VE6120/VE6125 Virtual Appliances Installation Guide VMware® Platform

ExtremeCloud IQ Controller

9036837-00 Rev AC
October 2026



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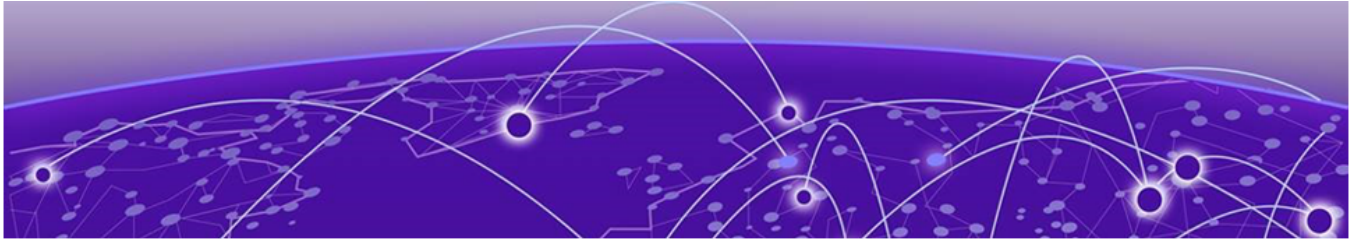


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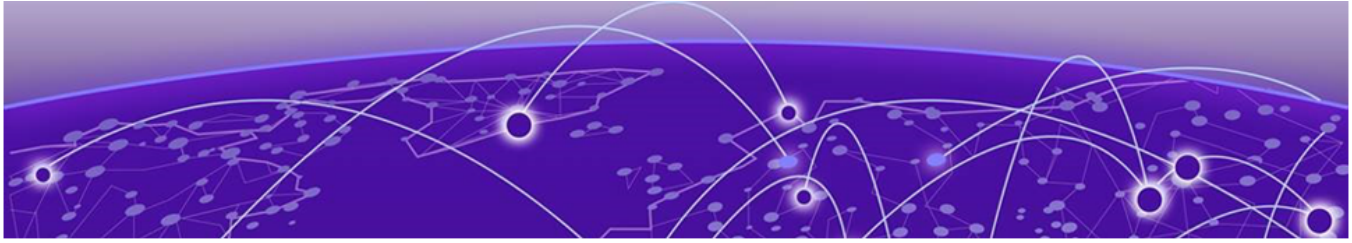
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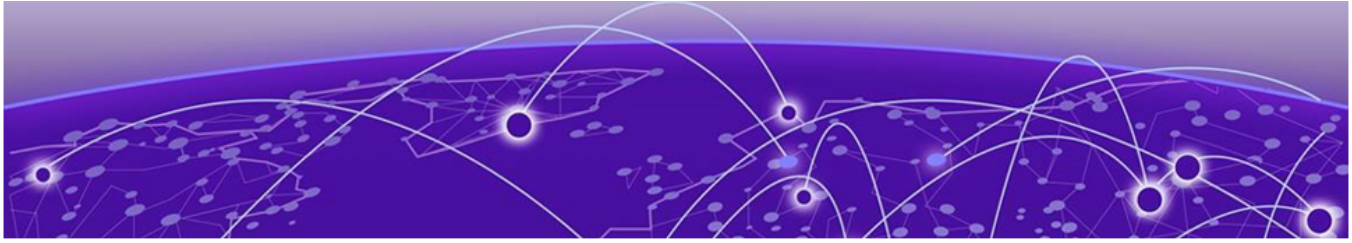
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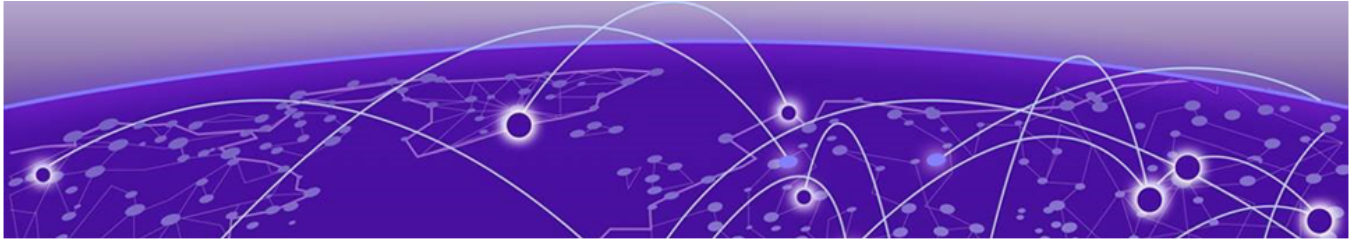
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Abstract

This installation guide for ExtremeCloud IQ Controller VE6120/VE6125 virtual appliances (version 9036837-00 Rev AB) covers comprehensive deployment and configuration instructions for VMware ESXi platforms. Deployment requirements span vSphere 5.1 and later (VE6120) and 5.5 and later (VE6125), with hardware configurations ranging from Small (4 CPU, 8GB RAM) to XLarge (32 CPU, 32GB RAM), supporting managed capacities from 50 to 2000 access points per appliance. Key technical guidance includes vSwitch configuration requiring promiscuous mode, VLAN tag forwarding, and jumbo frames support (MTU 1800) for data plane ports, alongside separate administrative connectivity. OVA-based deployment procedures include initial configuration via the Basic Configuration Wizard, network interface setup, software upgrades using .dle and .rse files, and USB flash drive integration for backup and restore operations. Additional coverage addresses vSphere networking performance optimization through ethernetX.ctxPerDev parameters, licensing activation procedures, and system maintenance operations including shutdown and restart procedures for virtual machines running on ESXi infrastructure.



Preface

This section describes the text conventions used in this document, where you can find additional information, and how you can provide feedback to us.

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The User Enablement team at Extreme Networks has made every effort to ensure that this document is accurate, complete, and easy to use. We strive to improve our documentation to help you in your work, so we want to hear from you. We welcome all feedback, but we especially want to know about:

- Content errors, or confusing or conflicting information.
- Improvements that would help you find relevant information.
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- Your Extreme Networks service contract number, or serial numbers for all involved Extreme Networks products
- A description of the failure
- A description of any actions already taken to resolve the problem
- A description of your network environment (such as layout, cable type, other relevant environmental information)
- Network load at the time of trouble (if known)
- The device history (for example, if you have returned the device before, or if this is a recurring problem)
- Any related RMA (Return Material Authorization) numbers

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2. In the list of categories, expand the **Product Announcements** list.
3. Select a product for which you would like to receive notifications.
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Text Conventions

Unless otherwise noted, information in this document applies to all supported environments for the products in question. Exceptions, like command keywords associated with a specific software version, are identified in the text.

When a feature, function, or operation pertains to a specific hardware product, the product name is used. When features, functions, and operations are the same across an entire product family, such as Extreme Networks switches, the product is referred to as *the switch*.

