deploying OpenManage Enterprise

- Allocate memory and virtual CPUs to increase performance. OpenManage Enterprise is configured to utilize additional resources added to the VM to increase performance.
- Locate OpenManage Enterprise on a hypervisor with local or fast storage. Faster storage supports receiving and processing a larger number of incoming events.
- Ensure ports are opened between OpenManage Enterprise and the devices you want to manage.

1.2 Don'ts for deploying OpenManage Enterprise

- Add additional network adapters. OpenManage Enterprise currently supports only a single virtual NIC.
- Leave unnecessary VM snapshots that result in performance degradation.
- Decrease memory to less than 16 GBs or the number of CPUs to less than four.

2 Deploy Dell EMC OpenManage Enterprise on Microsoft Hyper-V (Windows Server 2016 or Windows 10)

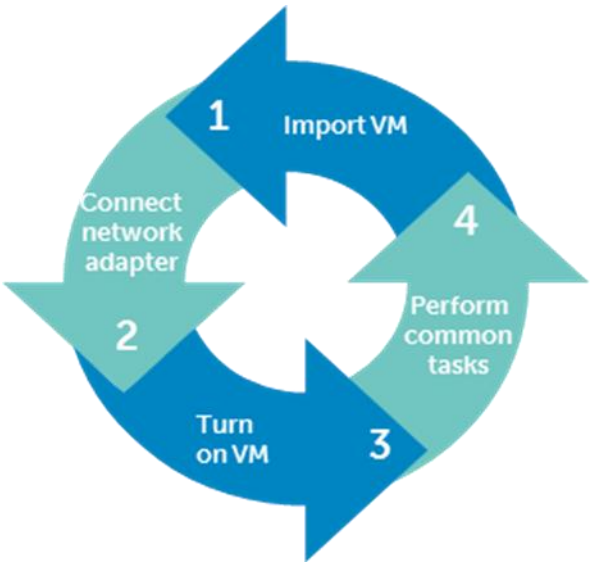


Figure 2 Steps to deploy OpenManage Enterprise on Microsoft Hyper-V

1. From the **Actions** menu, select **Import Virtual Machine**.

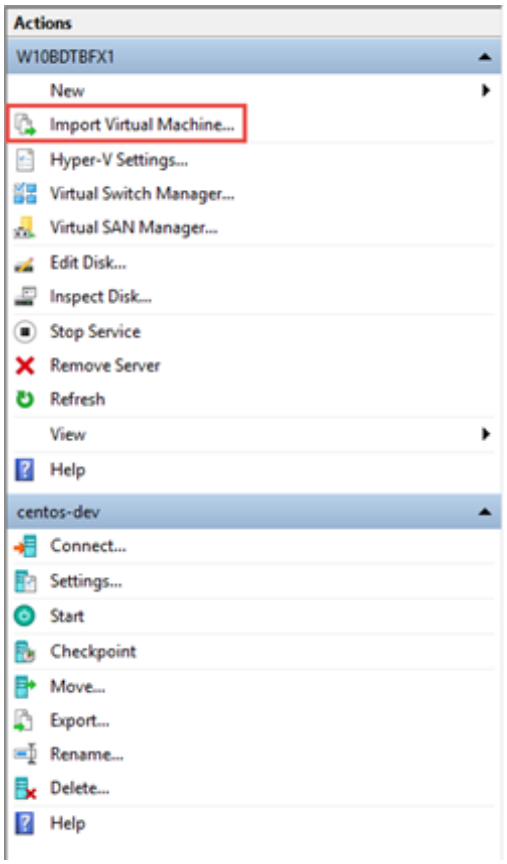


Figure 3 Select Import Virtual Machine on the Microsoft Hyper-V GUI

2. In the **Import Virtual Machine** dialog box, select **Copy the virtual machine (create a new unique ID)**.

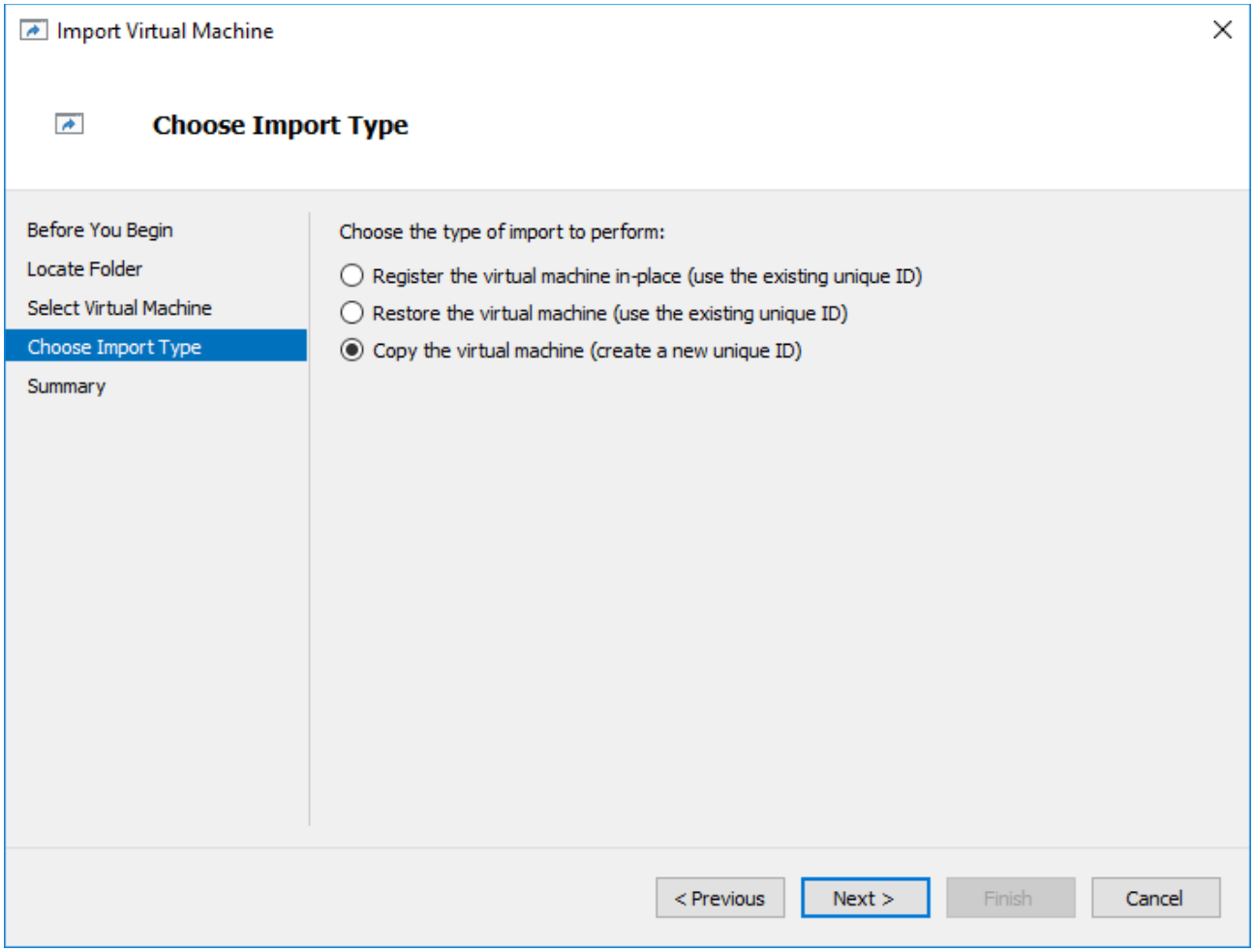


Figure 4 Copy the virtual machine by creating a new unique ID

3. Click **Finish**. Wait till the VM is imported (deployed).

4. Open VM configuration and ensure that the network adapter is connected to a valid network. Failing to do this can result in a fatal condition of the VM.

