



## > **Virtual Appliance Installation Guide**

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## Installing the OpenManage Network Manager Virtual Appliance

The OpenManage Network Manager Virtual Appliance, or virtual machine (VM) is a single .ova file, which comes from a Vsphere 4.0 client. Although this should be compatible with products listed below, only the VMware® player 8, VMware Workstation 8 and Vsphere ESX®4.1 have been evaluated. Other potentially compatible players:

- ACE 2.5-2.7
- ESX®4.x
- ESX®5.0
- Fusion 2.x
- Fusion 3.x
- Fusion 4.0
- Server 2.x
- Workstation 6.5
- Workstation 7.x
- Workstation 8.0
- Oracle virtual box 4.3.10



### Note

*This document assumes in depth Linux and VMware® Administration knowledge.*

The following assumes that the VM is a standalone server and client access comes from a client browser from another host. If you need client access directly on the VM, you must install a compatible browser on the VM.

For best experience and use of time, trial users should allocate sufficient resources during the trial period so they can evaluate the full set of features. We encourage users, to use the many resources available.

Refer to the hardware requirements for a conventional installation (*Best Practices: Single Server Hardware of the Installation Guide*) for more about resource requirements. You may also get additional information, videos and access to support and a knowledgebase at the website where you downloaded this appliance. You can also install OpenManage Network Manager directly onto a physical Windows or Linux server. The full packaged software is available on the same web site where you got the VM.

You may deploy the OpenManage Network Manager Trial VM as virtual appliance on a VMware® or ESX® host. This guide shows how to configure it as a virtual appliance. The instructions assume you have already installed and configured the ESX® host or VMware® host. For additional information about installing and configuring the ESX® virtual host machine, consult your VMware® documentation.

## Virtual Appliance Quick Start

It is recommended that you read this entire guide before installation. Here are the quick start steps:

1. Import the .OVA file and power on.
2. Start the VM and login with user= synergy password=synergyP@\$
3. Run ./setup command and select Option #1 for initial VM configuration.
4. After restarting the VM, go to ./setup menu and run the "Check server status option" to confirm server startup status.
5. Using a remote browser go to url `http://<yourIP>:8080` and login with username=admin, password=admin

The following section will provide more details for installation of the VM.



## How to:

### Configure OpenManage Network Manager as a Virtual Appliance

To configure OpenManage Network Manager as a virtual appliance, follow the steps below. Details about each step follow this list.

1. [Prerequisites](#)
2. [Deploy the OVA Template](#)
3. [Start the Virtual Machine](#)
4. [Initial VM Host Configuration](#)
5. [Start the Application](#)
6. [Start the Application](#)
7. [Connect the Client Browser](#)
8. [The Application is Ready to Use - What's Next?](#)

## Prerequisites

Make sure you have the following:

- A downloaded OpenManage Network Manager .ova file
- An IPv4 address has been identified for the VM appliance
- The VM host must have a connectivity to the target managed devices.
- Neither Firewalls nor other restrictions block communication for ICMP, SNMP, FTP, TFTP, SCP, SSH, Telnet, HTTP.
- SMTP and internet access are required for notification from OpenManage Network Manager by e-mail as well as for license/subscription renewal

## VM constraints

The VM is intended and sized to support trial/evaluation of OpenManage Network Manager Software for 25 devices. Other deployments may be supported but may require additional VM re-configuration. Many factors affect the VM performance. The underlying hardware resources must be able to support the desired deployment configuration. Re-configuration may require more RAM, Hard drives, faster hard drives, CPU/Cores or storage allocated to the VM. Please refer to the sizing section of the *User Guide* for details.

This VM has these configuration limits based on VM export compatibility settings:

- 32 GB memory limit
- 8 processor limit
- 10 network adapter limit
- 2 TB disk size limit

#### Hardware Requirements

- The host machine has a minimum of 4 cores that can be allocated to the VM
- CPU speed should exceed 3.0 Ghz
- The host machine has a minimum of 10 GB RAM that can be allocated to the VM
- The host machine has at least 40 GB disk space that can be allocated to the VM

The trial VM has been configured for 10 GB RAM. Best practice is to allocate the VM 12 GB (or more).