Table 1: Notes and warnings

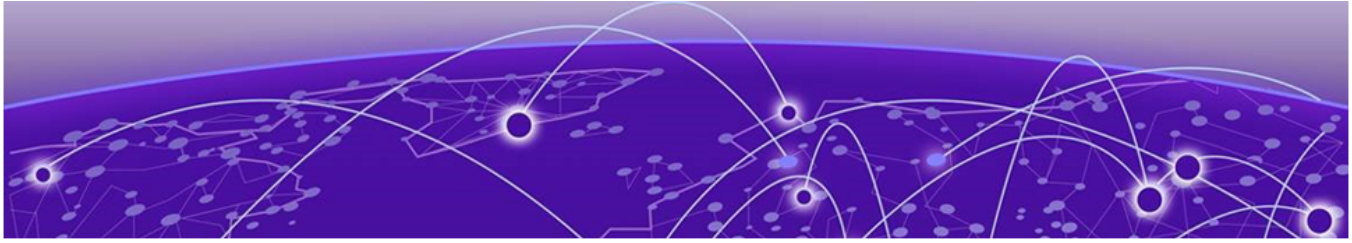
Icon	Notice type	Alerts you to...
	Tip	Helpful tips and notices for using the product
	Note	Useful information or instructions
	Important	Important features or instructions
	Caution	Risk of personal injury, system damage, or loss of data
	Warning	Risk of severe personal injury

Table 2: Text

Convention	Description
`screen displays`	This typeface indicates command syntax, or represents information as it is displayed on the screen.
The words *enter* and *type*	When you see the word *enter* in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says *type*.
Key names	Key names are written in boldface, for example **Ctrl** or **Esc**. If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press **Ctrl**+**Alt**+**Del**
Words in italicized type	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles.
NEW!	New information. In a PDF, this is searchable text.

Table 3: Command syntax

Convention	Description
bold text	Bold text indicates command names, keywords, and command options.
italic text	Italic text indicates variable content.
`[ ]`	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
`{ x | y | z }`	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
`x | y`	A vertical bar separates mutually exclusive elements.
`< >`	Nonprinting characters, such as passwords, are enclosed in angle brackets.
…	Repeat the previous element, for example, *member*`[`*member*`...]`.
\	In command examples, the backslash indicates a “soft” line break. When a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.



Overview

New in This Guide on page 11

The guide describes how to configure and deploy the ExtremeCloud IQ Controller VE6120 and VE6125 Virtual Appliances. This guide is a reference for system administrators who install and manage the VE6120 and VE6125 Virtual Appliances.

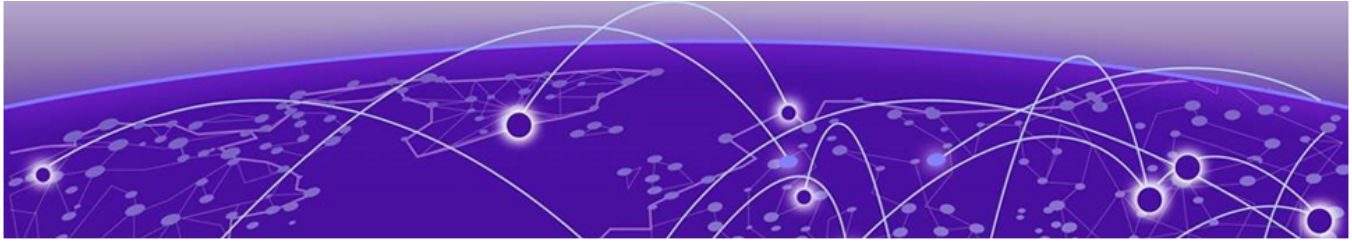
Any administrator performing tasks described in this guide must have an account with administrative privileges.

New in This Guide

The following sections show the recent documentation revisions for this guide. Use this information to locate the latest updates.

Table 4: October 2026

Section	Description
Set up the VE6120/VE6125 Appliance Using the Basic Configuration Wizard.	Updated password requirements.
Deployment Requirements.	Removed Total Switches Managed per Appliance from the table.



Virtual Appliance Deployment

Deployment Requirements on page 12
Connectivity Requirements on page 13
Download a VE6120/VE6125 Image on page 14

This section provides an overview of the requirements for the ExtremeCloud IQ Controller Virtual Appliances VE6120 and VE6125 deployments. It explains how to install the appliances on a VMware® vSphere™ server (ESXi™) and how to run the initial configuration wizard.

Deployment Requirements

The VE6120 and VE6125 are packaged in the .ova file format defined by VMware. The appliances must be deployed on a VMware ESXi host running vSphere.

Note
VE6120 and VE6125 use separate .ova files. You cannot upgrade from VE6120 to VE6125.

Note
VE6125 requires an enterprise VMware license to launch and run the virtual machine.

The minimum supported version of vSphere for VE6120 is 5.1 and for VE6125 is 5.5.

Note
You only need to install the .ova file when you first install the appliance. All subsequent upgrades can be performed using the standard controller upgrade procedure to apply a .dle file to the VE6120 appliance and .rse file for the VE6125 appliance.

In addition, the appliances are configured with one Ethernet interface for administration and two data plane Ethernet interfaces for forwarding payload traffic.

If all three interfaces are used, it is recommended to connect them to separate virtual switches (vSwitches) in the host server.

Configuration Options:

- Small reflects the default configuration for VE6120.

- XLarge is the default and only configuration available for VE6125.

Table 5: Virtual ExtremeCloud IQ Controller (VE6120 and VE6125)

Extreme Application	VE6120			VE6125
	Small	Medium	Large	XLarge
Total APs managed in Standalone mode	50	250	500	2000
Additional APs supported in high-availability mode	50	250	500	2000
Total managed APs per Appliance Pair	100	500	1000	4000
Total simultaneous users in Standalone mode	1,000	4,000	8,000	16000
Additional simultaneous users in high-availability mode	1,000	4,000	8,000	16000
Total Simultaneous Users per Appliance Pair	2,000	8,000	16,000	32000
Hardware Requirements				
CPU	4 (4 distinct physical cores or 2 cores with hyper-threading)	6	8	32 (physical or hyper-threading cores)
RAM (GB)	8	16	24	32
Hard Disk (GB)	80	80	80	512
2x1Gbps Host (Open/Secure Mbps)	1,870/1,870	1,870/1,870	1,870/1,870	-
2x10 Gbps Host (Open/Secure Mbps)	10,800/5,100	10,800/5,100	10,800/5,100	-

- Consult VMWare ESXi for minimum host performance requirements for virtual environment. Performance depends on network interface characteristics of underlying host and on utilization on shared interfaces by other virtual appliances.
- Follow VMWare minimum installation requirements. 10 Gbps host recommended for best results. VE6120 supports VMware ESXi 5.1 or higher. VE6125 supports VMware ESXi 5.5 or higher.
- A VMware Enterprise license is required for the VE6125.