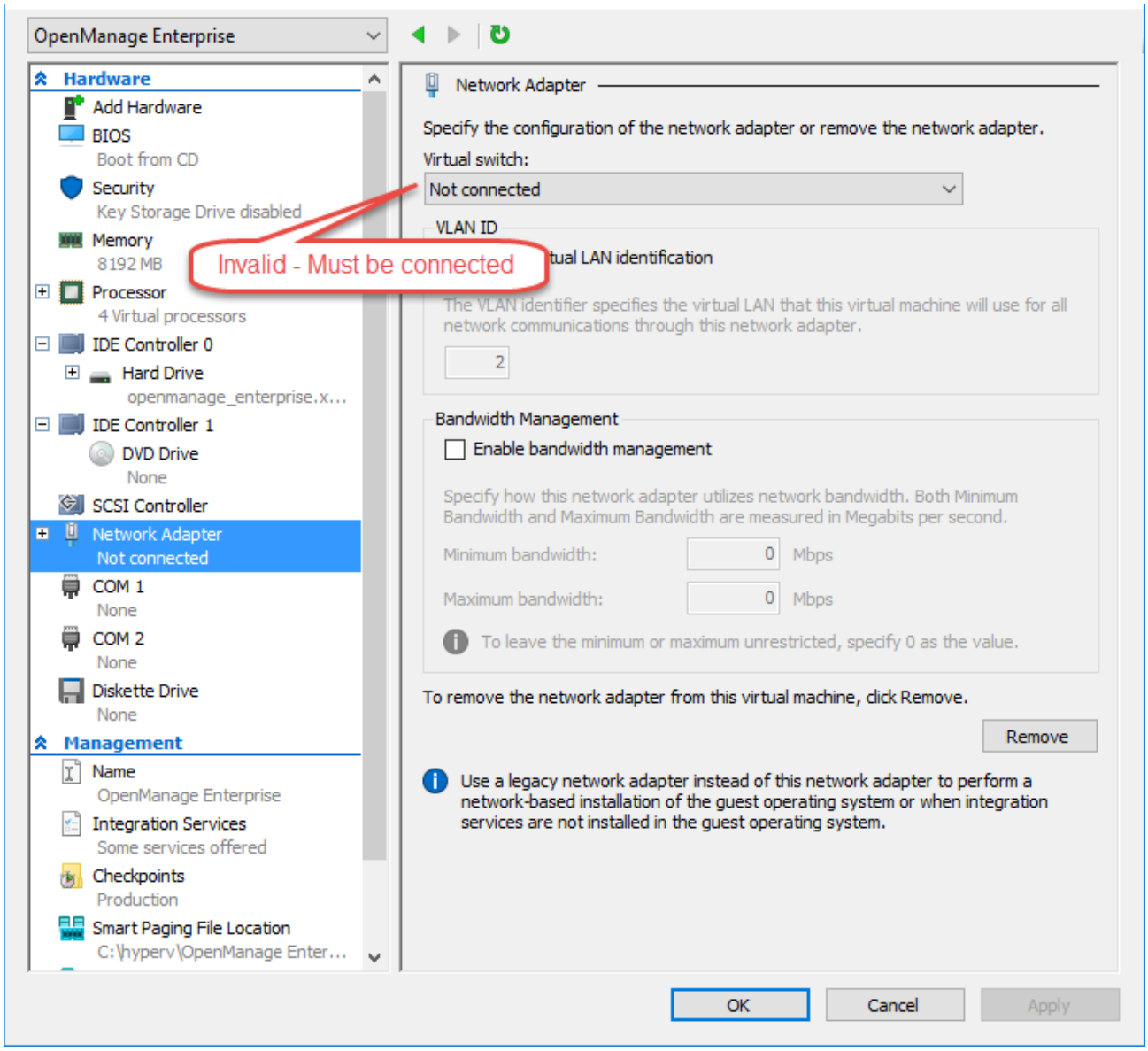


Figure 5 Ensure that the network adapter is connected to a valid network

5. Start the VM.
6. Complete the tasks in Common tasks after starting the VM on OpenManage Enterprise.

2.1 Deploy Dell EMC OpenManage Enterprise on Microsoft Hyper-V

2.1.1 Manually create VM under Hyper-V (required for Windows Server 2012 / Windows 8 and earlier)

1. Extract the `openmanage_enterprise_vhd_format_3.0.zip` file, and then move or copy the enclosed VHD file into the appropriate location on your system where you want to store the Dell EMC OpenManage Enterprise virtual drive (VD).
2. Start Hyper-V Manager.
3. Click **Action** → **New** → **Virtual Machine**.

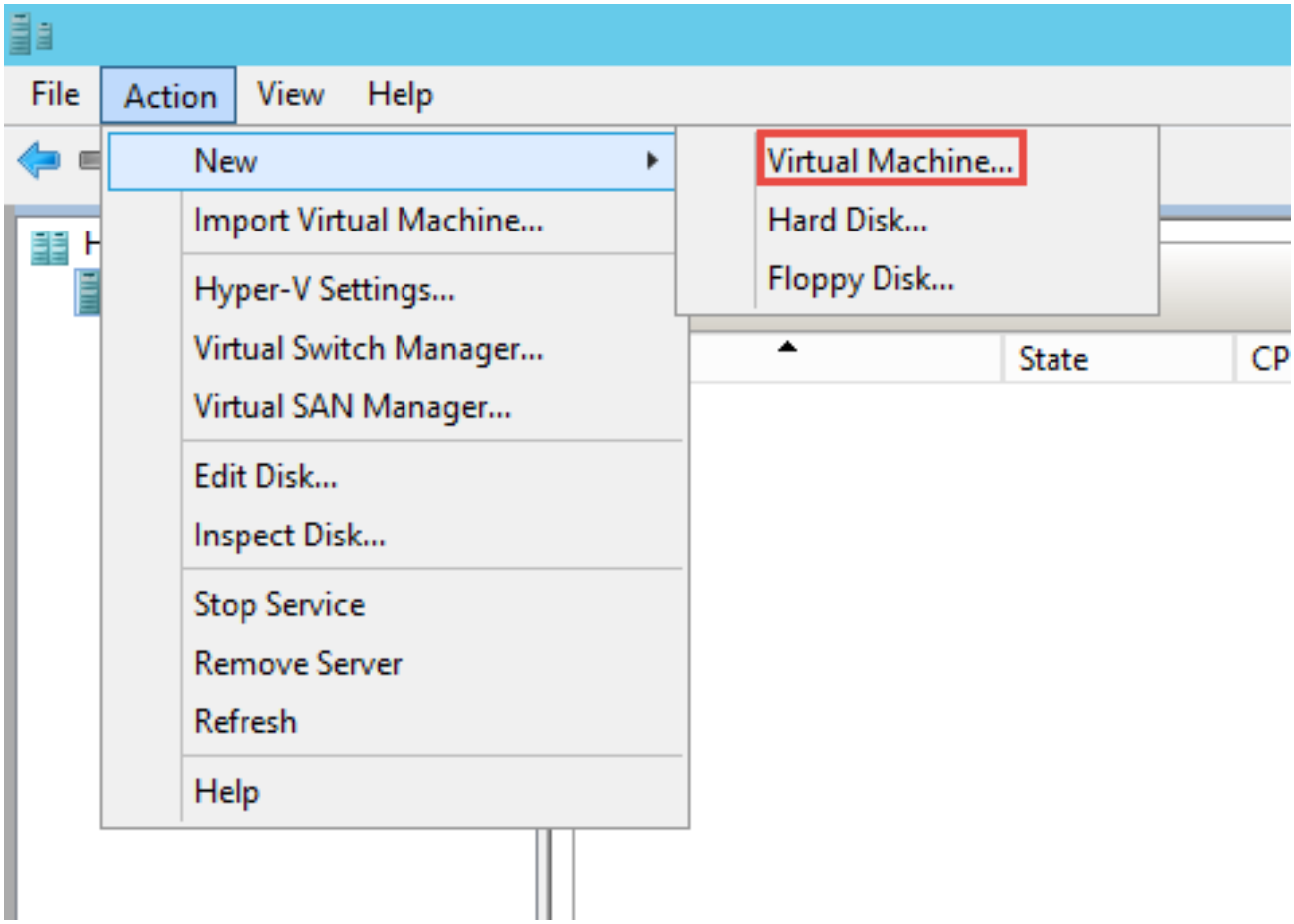


Figure 6 Creating a new VM on Microsoft Hyper-V

4. In the **Specify Name and Location Screen** dialog box, select the VM name and storage location appropriately for your environment.
5. Click **Next**.

