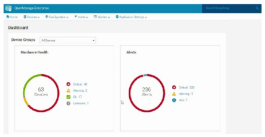

DELL OpenManage Enterprise Deployment Instructions

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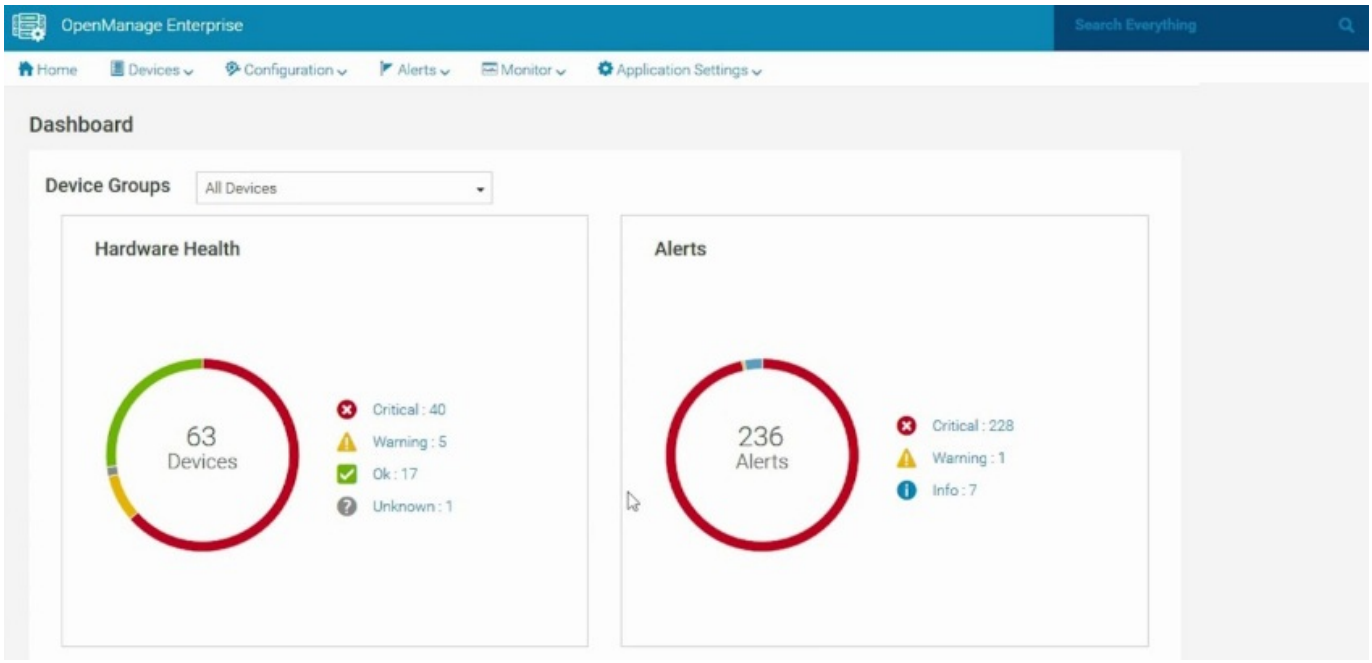
DELL OpenManage Enterprise Deploymen



Product Information

OpenManage Enterprise Deployment

OpenManage Enterprise is a virtual appliance designed to assist in managing data center resources. It is compatible with VMware, Hyper-V, and KVM hypervisors and requires a minimum of 4 virtual CPUs and 16 GB of RAM. This technical whitepaper provides information on the best practices for deploying OpenManage Enterprise and outlines the tasks required for installation and maintenance.

Best Practices

To ensure optimal performance and functionality, it is recommended that the following best practices are followed:

- Perform all operating system maintenance using OpenManage Enterprise, including network configuration.
- Use only a single network adapter as multiple adapters are not supported.
- Ensure all necessary subnets are routable to the interfacegiven to the OpenManage Enterprise appliance.
- Set the administrator password using the TUI (Text User Interface) to enable OpenManage Enterprise functionality.
- Allocate memory and virtual CPUs to increase performance. Additional resources added to the VM can be utilized by OpenManage Enterprise.
- Locate OpenManage Enterprise on a hypervisor with local or fast storage to support a larger number of incoming events.
- Ensure ports are opened between OpenManage Enterprise and thedevices being managed.
- Avoid adding additional network adapters as only a single virtual NIC is currently supported.
- Avoid leaving unnecessary VM snapshots that result in performance degradation.
- Do not decrease memory to less than 16GBs or decrease the number of CPUs to less than four.