Connectivity Requirements

The appliances have one management interface (Admin) and two data plane interfaces (Port1, Port2). If all three interfaces are used, it is recommended to connect them to separate virtual switches (vSwitches) in the ESXi host.

The data plane interfaces have additional requirements on the vSwitches to which they connect:

- The vSwitch must be configured to accept promiscuous mode connections.
- The vSwitch must be configured to accept any VLAN tag traffic and forward it without changing or removing the VLAN tags.

Although configuring the necessary vSwitches does not have to be done before installing the appliance, the installation process will be simpler if it is.

See Configure vSwitches for the Virtual Appliance on page 37 for instructions on how to create and configure vSwitches that can be used by the Virtual Appliance's data plane ports.

Download a VE6120/VE6125 Image

About This Task

Download the VE6120/VE6125 software image to your local machine where you manage the vSphere.

Procedure

1. Access the VE6120/VE6125 download page.
2. Download the image from **Downloads > Downloads Home** tab.
   a. Log into the **Downloads Home** using your Extreme Portal login credentials.
   b. Type VE6120/VE6125 in the search tab and select the search icon. The image list is displayed.
   c. Download the **latest** VE6120/VE6125 Virtual Appliance image.

Log into the vSphere Client

About This Task

To login to the vSphere server:

Procedure

1. Launch a web browser and enter the vSphere address to access the vSphere application.

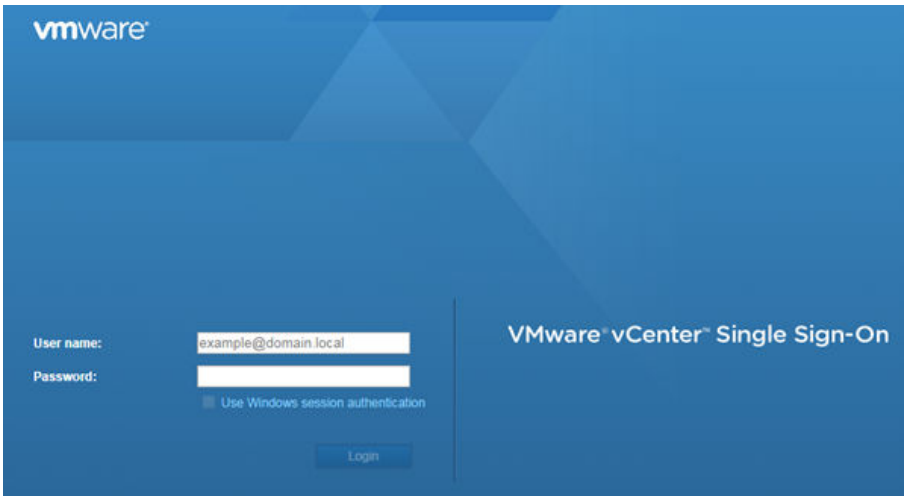


Figure 1: vSphere Login Screen

The Web Client login screen displays.

2. On the VMware vSphere Web Client login screen:
   - Enter the User name and Password of an account that has full administrative access to the vSphere (ESXi) server.
   - Click **Login**.

Install and Deploy the Virtual Appliance Image

About This Task

To install the Virtual Appliance image:

Procedure

1. From the **Navigator** tab in the vSphere Web Client, right-click the host machine and select **Deploy OVF Template**.

   Note
   Even though the VE6120 is distributed in the .ova file format, it is compatible with the menu option of alternate .ovf format.

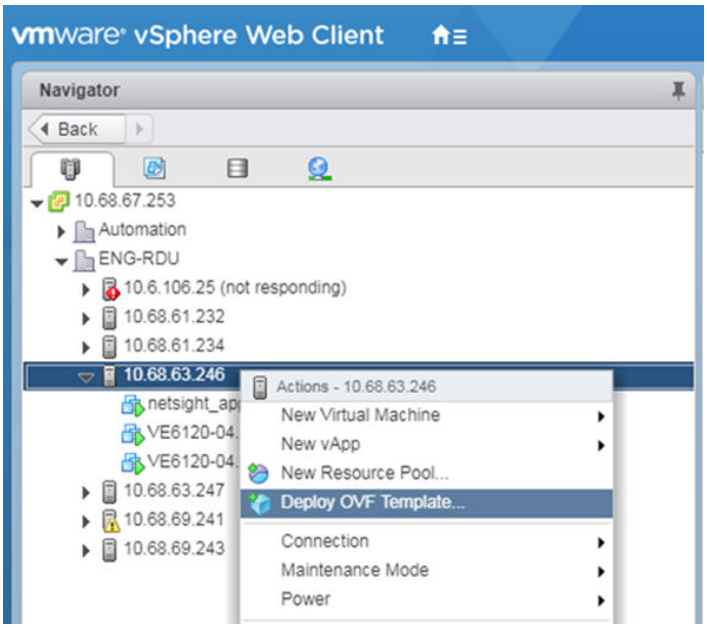


Figure 2: Deploy OVF Template Option

2. On the **Deploy OVF Template** window:
   - Select **Browse** to select the VE6120 .ova file that you downloaded in the Download a VE6120/VE6125 Image on page 14 section, and select **Next**. The **Name and Location** screen is displayed.

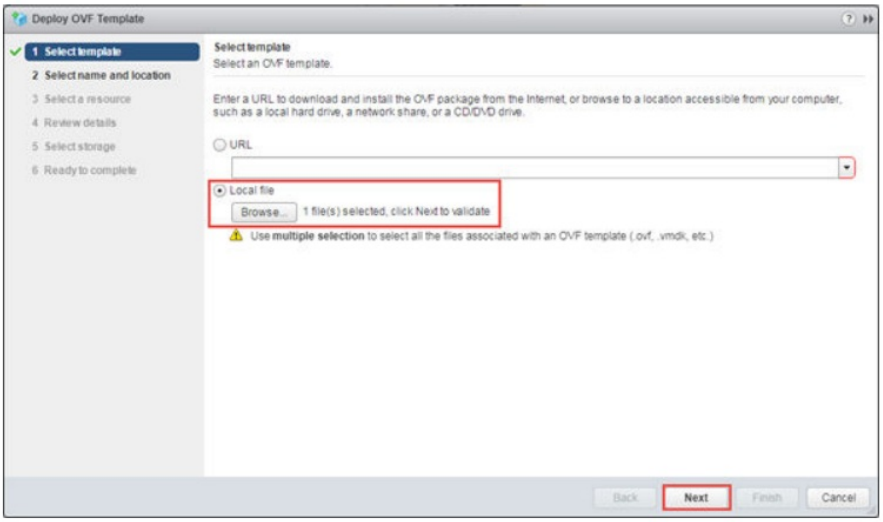


Figure 3: Deploy OVF Template Window

Or

- You can select a source URL to download and install the OVA file.

3. On the **Name and Location** screen, type a name for the VE6120, select a data center folder, and select **Next**. **Select a resource** screen is displayed.