6. In the **Specify Generation** dialog box, select **Generation 1**. Currently, the Dell EMC OpenManage Enterprise does not support Generation 2.

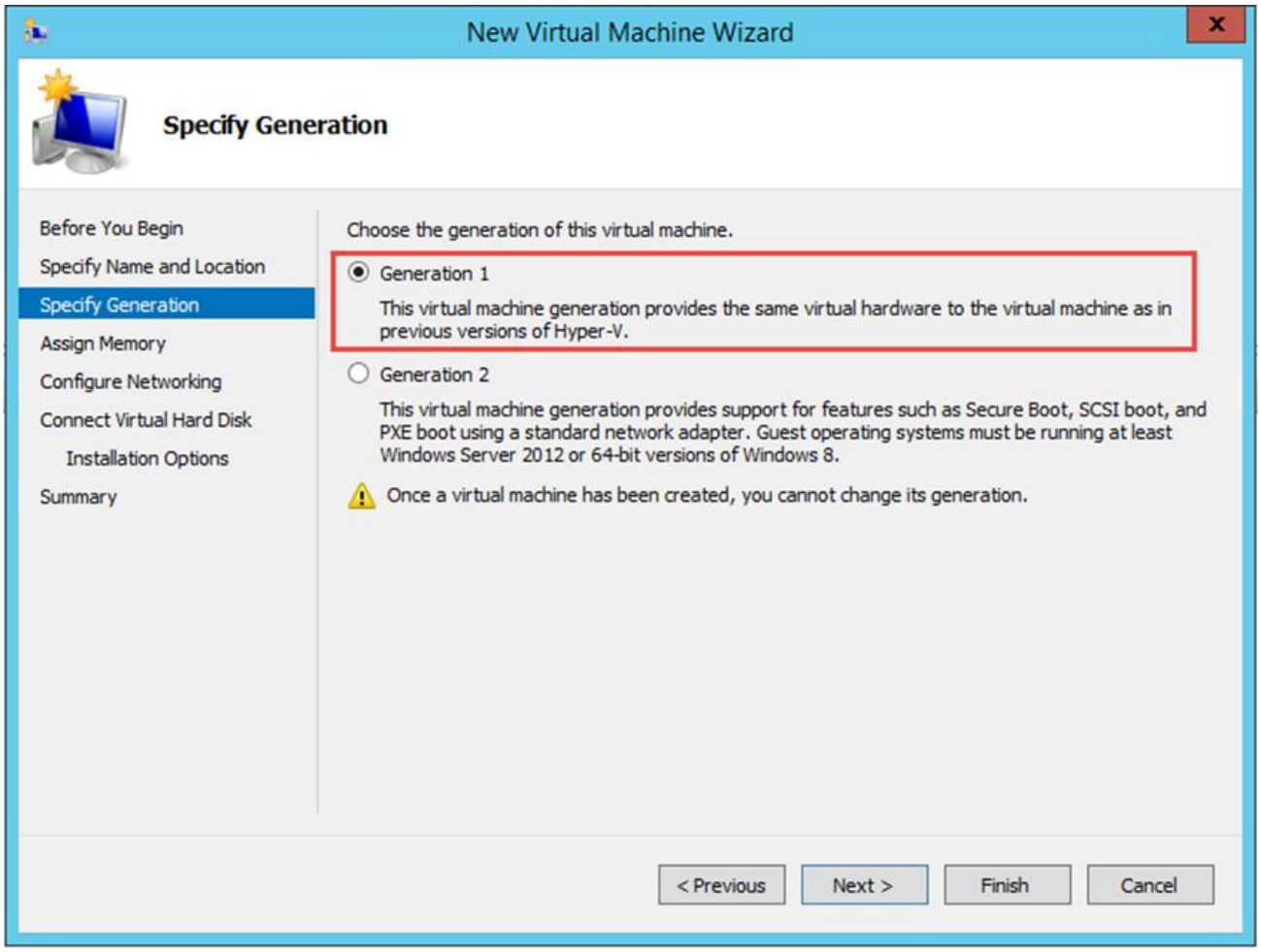


Figure 7 Specify the VM generation while creating a VM

7. Click **Next**.

8. In the **Assign Memory** dialog box, ensure that at least 16384 MB is assigned. Dynamic memory can be enabled, but for best performance, it is recommended to leave the option disabled.