For better performance the database should consist of 1 or more 10-15K RPM disk, or the equivalent solid state disk.

If you plan to use the VM beyond the initial trial configuration, consider some configuration changes. Refer to the *User Guide* for sizing recommendations before converting the trial VM to a production usage. You may need to do the following:

- Expand the storage capacity to accommodate the workload data and retention preferences.
- Allocate additional memory to support a production environment
- Ensure the VMware® virtual disk runs on adequately performing physical disk infrastructure. Heavy performance monitoring and TFA requires disk IO speeds that support this configuration.

Again: Refer to the product *User Guide* before converting the trial VM to a production usage.

#### Virtual Appliance Software Requirements

OpenManage Network Manager runs as a virtual appliance. It requires the following software to host the solution:

- VMware® Workstation v8 or higher
- vSphere® Hypervisor (ESXi) 4.1 and higher (must meet virtual appliance, port access, and listening port requirements)

#### Port Use

The following table lists the default ports used by the various OpenManage Network Manager services. To troubleshoot connectivity issues with the OpenMan-

Port	Description
20 & 21	FTP
22	SSH and SCP (communication to switches and CLI access to OpenManage Network Manager server)
23	Telnet (communication to switches)

Port	Description
69	TFTP
80	server port listening for client connection and requests
161	For the SNMP get and set protocols
162	For the SNMP trap listener
514	Syslog
3306	Mysql Database server
8080	Web portal [HTTP]
8080	TCP/UDP
8082	Application server
8089	Web services port on the application server
8443	Web portal [HTTPS]
8489	Application server [HTTPS]

age Network Manager server, use the following

#### OpenManage Network Manager Client Browser Requirements

- Firefox 12 and higher
- Internet Explorer 9 and Higher
- Chrome 22 and higher
- Safari 6 and higher
- All browsers require the latest adobe flash and acrobat
- All browser require Java 1.6 or higher
- Screen resolution must equal or exceed 1280 x 1024 pixels. Your screen must be at least 1250 pixels wide.

### Deploy the OVA Template

You can deploy the Open Virtualization Format (OVA) template with VMware® workstation, VMware Player or ESX. High Availability Deployment options are available for OpenManage Network Manager that can you can deploy with or without VMs. Contact your sales representative if you are interested in these options. The trial Version is not intended to support conversion to a HA platform.



#### Note

*If you see an error message about in-compatibility or OVF specifications make sure you have sufficient disk space and are using a local drive (not a share)*

#### Deploy the OVA Template with VMware Workstation

1. In VMware workstation go to *File > Open* menu.
2. Select the Ova File.
3. Power on the VM

#### Deploy the OVA Template with VMware® Player

1. In VMware Player select *File > Open Virtual Machine*

2. Right click and Select *Play Virtual machine*

Deploy the OVA Template vSphere/ESX®

1. Start the VMware vSphere client on your ESX server
2. In the vSphere client, go to *File > Deploy OVA Template*.
3. Choose the *Deploy from file* option and browse to where you copied the OpenManage Network Manager OVA file.
4. Select the `OpenManage Network Manager.ova` file and then click the *Next* button.

## Start the Virtual Machine

After you have completed the above steps, you can start the OpenManage Network Manager in the VM console.



### Note

*Before you start the VM console, if you need to modify the VM settings you can right click the Image to get the menu of options.*

1. Start the VM by clicking on its name and choosing *Power > Power On*.
2. Open the VM Console
3. Log in with the default credentials (`synergy` user).

Username: `synergy`

Password: `synergyP@$`

The `synergy` user has passwordless `sudo` privileges

## Initial VM Host Configuration

A user setup menu script simplifies VM configuration. After logging in as the `synergy` user (`synergy/synergyP@$`), type these commands

```
./setup
```

1. Select 1) VM Configuration Menu and follow the prompts. If setup is not successful you may resolve any issues and rerun the VM configuration menu option or follow the steps detailed below to manually configure the VM.