Note
The name you type will be used in the vSphere client's inventory list. It does not have to be the same name as the hostname of the VE6120/VE6125 appliance.

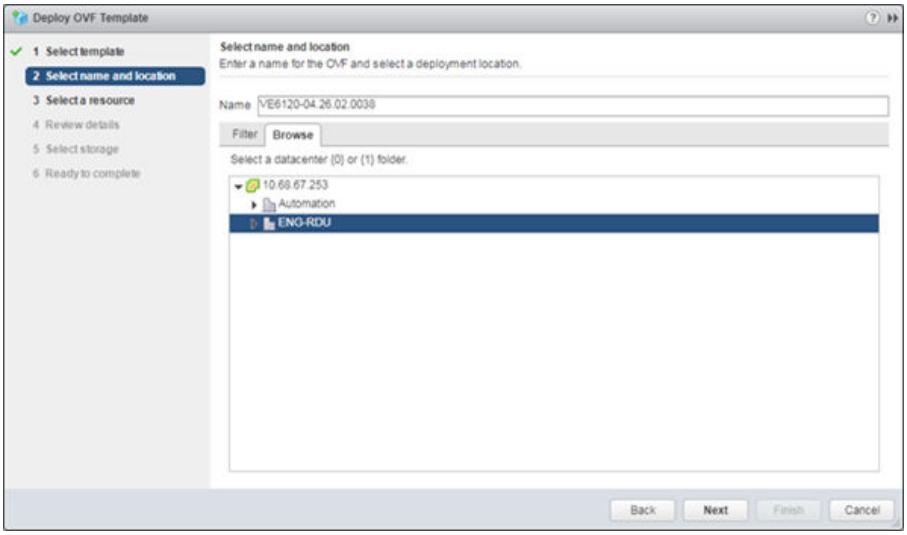


Figure 4: Name and Location Window

4. On the **Select a resource** screen, select a host server, and then select **Next**. The **Review details** screen is displayed.

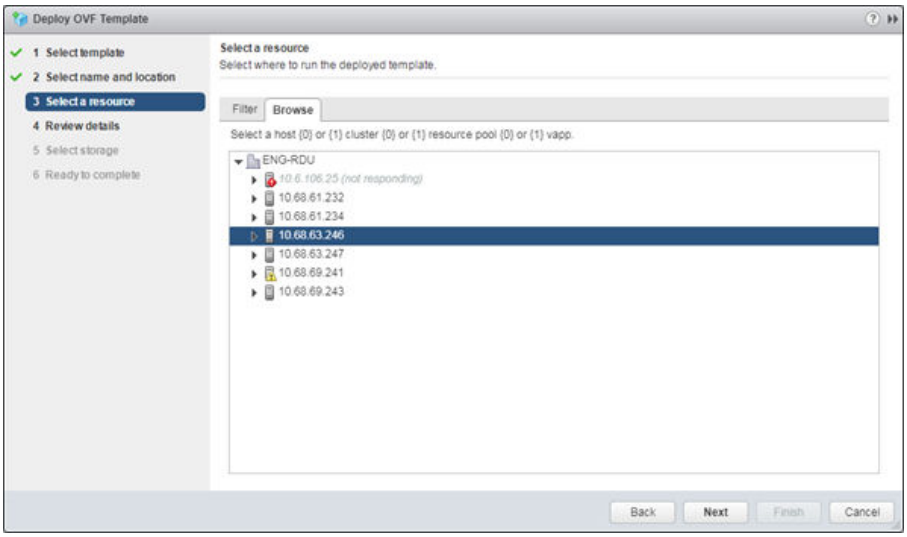


Figure 5: Select a Resource Screen

5. On the **Review details** screen, review the information and select **Next**. **Select storage** screen is displayed.

Note
You can select **Back** to modify any of the previous settings.

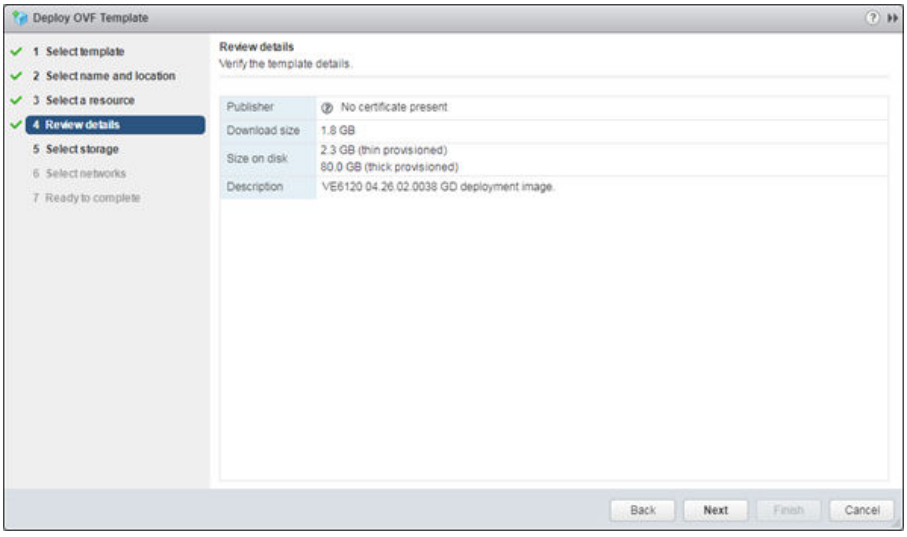


Figure 6: Review Details Screen

6. On the **Select storage** screen:
   a. Select virtual disk format as **Thick provision**. This is the default virtual disk format.

      Note
      Thick provision format allocates storage immediately. For more information on disk storage, see Deployment Requirements on page 12.

   b. Select your destination storage.
   c. Select **Next**.

   The **Select Networks** screen is displayed.
7. On the **Select networks** screen, map the virtual appliance ports to the virtual networks that are deployed on the host server. For each **Source Network**, select a corresponding **Destination Network**.

Table 6: Network Selection

Source Network	Destination Network/ Description
VM Network	MGMT-63/Management port
Port 2	Internal 1
Port 1	450-P8

   Select **Next**. The **Ready to Complete** screen is displayed.
8. Review your configuration data in the **Ready to Complete** screen, select **Finish** to finish your setup.