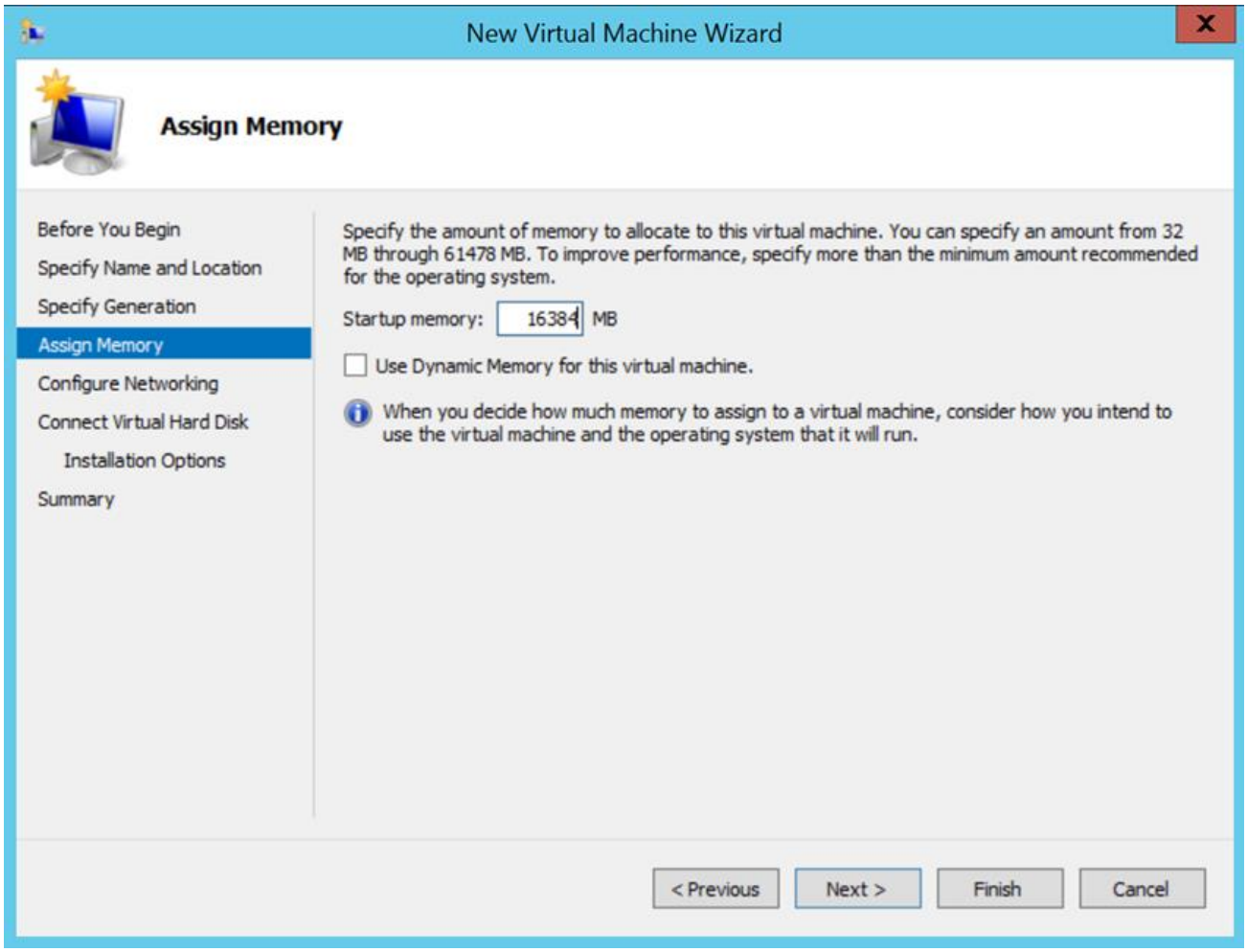


Figure 8 Specify memory for the VM

9. Click **Finish**.
10. Ensure that the network adapter is connected to a network.

2.1.2 Ensure that the network adapter is connected to a network

1. On the networking configuration page, it is important to ensure that the network adapter is connected to a network. Dell EMC OpenManage Enterprise will not function properly if it is set to “Not Connected” at the first boot, and will require redeployment if this scenario occurs.

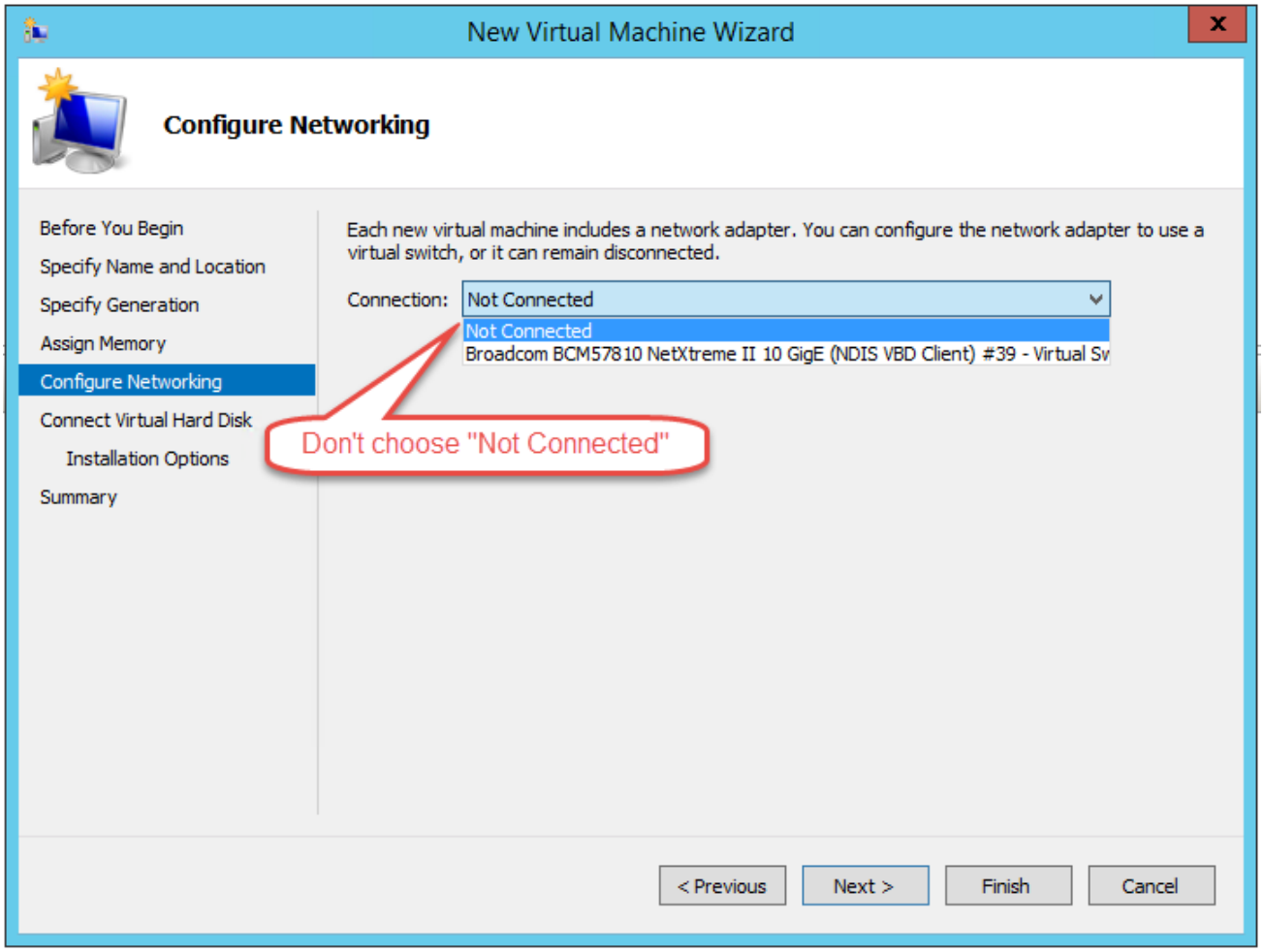


Figure 9 Connect network adapter to a network

2. In the **Connect Virtual Hard Disk** dialog box, select **Use an existing virtual hard disk**, and then browse through to the VHD file you copied at the beginning of this procedure.