### Note

*The VM is designed to start up with `eth0` interface available. Make sure `eth<zero>` is entered when asked. `eth0 (oh)` is not a valid Linux interface and interface configuration will not be successful.*

*If customized VM configuration is required to support alternate interfaces, DNS or other environments, please consult you Linux and network administrator.*

2. On completion if the VM setup, you will be prompted to reboot the VM. After Rebooting the VM, enter `./setup` and select the "Check Server Status" option. This will continuously check the server status until and error is encountered or servers come up successfully. If successful you will see the following message.

```
=====
Application server status:---- appserver: ready
Web server Status:----- synergy is running synergy is ready
Database server status:----- owaredb is running
=====
```

3. VM configuration is complete. The next steps will cover application configuration.

## Start the Application

Follow these steps to start the application:

1. If you have not already restarted the VM, Restart the VM: `sudo shutdown -r now`



### Note

*By default the OpenManage Network Manager servers are configured to auto start. After restarting the VM, all of the servers should come up and the application will be ready soon after startup.*

2. Confirm that the server are up and running. Refer to Initial VM host configuration steps.

### Troubleshooting

In addition to the troubleshooting chapter in your application's guides, you may want to try the following if application server does not start:

- The likeliest cause is an expired license. Confirm or re-execute the license import step in the [Start the Application](#) section above and restart the VM.
- Another common problem is failure to meet the VM minimum requirements. If there are not enough RAM resources, the servers cannot start.
- Contact support if your server still fails to start.

### Re-Starting

On reboot or system restart, by default, application server, web server and the database are configured to autostart. If you need to stop or start the server without rebooting the VM, you can use the following commands

- To stop or start the Application server: `sudo service oware start | stop`
- To stop or start the Synergy server (web server service): `sudo service synergy start | stop`

The startup process typically takes a few minutes, and depends on the speed of the host. The application server needs to be fully up before the web server can provide full client access. The web server should be fully functional within three minutes of the application server being up.

## Connect the Client Browser

Using a browser, login to this URL: `http://<newIPAddress>:8080`

Default portal login credentials: Username: admin, Password: admin

The initial login prompts for a Password reminder for the admin user. This supplies the information for the `Forgot password` link in the login page.

## The Application is Ready to Use - What's Next?

You may want to do more setup tasks (example: setting up an SMTP server), but most features are ready to use. A few basic tasks to begin exploring the application appear below.

### Application Setup Tasks

Once the Web portal is up you must perform some initial setup and validation tasks.

#### Verify Virtual Host setting

Verify that the Portal Virtual Host setting is pointing to the correct “new” IP address:

In the upper right select *Go To > Control Panel*, then go to *Portal > Portal Settings > Virtual Host*

Make sure the virtual host IP is the `<newIpAddress>` for this VM.

#### Update the File server IP Address

For device backup/ restore / deploy firmware capabilities, the VM comes with a pre-installed file server.

You can set your own external File server parameters for any existing server you may already have in your environment. A file server is already configured on the Linux OS. Use the settings below to configure it in the NMS software

To use the pre-configured File server in OpenManage Network Manager

1. Go to the Resources > File Management sub-page.
2. In the *File Servers* Portlet, right click and select *New*
3. Set the following parameters.

Attribute	Value
Name	Local File server
Enabled	Checked
Select File Server Type	FTP, TFTP
IP address	The <code>&lt;newIpAddress&gt;</code> set for the VM
Login	ftpuser
Password	ftpuserPa\$\$
External IP Address	Leave blank. This is only required if the managed devices are using a different IP address to reference this same File server.
Net Mask	The mask for the <code>&lt;newIpAddress&gt;</code>

4. Click the *Test* Button on the lower right to confirm the server is working.
5. Once everything works, click *Save*. You have set up a file server for your system.



**Note**

*if an SCP server is required. Add a new file server and select the SCP option. If both ftp/tftp are needed, you will need to add 1 server for FTP/TFTP and 1 new entry for an SCP server*

**Additional Next Items**

You can now begin using your OpenManage Network Manager software to do the following:

- Discover devices/Links
- View topology
- Performance monitoring
- File management: backup restore deploy
- Receive Alarms
- Receive Traffic Flows
- Run Reports

Refer to the *QuickStart Guide* or *User Guide* for more about how to to these things.