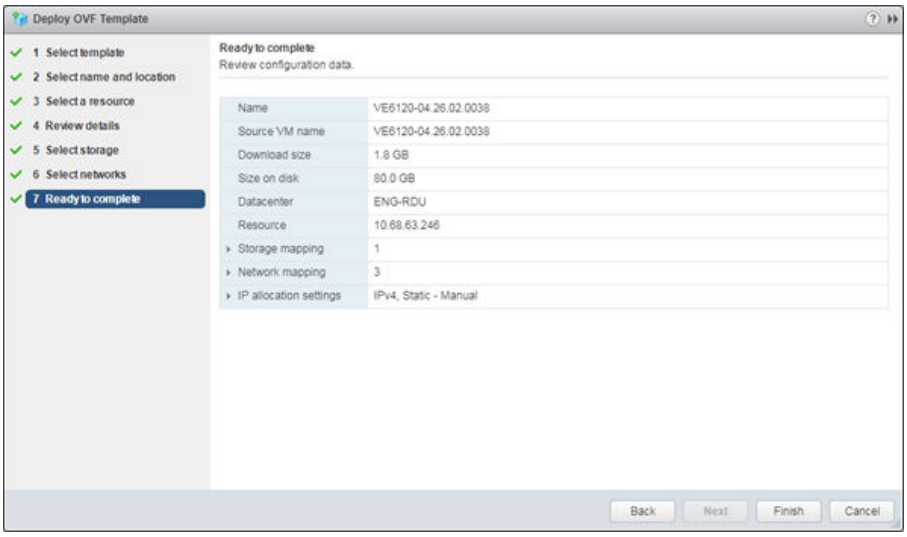


Figure 7: Ready to Complete Screen

A progress bar is displayed in the **Recent Tasks** section.

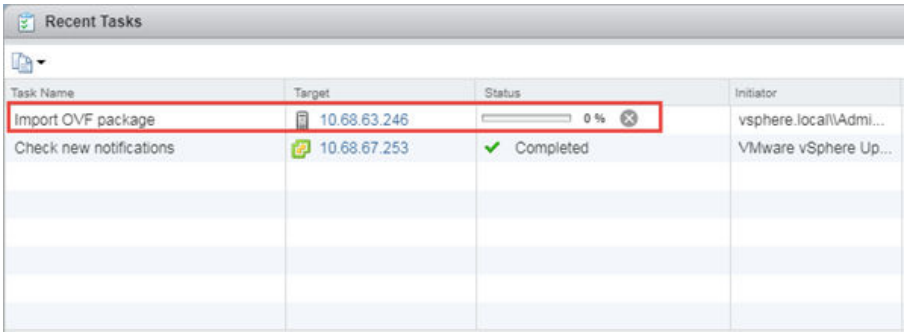
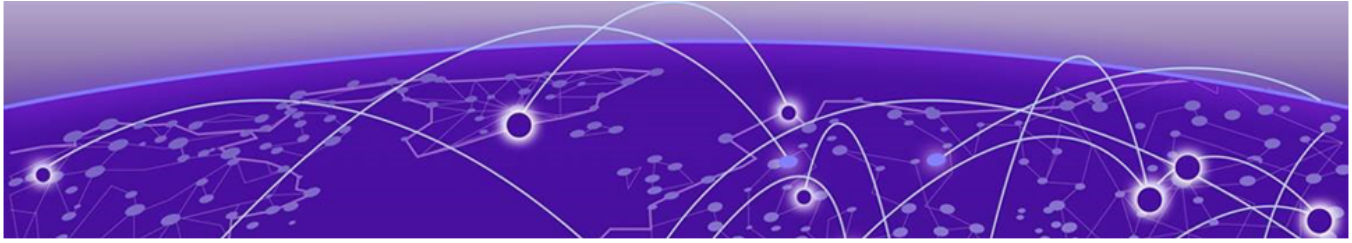


Figure 8: Progress Bar

What to Do Next

When the deployment has completed successfully, select **Close**.



Virtual Appliance Configuration

Access the Virtual Appliance Console on page 20
Configure the VE6120/VE6125 Using the Basic Configuration Wizard on page 24
Set up the VE6120/VE6125 Appliance Using the Basic Configuration Wizard on page 24
Upgrade the VE6120/VE6125 Software on page 28
Set Up the Virtual Appliance to Accept USB Flash Drives on page 30
Manage the Flash Memory on page 33
Remove the Flash Drive on page 34
Generate and Install the Activation Package on page 34
Install the Activation Package on page 35
Subscription License on page 36

After the Virtual Appliance has been deployed on a VMware ESXi server using the instructions in Virtual Appliance Deployment on page 12 you are ready to perform initial server configuration.

Access the Virtual Appliance Console

About This Task

To log in to the Virtual Appliance and perform the initial configuration, access the VM console as follows:

Procedure

1. Launch a web browser and enter vSphere address to open the vSphere web client application.

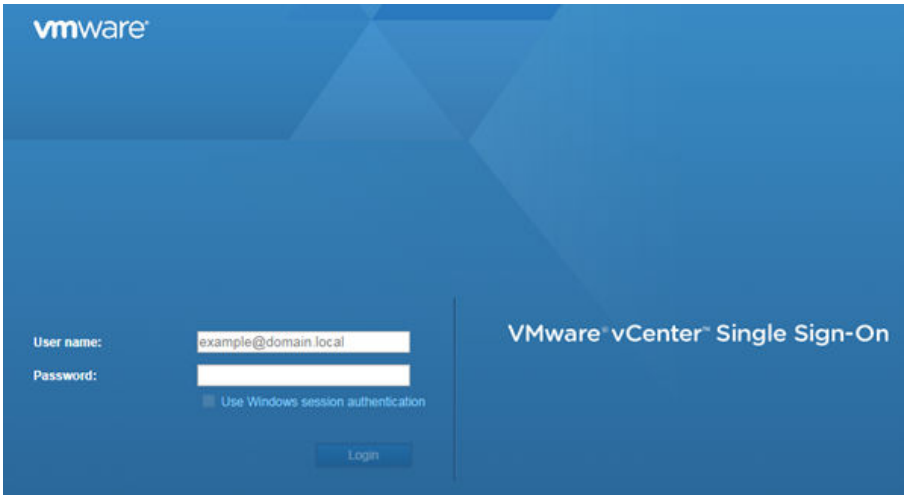


Figure 9: vSphere Login Screen

   The **VMware vSphere Web Client** login screen is displayed.
2. On the VMware vSphere Web Client login screen:
   - Enter the `User name` and **Password** of an account that has full administrative access to the vSphere (ESXi) server.
   - Click **Login**.

3. On the **vSphere Web Client** screen, in the left **Navigator** pane, expand the host mode, right-click the **Virtual Appliance** and select **Power** > **Power On**.