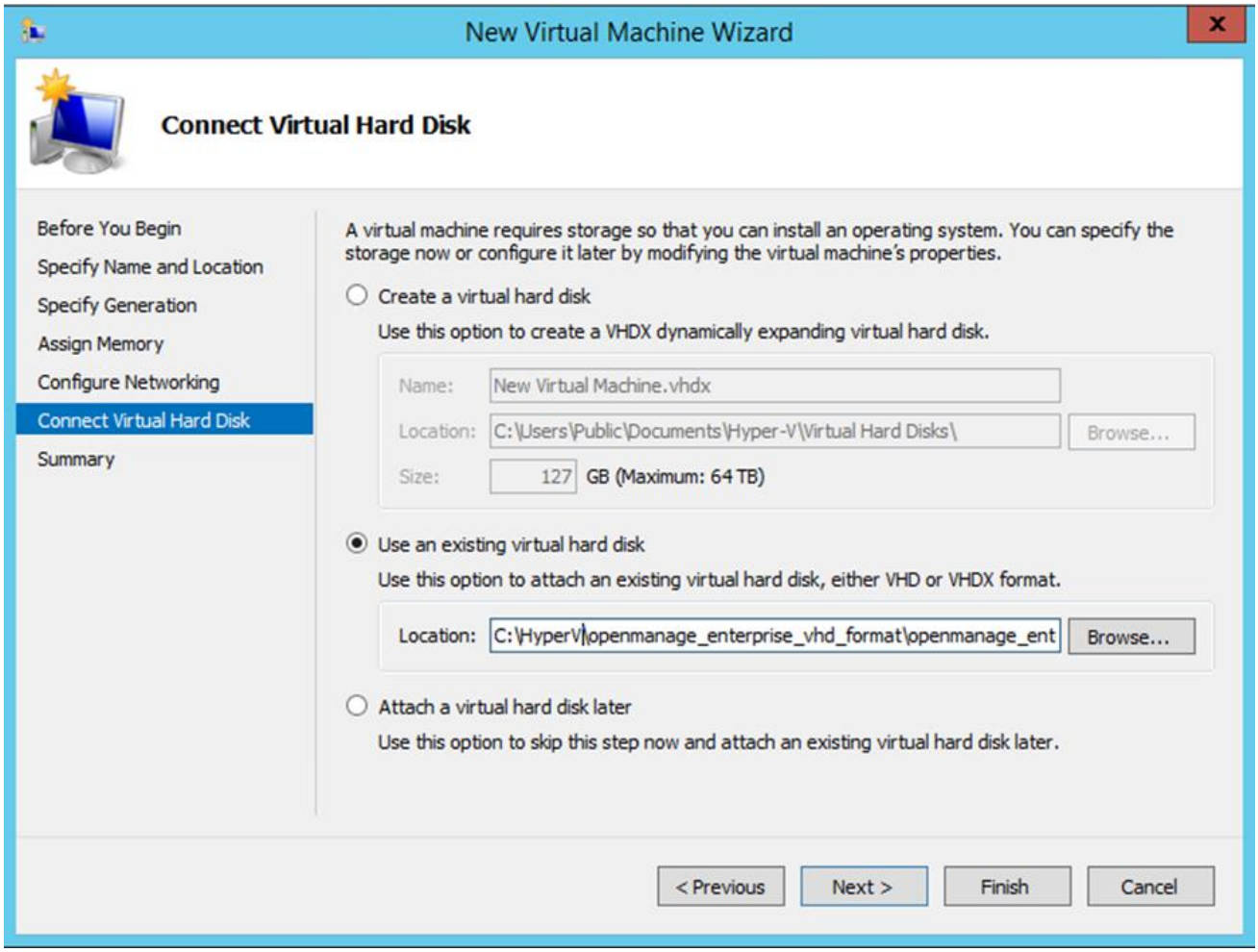


Figure 10 Use an existing hard drive to install an OS

3. Follow the on-screen instructions to complete the deployment process.
4. After completion, open the settings of the newly created VM.

5. Ensure that a minimum of four virtual processors are specified.

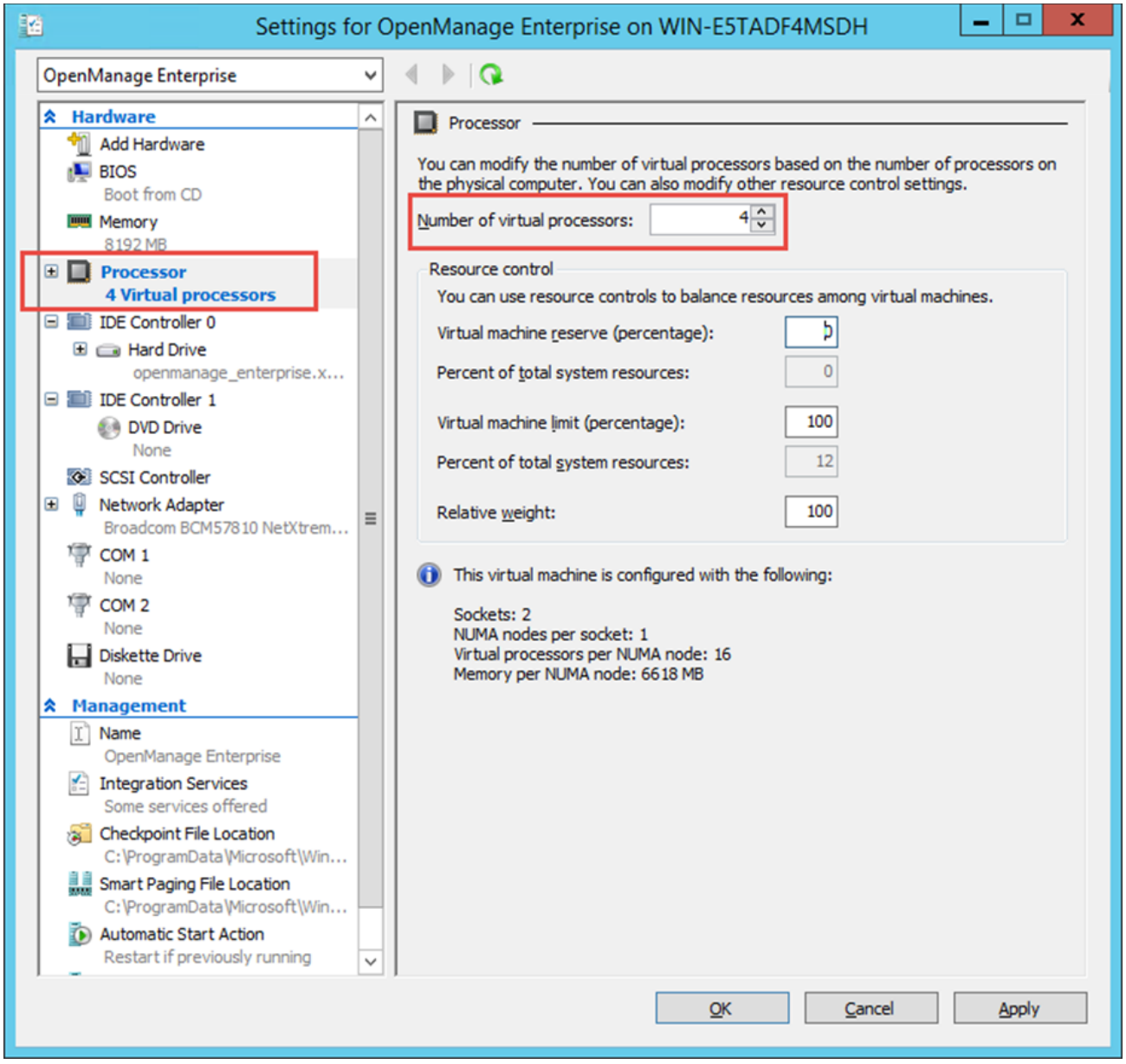


Figure 11 Ensure the availability of four virtual processors

6. Start the VM.
7. Go to Common tasks after starting the VM.

3 Deploy Dell EMC OpenManage Enterprise on VMware vSphere

3.1 Prerequisites for deploying OpenManage Enterprise on VMware vSphere

- The vSphere 5.5 or later versions.
- While deploying OpenManage Enterprise on Open Virtualization Format (OVF) specification based hypervisors, it is recommended to use thick provisioning.
- Recommended deploying by using VMWare vSphere Standalone client (Chrome no longer works with vSphere Web Client properly because NPAPI is any longer supported).
- While you can deploy the VMDK manually, we recommend deploying by using the supplied OVF, which will supply minimum requirements for running the Dell EMC OpenManage Enterprise appliance.

3.2 Deploy OpenManage Enterprise by using KVM

- Because of the wide variety of configurations available for deploying Dell EMC OpenManage Enterprise under KVM, explicit instructions is not be provided in this technical white paper.
- Ensure that at least 16 GBs of RAM, four virtual processors, and a single connected NIC is available.
- After starting on the VM, go to Common tasks after starting the VM.

4 Common tasks after starting the VM on OpenManage Enterprise

1. Wait for the Dell EMC OpenManage Enterprise EULA to be displayed.
2. Read and accept the EULA by using up and down arrows to scroll the text, and the tab key to navigate through the menu items.