Product Usage Instructions

To deploy OpenManage Enterprise, follow these instructions:

1. Ensure the hypervisor used is compatible with OpenManage Enterprise.
2. Allocate a minimum of 4 virtual CPUs and 16GB of RAM to the virtual machine.
3. Download and install the OpenManage Enterprise virtual appliance.
4. Access the TUI and set the administrator password to enable functionality.
5. Ensure all necessary subnets are routable to the interface given to the OpenManage Enterprise appliance.
6. During first boot, change the static IP to match network configurations appropriate to the customers' environment.
7. Allocate additional memory and virtual CPUs to increase performance, if necessary.
8. Ensure ports are opened between OpenManage Enterprise and the devices being managed.
9. Avoid adding additional network adapters as only a single virtual NIC is currently supported.
10. Avoid leaving unnecessary VM snapshots that result in performance degradation.

Following these instructions will result in a successful deployment of OpenManage Enterprise with optimal performance and functionality.

Abstract

This technical whitepaper details the best practices and tasks required for the deployment of OpenManage Enterprise on VMware, Hyper-V, and KVM hypervisors.
June 2022

Revisions

Date	Description
June 2022	Initial release

Acknowledgments

- **Author:** Anil Kumar V K R and Mark E. Scott, Jr
- **Support:** Sheshadri PR Rao

Overview

Dell 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, if you have the minimum system resources (4 virtual CPUs and 16 GB of RAM).

Best practice

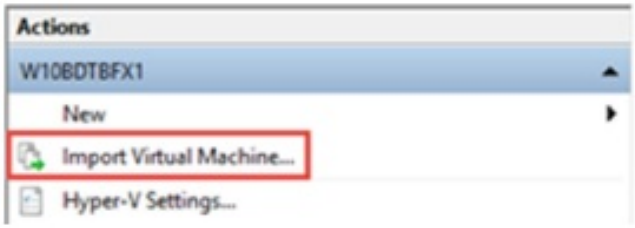
- All operating system maintenance is performed by OpenManage Enterprise, including the network configuration.
- A single network adapter is officially supported—using more than one is not supported in the current OpenManage Enterprise at the time of release of this technical white paper.
- Ensure that all necessary subnets are routable to the interface given to the OpenManage Enterprise appliance.
- Access the TUI (Text User Interface) and set the administrator password to enable OpenManage Enterprise functionality.
- During first boot, by default, OpenManage Enterprise directs to a static IP—which must be changed to match network configurations appropriate to the customers' environment.

During OpenManage Enterprise deployment

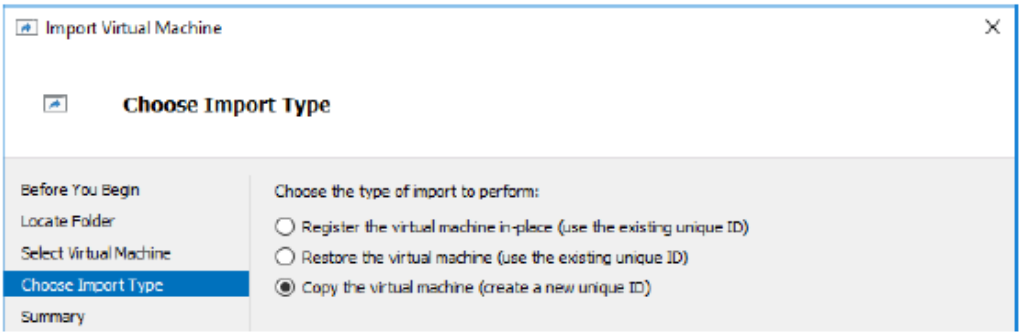
Do	Do not
• Allocate memory and virtual CPUs to increase performance. OpenManage Enterprise is configured to utilize additional resources added to the VM to increase performance. • Locate OpenManage Enterprise on a hypervisor with local or fast storage. Faster storage supports receiving and processing a larger number of incoming events. • Ensure ports are opened between OpenManage Enterprise and the devices you want to manage.	• 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.