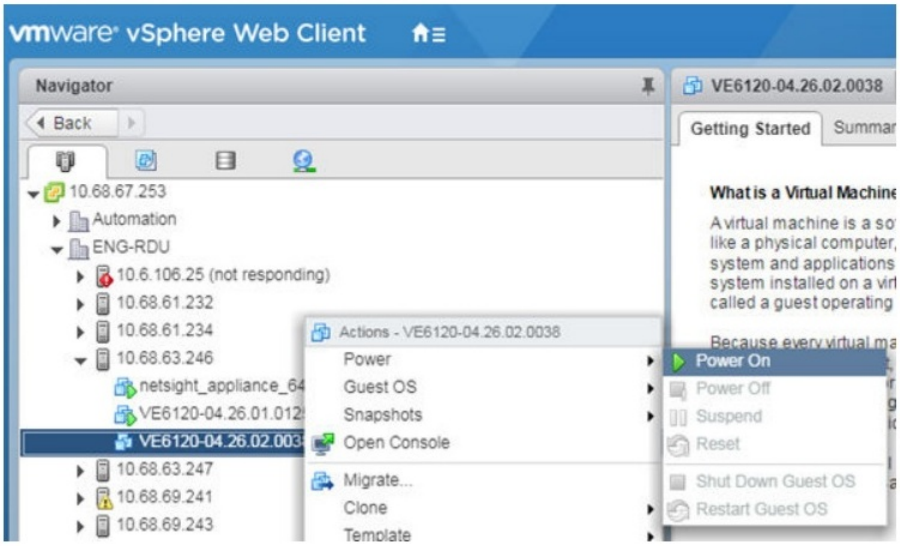


Figure 10: vSphere Web Client Power On

Note

If the **Power On** option is greyed out, press the icon on the vSphere Web Client tool bar.

The Green icon indicates that the virtual appliance is powered **On**.

4. After the Virtual Appliance has been started and completes its boot process, right-click the appliance name, and from the drop-down menu, click **Open Console**.

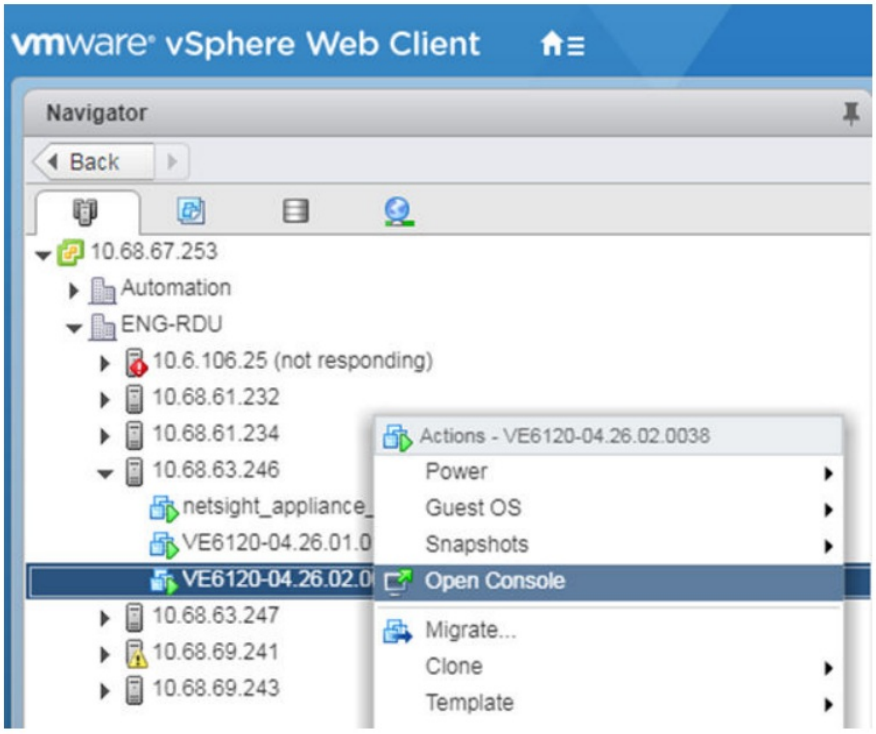


Figure 11: Open Console Option

The VE6120 Command Line Interface (CLI) opens in a new window.

5. Enter your login credentials.

Note
Click inside the console window once or twice to make the window interactive. If the prompt is not visible, press **[Enter]**.

- For **User Name**, enter `admin`.
- For **Password**, enter `abc123`.

You now are working in the VE6120's CLI.

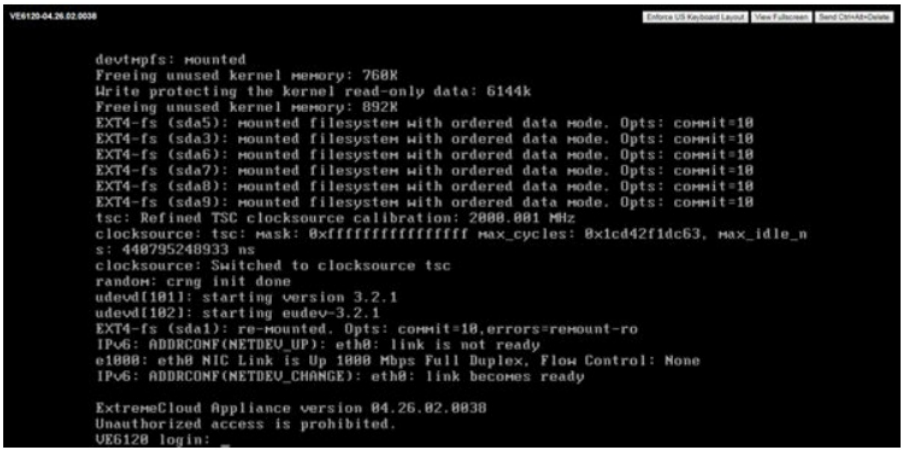


Figure 12: VE6120's Command Line Interface (CLI)

Configure the VE6120/VE6125 Using the Basic Configuration Wizard

The ExtremeCloud IQ Controller software provides a Basic Configuration Wizard that can help administrators configure the minimum settings necessary to deploy a fully functioning VE6120/VE6125 appliance on a network.

Administrators can use the wizard to quickly configure the appliances for deployment, and then after the installation is complete, continue to revise the configuration accordingly.

The wizard is automatically launched when an administrator logs on to the VE6120/VE6125 CLI for the first time, including after the system has been reset to the factory default settings.

The configuration wizard prompts with a set of **Yes** or **No** questions. The default value is indicated in parenthesis. To accept the default value, press **Enter**.

For more information about using the Basic Configuration Wizard, see Set up the VE6120/VE6125 Appliance Using the Basic Configuration Wizard on page 24.

Set up the VE6120/VE6125 Appliance Using the Basic Configuration Wizard

About This Task

After logging into the CLI of the Basic Configuration Wizard, you will be able to set it up using a set of **Yes** or **No** commands.

Procedure

1. After logging into the CLI of VE6120/VE6125 you will be prompted to change the admin password. To begin the admin password setup, press **Enter**.

   The **Admin Password Configuration** window is displayed.

   a. To change the password for the admin account, press **Enter**.
   b. Enter the new password for the admin account.

   Note
   The password must have 12–64 characters, including 1 upper case letter (A–Z), 1 lower case letter (a–b), 2 numbers (0–9), and 2 special characters ("^", "$", "#", "@", "!", "%", "&", "*", "(", ")", "-", "=", "_", "+", "|", ",", ".", "/", "<", ">", "?", ";", "~", "[", "]", "{", "}").

   c. Repeat the new password for the admin account and press **Enter**.

      If the passwords match, the password is accepted.
   d. Press **Enter** to accept the changes.