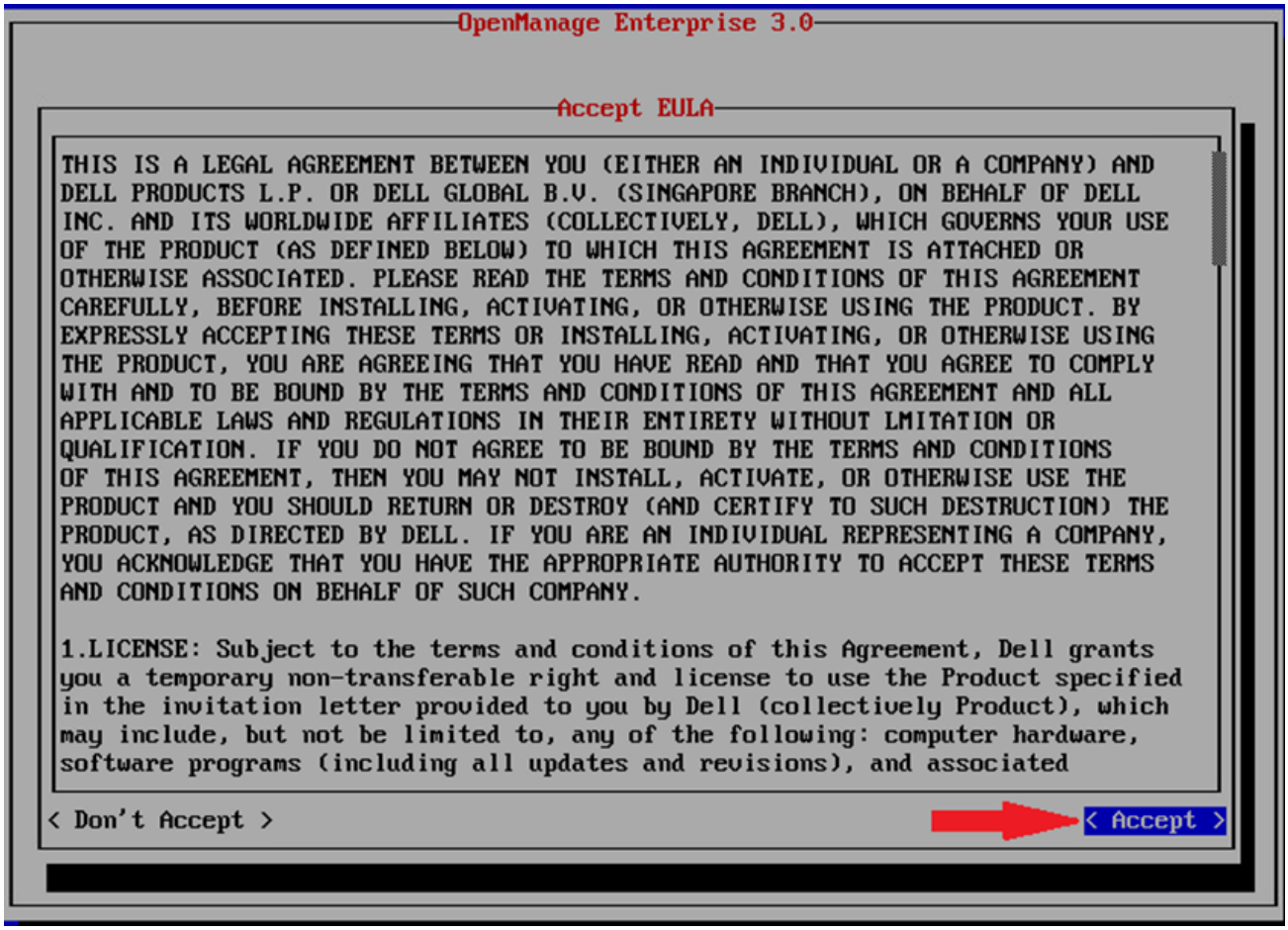


Figure 12 OpenManage Enterprise EULA

3. Enter and verify the OpenManage Enterprise appliance local admin password.

4. Configure network settings as appropriate to your environment.

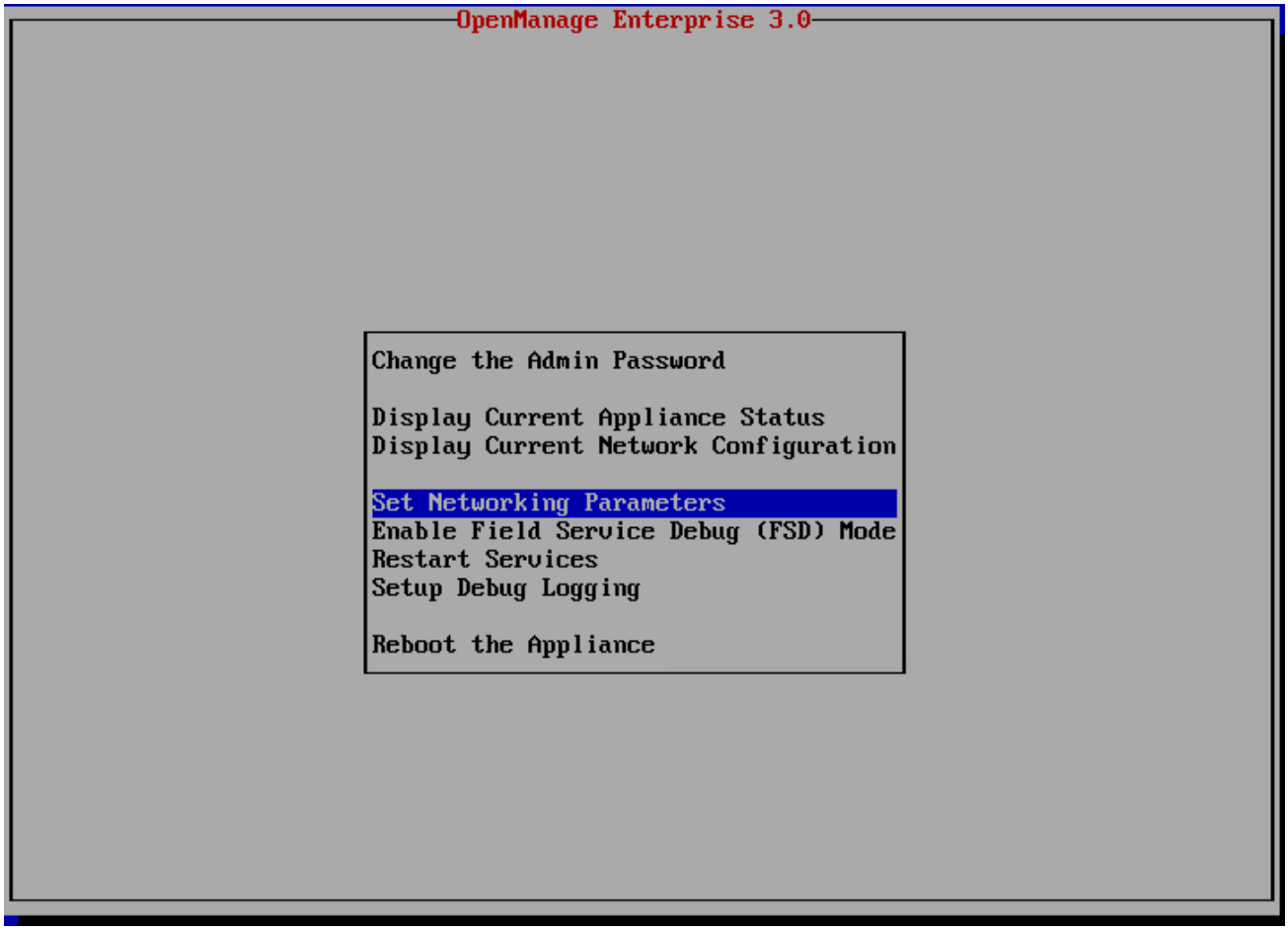


Figure 13 Set network properties for OpenManage Enterprise

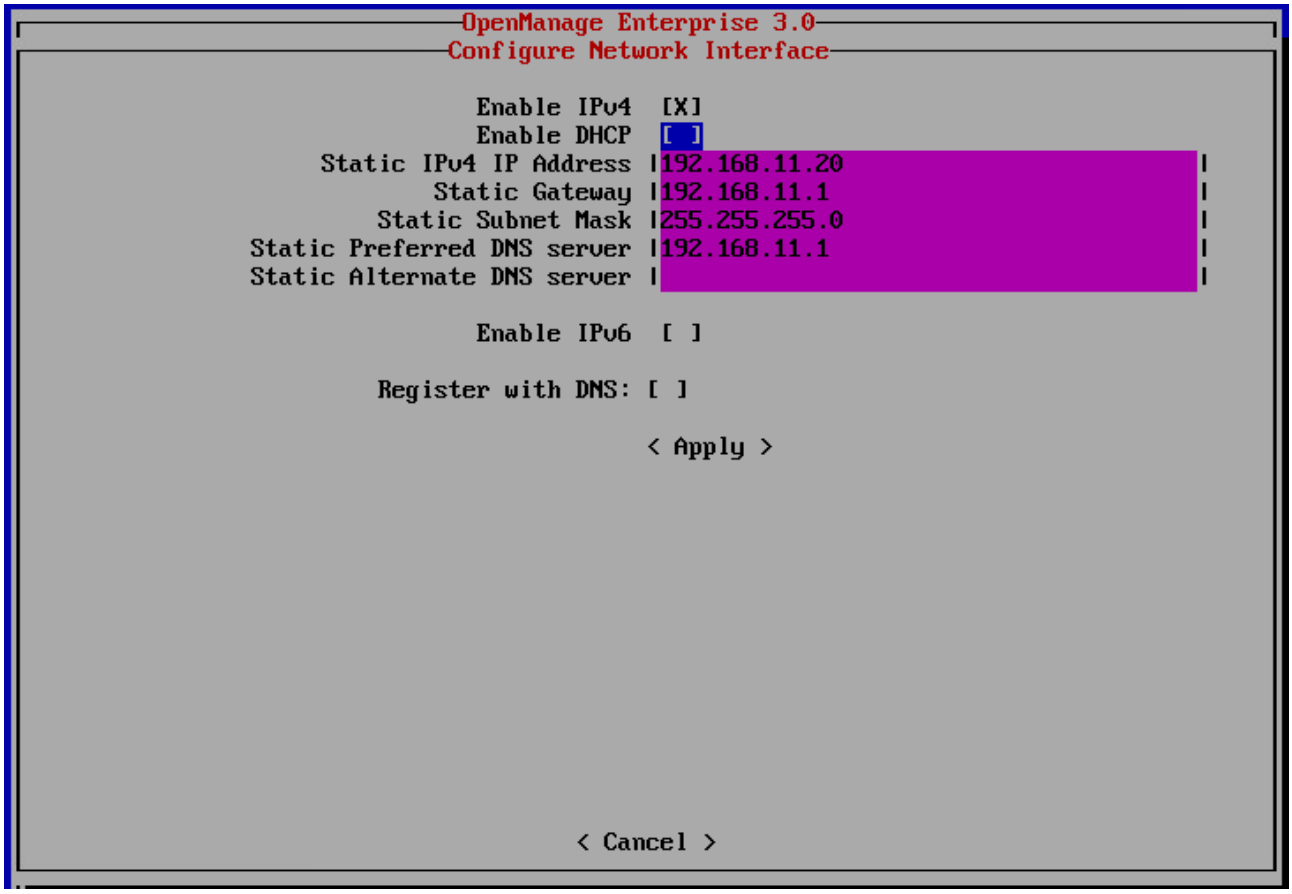


Figure 14 Set network IP addresses for OpenManage Enterprise

5. View current settings to obtain actual IP addresses (if DHCP is configured).

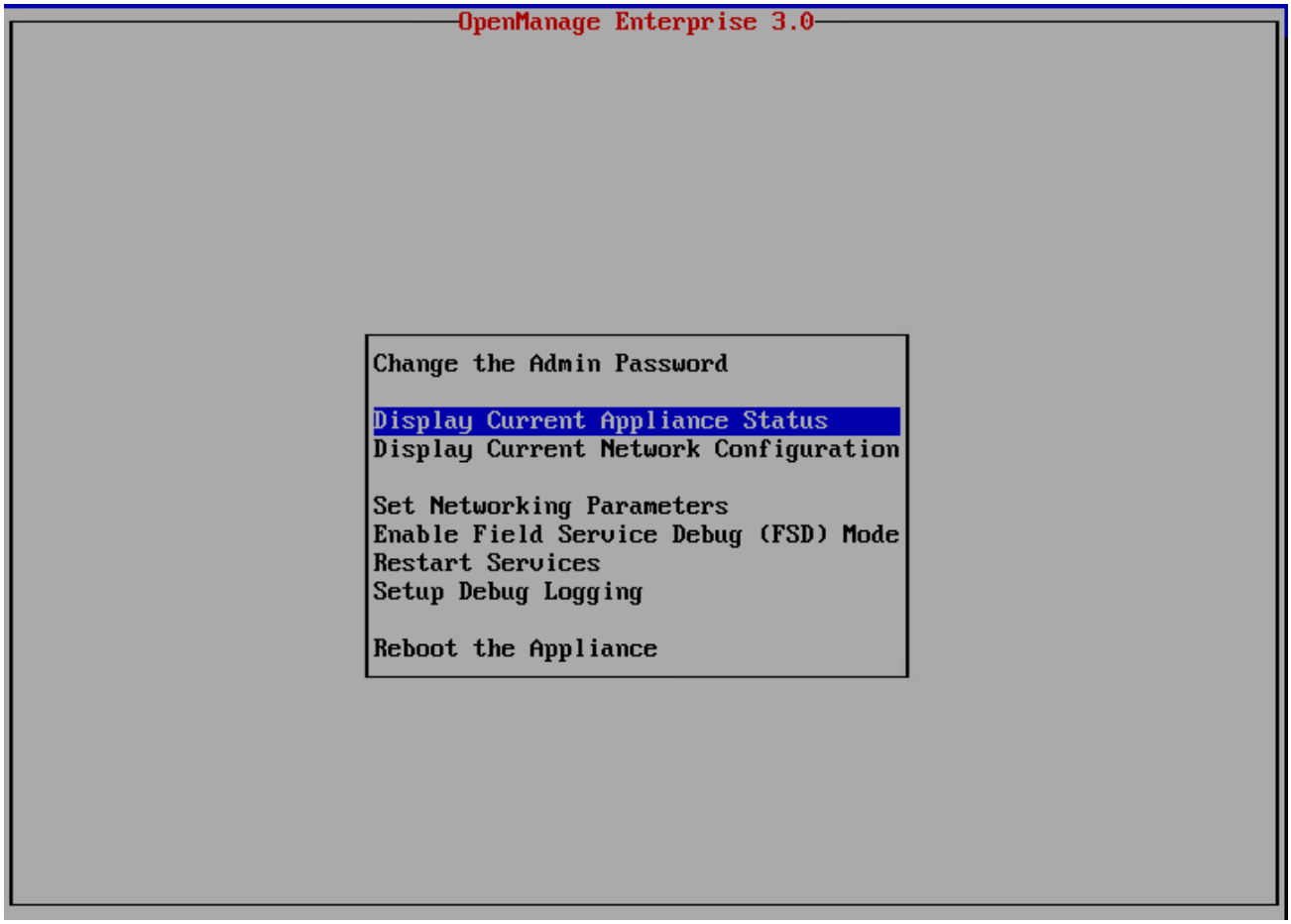