Deployment in Microsoft Hyper-V

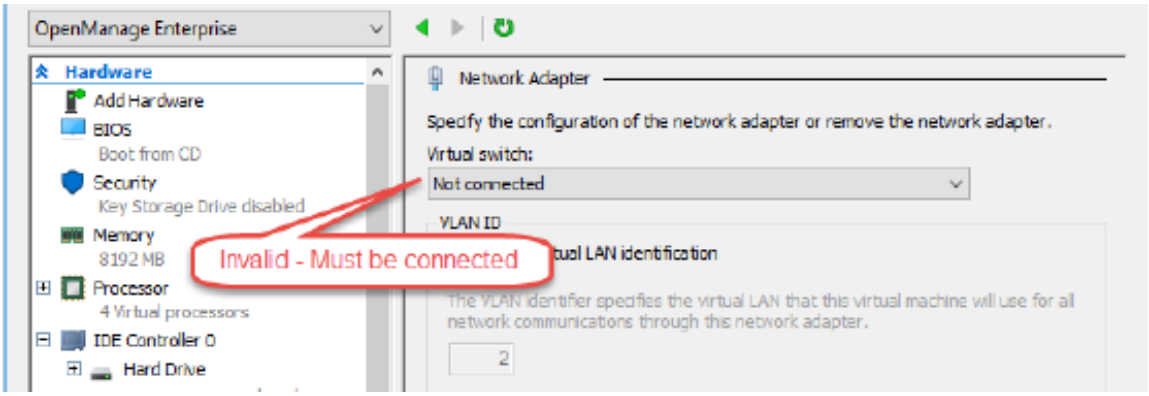
In Microsoft Windows Server 2016, 2019, and 2022:



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



2. In the Import Virtual Machine dialog box, select Copy the virtual machine.
3. Click Finish. Wait until the VM is imported (deployed).

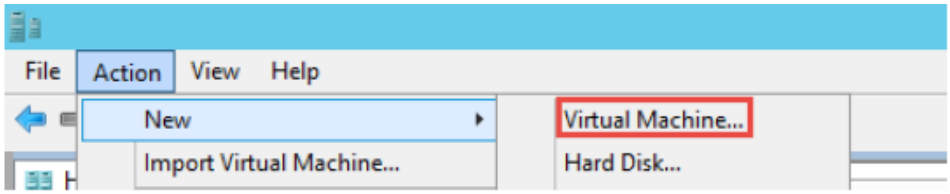


4. Open VM configuration and ensure that the network adapter is connected to a valid network. Failing to do this can result in a fatal condition of the VM.
5. Start up the VM.
6. Complete the steps for After VM startup.

Create the virtual machine

In Microsoft Windows Server 2016, 2019, and 2022:

1. Extract the openmanage_enterprise_vhd_format_3.9.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.

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

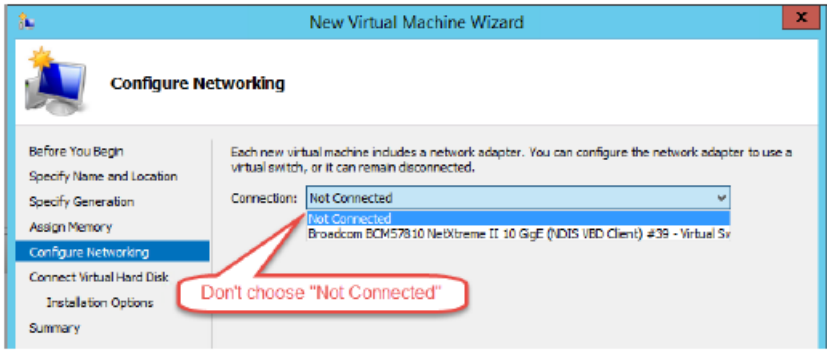
6. In the Specify Generation dialog box, select Generation 1. Currently, the Dell EMC OpenManage Enterprise does not support Generation 2.
7. Click Next.
8. In the Assign Memory dialog box, ensure that at least 16384 MB is assigned. Dynamic memory can be enabled, but for best performance, it is recommended to leave the option disabled.
    - **Note:** For better optimization, assign the memory based on multiples of 16 GB / 16384 MB.