      The **AP access password** window opens.
2. To reset the AP access password, type a new password in the CLI.

   Note
   The password must have 12–64 characters, including 1 upper case letter (A–Z), 1 lower case letter (a–b), 2 numbers (0–9), and 2 special characters ("^", "$", "#", "@", "!", "%", "&", "*", "(", ")", "-", "=", "_", "+", "|", ",", ".", "/", "<", ">", "?", ";", "~", "[", "]", "{", "}").

   a. Retype the AP access password. Select **Enter**.

      Your AP access password is now reset and the **Current Data Port Settings** CLI is displayed.

Current Data Port Settings

About This Task
When you set up the **Admin Password configuration**, you will be prompted to set up the **Current Data Port Settings**. To set up the data port:

Procedure

1. In the **Current Data Port Settings**, you will determine the port settings. The default port is **Port1**. Select **Enter** to select **Port1**.
2. Set IP Address to the default value. The default value is **`10.0.0.1`**. Press **Enter**.

   The IP Address is selected.
3. Set Netmask to default value of **`255.255.255.0`**. Press **Enter**.

   The Netmask is set.
4. Press **Enter** to set the default VLAN. The tagged frames command is displayed.
5. Press **Enter** to keep the default tagged frames value to `No`.
6. To enable management on the interface, press **Enter** to select the default value, `Yes`.
7. To enable device registration, press **Enter** to select the default value, `Yes`.

   The updated Data Port Interface settings is displayed.

8. To accept the changes and keep the data port settings to the values you have chosen, press **Enter**.

   The Data Port Interface is now set. The CLI navigates to the **Current Host Attributes Settings** screen.

Current Host Attributes

About This Task
To set up the current host attributes:

Procedure

1. Press **Enter** to change the Host Attributes.
2. Press **Enter** to enter the host name for the application.
3. Type **Y** to set up a dedicated Admin port for out-of-band management. The default option is **no**.

   A note is displayed that the Admin port does not allow device registration.
4. Type the IP address in the following format **xx.xx.xx.xx** to set up the IP address for the Admin Port.
5. Press **Enter** to accept the default IP netmask for the Admin Port.
6. Press **Enter** to accept the default domain name for the appliance. The default domain name is **extremenetworks.com**.
7. Press **Enter** to configure your Primary DNS server.
8. Type another IP address **xx.xx.xx.xx** to set up the IP address of the Primary DNS and press **Enter**.
9. The default option to set up a Secondary DNS server is **no**. Press **Enter** to accept the default option.

   The updated Host Attribute settings are displayed. To accept the changes you have made, press **Enter**. The **Current Global Default Gateway Settings** CLI is displayed.

Current Global Default Gateway Settings

About This Task
The global default gateway may be on any Admin or data port topology or subnet.

Procedure

1. Type an IP address.
2. Press **Enter** to accept the changes.

   You are navigated to the **Current Time Settings** CLI.

Current Time Settings

About This Task
The Current Time Settings option allows you to change the time zone as per your location.

Procedure

1. Press **Enter** to change the Time settings.
2. Press **Enter** again if you would like to change the Time Zone. The Region number list is displayed.

   Important
   Ensure that ExtremeCloud IQ Controller is configured with the correct Network Time Protocol (NTP) Server settings. Licensing management and several system functions are dependent on an accurate timestamp. Configure NTP settings on ExtremeCloud IQ Controller during the initial setup wizard or alternatively under **Administration > System > Network Time** (as a first configuration step).

3. Pick a number according to the region numbers that is displayed on screen to pick you continent. Then, enter a number that corresponds to the Region. You can enter **n** to move down the list, or **p** to move up the list. To go back to the Region selection, press **c**.
4. Press **Enter** to run NTP as a client.
5. Provide the fully qualified domain name of the NTP server. Press **Enter**.
6. You are prompted to enter a second NTP server and the default option is **y**. Type **n** and press **Enter**.

   NTP Client is enabled.
7. Accept the changes you have made to the time zone and NTP server by pressing **Enter**.

   You are navigated to the **Controller Post Installation Configuration** window along with the menu.
8. If you want to revisit any of the previous windows or exit without applying the configuration changes, enter one of the corresponding numbers or alphabets displayed on screen.

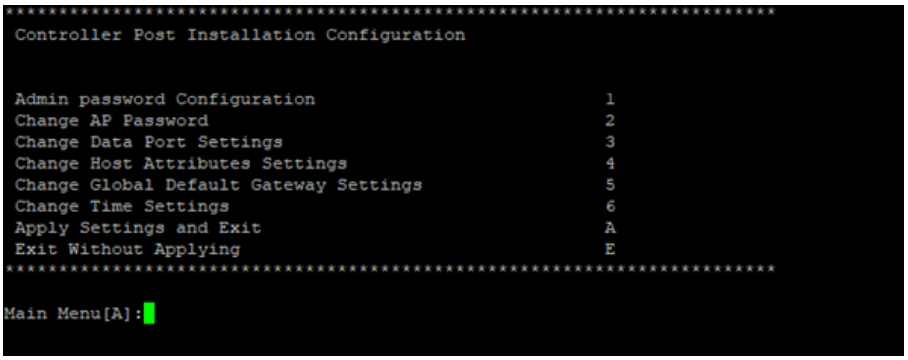


Figure 13: Controller Post Installation Configuration Menu

Table 7: Controller Post Installation Configuration Menu

Menu Option	Command
Admin password Configuration	1
Change AP Password	2
Change Data Port Settings	3
Change Host Attribute Settings	4

Table 7: Controller Post Installation Configuration Menu (continued)

Menu Option	Command
Change Global Default Gateway Settings	5
Change Time Settings	6
Apply Settings and Exit	A
Exit Without Applying	E

When you revisit any other screen, you will have to reconfigure all subsequent area settings. For example, if you decide to reconfigure the Admin Password, which is at the beginning of the configuration wizard, you will have to reconfigure all the subsequent configuration wizard settings.

Press **Enter** to accept the settings. The default option for accepting the settings is **A**. Your settings are now applied successfully.

Upgrade the VE6120/VE6125 Software

About This Task

If you are not installing the **latest** the ExtremeCloud IQ Controller release, you need to upgrade the VE6120/VE6125 software to the latest patch release.

Procedure

1. Go to the Extreme Networks Support site and download the most recent the ExtremeCloud IQ Controller the software patch.
2. Log in to the virtual appliance using the admin user and password that you configured in the Set up the VE6120/VE6125 Appliance Using the Basic Configuration Wizard on page 24 section.
3. Go to **Administration > System**.

   The **System** screen is displayed.
4. Select **Software Upgrade** tab. Navigate to the **Upgrade** section.
5. To add the image file, select the Plus icon.