Figure 15 View current network status of OpenManage Enterprise

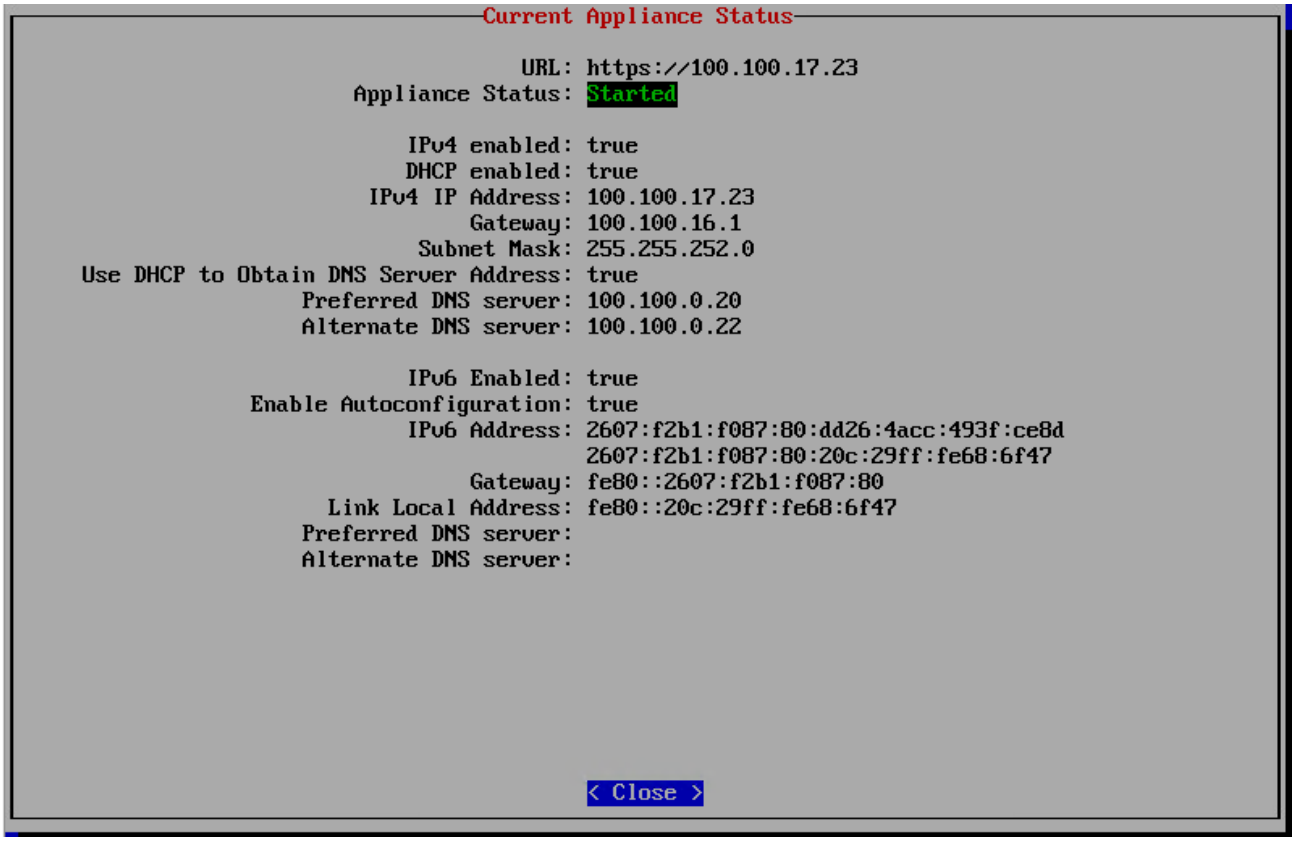
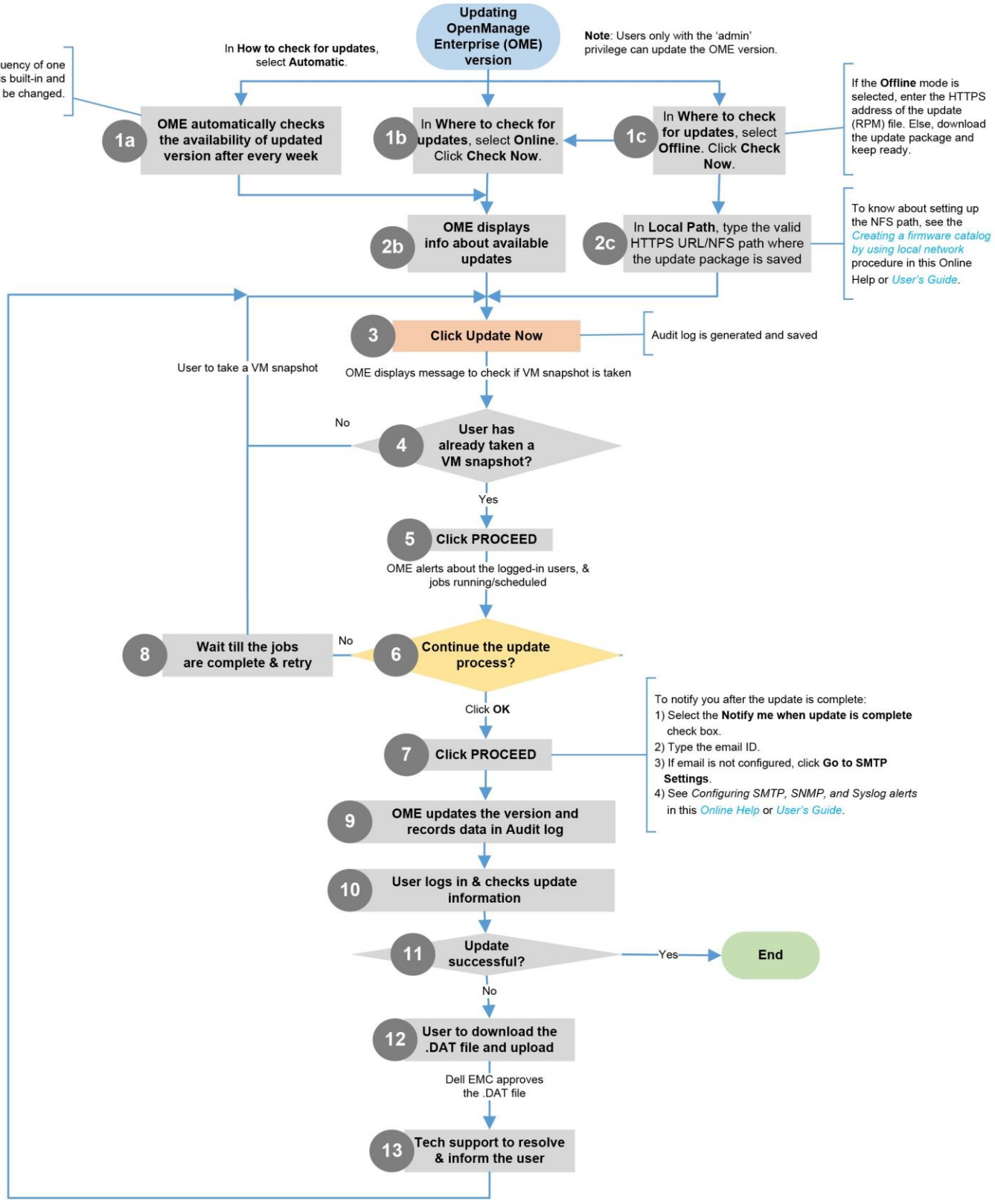


Figure 16 Status of OpenManage Enterprise appliance

6. Start OpenManage Enterprise in a supported browser.

5 Process map for checking and updating the Dell EMC OpenManage Enterprise version



Conclusion

Deploying Dell EMC OpenManage Enterprise in a virtual environment is a straight forward process, which is supported on a number of popular hypervisors. The deployment model offers a quick way to begin managing assets in your data center from a single console. For topics related to initial server discovery and management, see the Dell EMC OpenManage Enterprise: Server Management Direct from Development document on the support site.

 You can also view the following videos to get more information about using the unmatched features of Dell EMC OpenManage Enterprise Graphical User Interface (GUI):

- Dell EMC OpenManage Enterprise Systems Management Console (02:02 m)
- Dell EMC OpenManage Enterprise (01:44 m)

A Technical support and resources

Dell.com/support is focused on meeting customer needs with proven services and support.