9. Click Finish.
10. Complete the steps to Ensure the network adapter is connected.

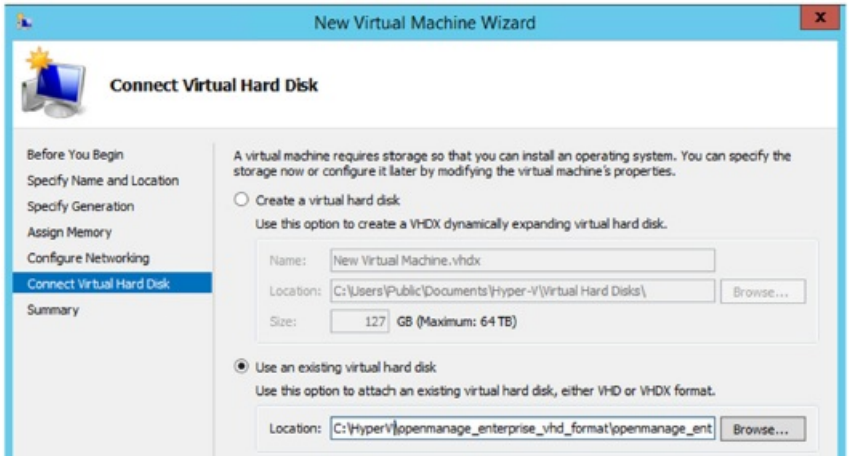
Ensure the network adapter is connected

In Microsoft Windows Server 2016, 2019, and 2022:

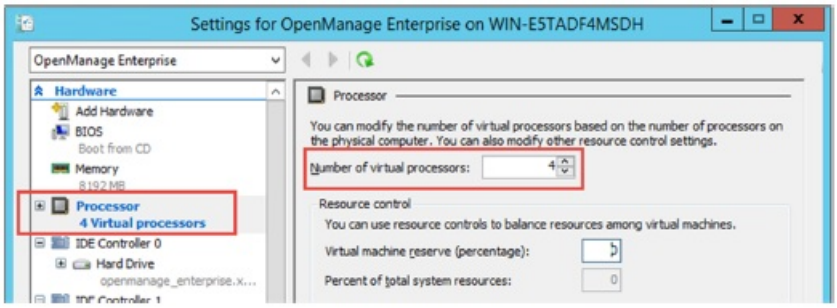
1. On the networking configuration page, it is important to ensure that the network adapter is connected to a network. OpenManage Enterprise will not function properly if it is set to “Not Connected” at the first boot and will require re-deployment.



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.



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.
6. Start the VM.
7. Complete the steps for After VM startup.

Deployment in VMware

- Use VMware vSphere 5.5 or later versions.
- When deploying OpenManage Enterprise on Open Virtualization Format (OVF) specification-based hypervisors, it is recommended to use thick provisioning.
- Best practice is to deploy using the VMWare vSphere standalone client, as Google Chrome no longer works with vSphere Web Client properly as NPAPI is any longer supported.
- While you can deploy VMDKs manually, it is best practice to deploy them using the supplied OVF template, which is configured with the minimum hardware requirements for running the OpenManage Enterprise appliance.

Deployment on KVM

- Because of the wide variety of configurations available for deploying OpenManage Enterprise on KVM, explicit instructions are not 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 up the VM, complete the steps for After VM startup.

Programmatic deployment

OpenManage Enterprise can be programmatically deployed on VMWare ESXi 6.5 or later using scripts.

Note: Use the latest versions of the OVF Tool and Python 3.0 or later for this deployment.

To programmatically deploy OpenManage Enterprise:

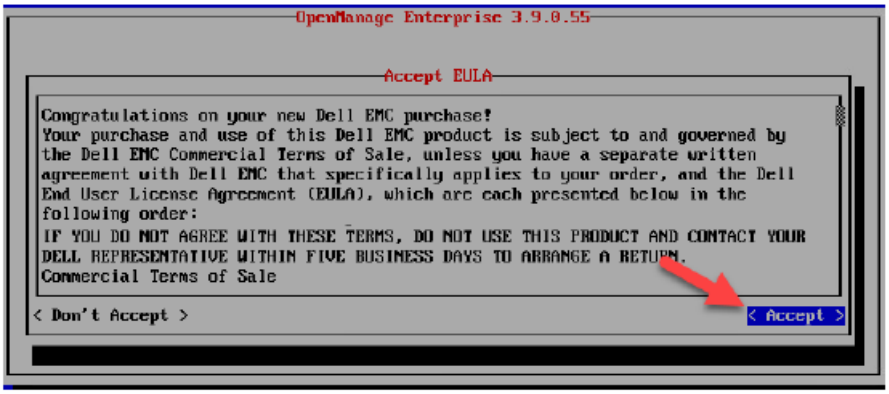
1. Download and extract the openmanage_enterprise_ovf_format.zip file or download the following
    - OVF files individually from the support site:
        - openmanage_enterprise.x86_64-0.0.1-disk1.vmdk
        - openmanage_enterprise.x86_64-0.0.1.mf
        - openmanage_enterprise.x86_64-0.0.1.ovf
        - openmanage_enterprise.x86_64-0.0.1.vmx
        - ovf_properties.config•update_ovf_property.py2
2. Open the ovf_properties.config and set the following parameters:
    - Parameter—bEULATxt
    - Accepted Values— true or false
    - Description—By setting this value to true, you agree to the terms and conditions in the End-User
    - License Agreement (EULA). The EULA information is available at the end of the ovf_properties.config file.
    - Parameter—adminPassword
    - Accepted Values—Must contain at least one character in—uppercase, lowercase, digit, and special character. For example, Dell123$
    - Description— Type a new administrator password for the OpenManage Enterprise.
    - Parameter—bEnableDHCP
    - Accepted Values—true or false
    - Description—Set to true if you want the appliance to enable IPv4 DHCP and to ignore the static IPv4.
    - Parameter—bEnableIpv6AutoConfig
    - Accepted Values—true or false
    - Description—Set to true if you want the appliance to enable IPv6 auto configuration and to ignore the static IPv6.
    - Parameter—staticIP
    - Accepted Values—static IP in the CIDR format
    - Description—Can be IPv4 or IPv6. (You cannot set both the IPv4 and IPv6 types at a time.)
    - Parameter—gateway
    - Accepted Values—IPv4 or IPv6
    - Description—You cannot set static gateway as the IPv4 and IPv6 types at a time.
3. Run the update_ovf_property.py script.
    - This script modifies the openmanage_enterprise.x86_64-0.0.1.ovf file for deployment in accordance with the values set in the ovf_properties.config file. When the script is successfully run, a sample ovftool command is displayed. It contains tags such as <datastore>, <user>, <password>, and <IP address>, which you should replace based on your deployment environment. These settings define the resources that are used on the target ESXi system, and the credentials and IP address of the target system.
    - **Note:** Remember to replace the entire tag including the < and > symbols.
4. Run the modified ovftool command from the previous step.
    - **Note:** The ovftool command must be run with the –X:injectOvfEnv and –powerOn flags because they are required for programmatic deployment.

- After the ovftool command is run, the manifest validates and the deployment operation is started. For more information, see the OpenManage Enterprise User's Guide.

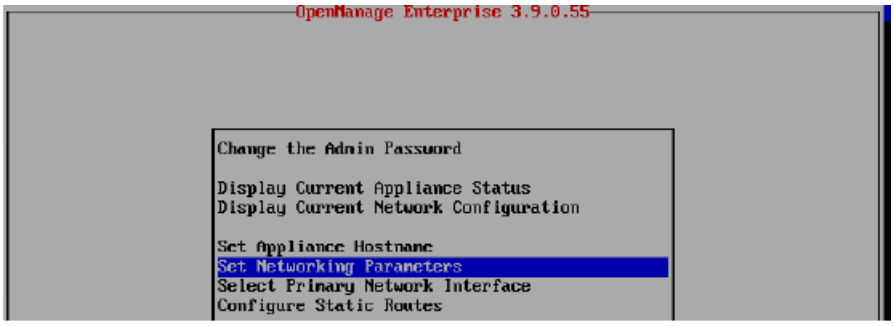
5. Run the python file by using the ./autoDeploy.py command on the Client CLI. Ensure if there are no errors in the result.
6. Deploy the OVF by running the following command: ovftool –net:bridged=<"VM NETWORK"> –datastore=<DATASTORE1> -dm=thin — name=<"OPENMANAGE ENTERPRISE"> –noSSLVerify –acceptAllEulas — X:logToConsole=true –X:logLevel="info" –X:injectOvfEnv –powerOn openmanage_enterprise.x86_64-0.0.1.ovf vi://<USER>:<PASSWORD>@<IP ADDRESS>

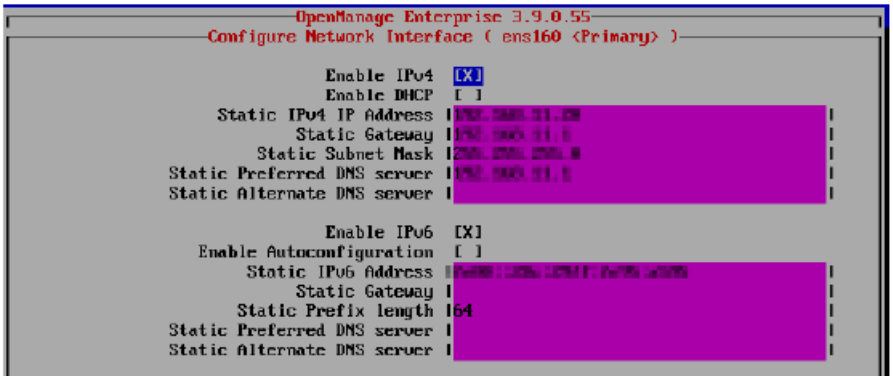
After VM startup

1. Wait for the Dell OpenManage Enterprise EULA to be displayed.

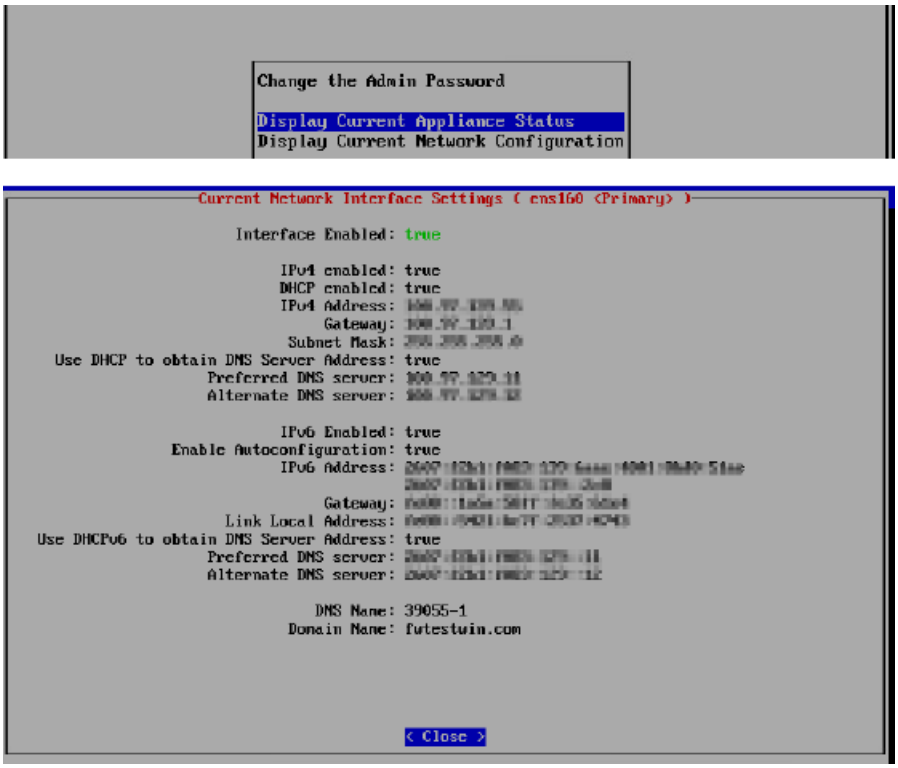


2. Read and accept the EULA by using the up and down arrow keys to scroll the text, and the tab key to navigate the menu items.
3. Enter and verify the OpenManage Enterprise appliance local admin password.



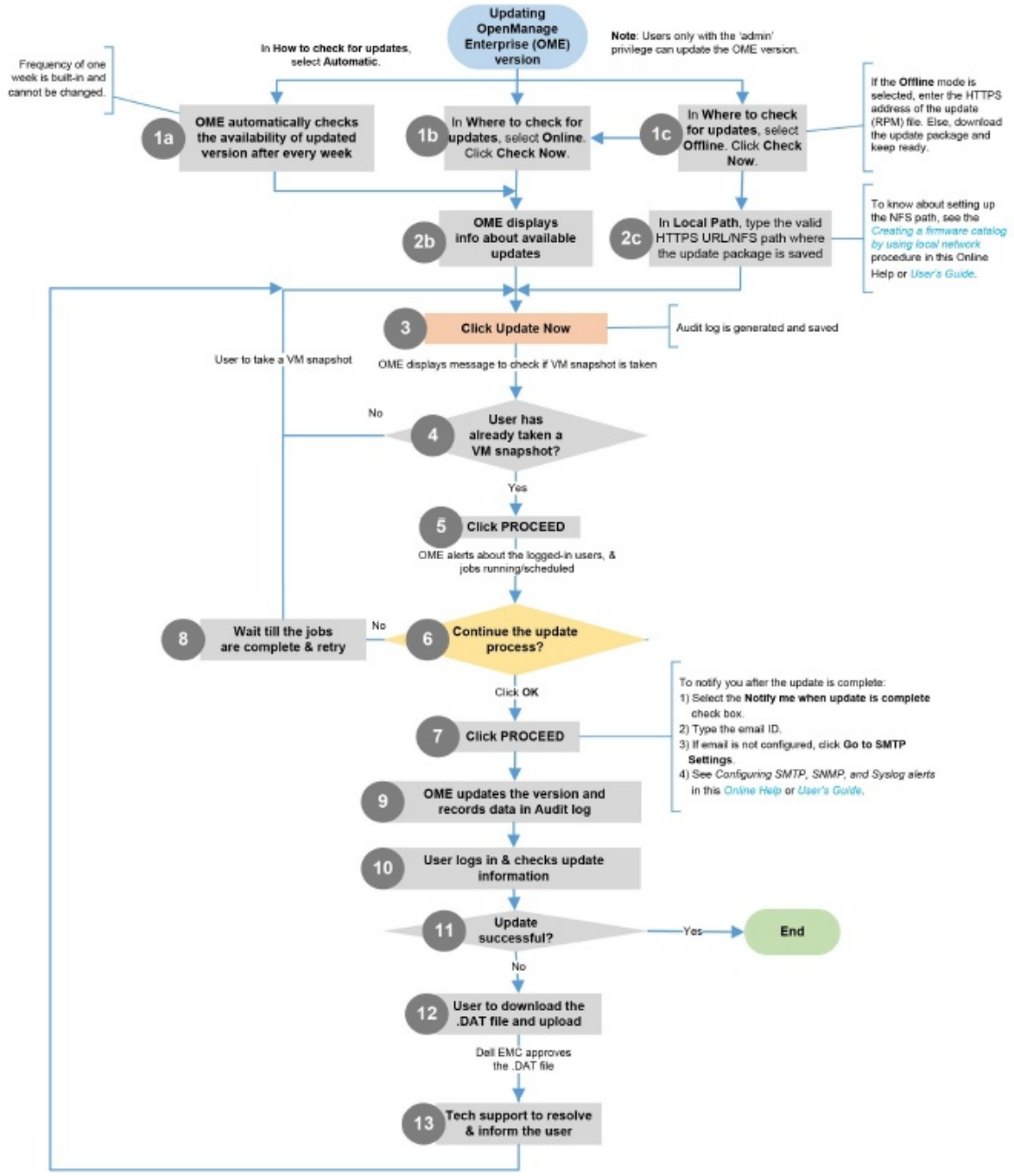


4. Configure the network settings, as required.



5. If DHCP is configured, view the current settings to obtain actual IP addresses.
6. Open OpenManage Enterprise in a supported browser.

Checking and updating the appliance version



Technical support and resources

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

Related resources

- See the OpenManage Enterprise User's Guide for more information.

Documents / Resources

	**DELL OpenManage Enterprise Deployment** [pdf] Instructions OpenManage Enterprise Deployment, Enterprise Deployment, Deployment

References

- Support | Dell US