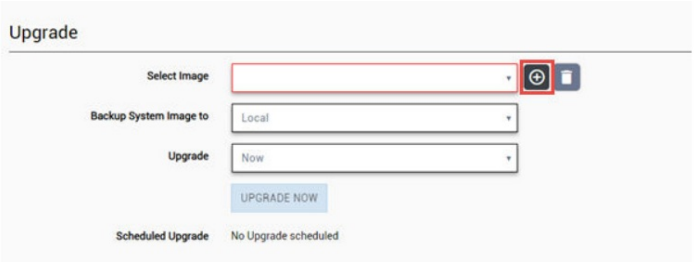


Figure 14: Upgrade Section

The **Copy Upgrade Image** window is displayed.

6. From the Upload Method drop-down, select Local or FTP or SCP.

Image Type

Indicates the type of image file used. Valid values are:

- Upgrade
- Backup

Destination

Destination of the uploaded image file:

- Local
- Flash (The Flash drive must be mounted.)

Upload Method

Method used to upload image file to appliance. Valid values are:

- HTTP — Indicates to upload from a local workstation.
- FTP — Indicates to upload from the corresponding server.
- SCP — Indicates to upload from the corresponding server.

When the Upload Method is **FTP** or **SCP**, configure the server properties.

Copy Image from Local Drive

When the Upload Method is **HTTP**, drag image onto ExtremeCloud IQ Controller or select field to navigate to local file directory.

Select Image

Due to a storage space limitation, ExtremeCloud IQ Controller limits the number of locally available upgrade images. If necessary, you can delete an older image before you upgrade to the latest image. To delete an image from ExtremeCloud IQ Controller, from the **Select Image** field, select an image and select .

What to Do Next

For more information about the Software Upgrade options, see the *ExtremeCloud IQ Controller User Guide*.

Perform a Backup

The backup and restore procedure is limited to configuration files and, optionally, logs and audit files. A system backup is a full system snapshot rescue file (*-rescue-user.tgz). Creating a rescue file is an option during the system upgrade process. For more information on system upgrade, see Upgrade the Virtual Appliance Software.

Before you perform a backup procedure, decide what to backup and where to save the backup file:

- Select back up configs, logs, and audit or back up configuration only.
- Select a location to store the backup file.
- (Optional) Configure a backup schedule.

On-demand backups can only be stored locally, while scheduled backups can be stored on a mounted flash drive or on a remote server.

Copy Backup

To copy a backup image to ExtremeCloud IQ Controller, configure the following parameters:

Upload Method

Method used to upload file to appliance. Valid values are:

- HTTP — Indicates to upload from a local workstation.
- FTP — Indicates to upload from the corresponding server.
- SCP — Indicates to upload from the corresponding server.

When the Upload Method is **FTP** or **SCP**, configure the server properties.

Copy Image from Local Drive

When the Upload Method is **HTTP**, drag image onto ExtremeCloud IQ Controller, or select field to navigate to local file directory.

Set Up the Virtual Appliance to Accept USB Flash Drives

Before You Begin

Prepare the Virtual Appliance to accept USB flash drives.

1. Format the flash drive to FAT32.
2. Insert the flash drive into a USB port on the host.



Note

A USB device is required to be plugged in before it can be added to a virtual machine.

About This Task

The Virtual Appliance has a (virtual) USB controller and can accept USB flash drives. The flash drive can be used for backing up, restoring, upgrading, and collecting log information. A USB drive can be inserted, assigned to a virtual appliance, and removed from the virtual appliance while the appliance is in service.

Procedure

1. Log in to the vSphere client using an account that grants full administrative access to the VE6120/VE6125.

2. From the list of guest operating systems (virtual machines), right-click on VE6120/VE6125, and from the drop-down menu, select Edit Settings.

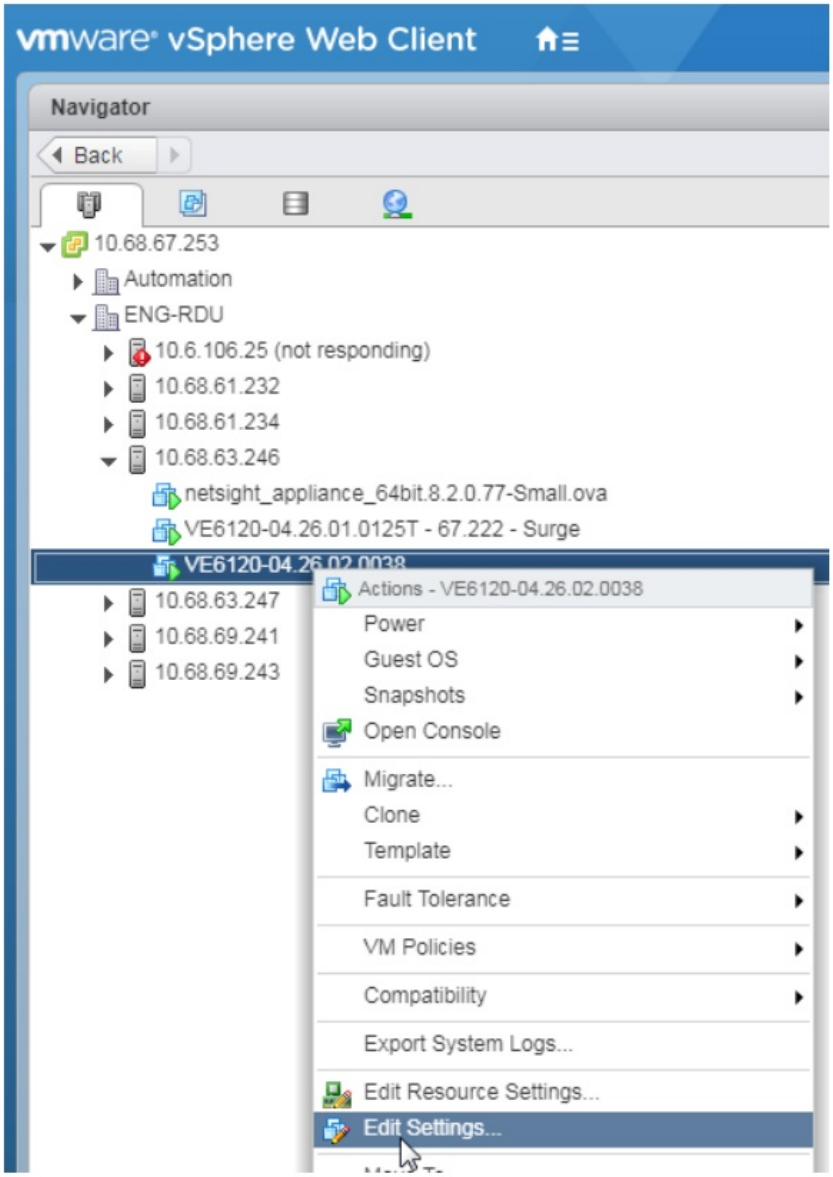


Figure 15: VE6120 Edit Settings Window

3. In the Virtual Hardware window, select **Host USB Device** from the drop-down, and click **Add**.

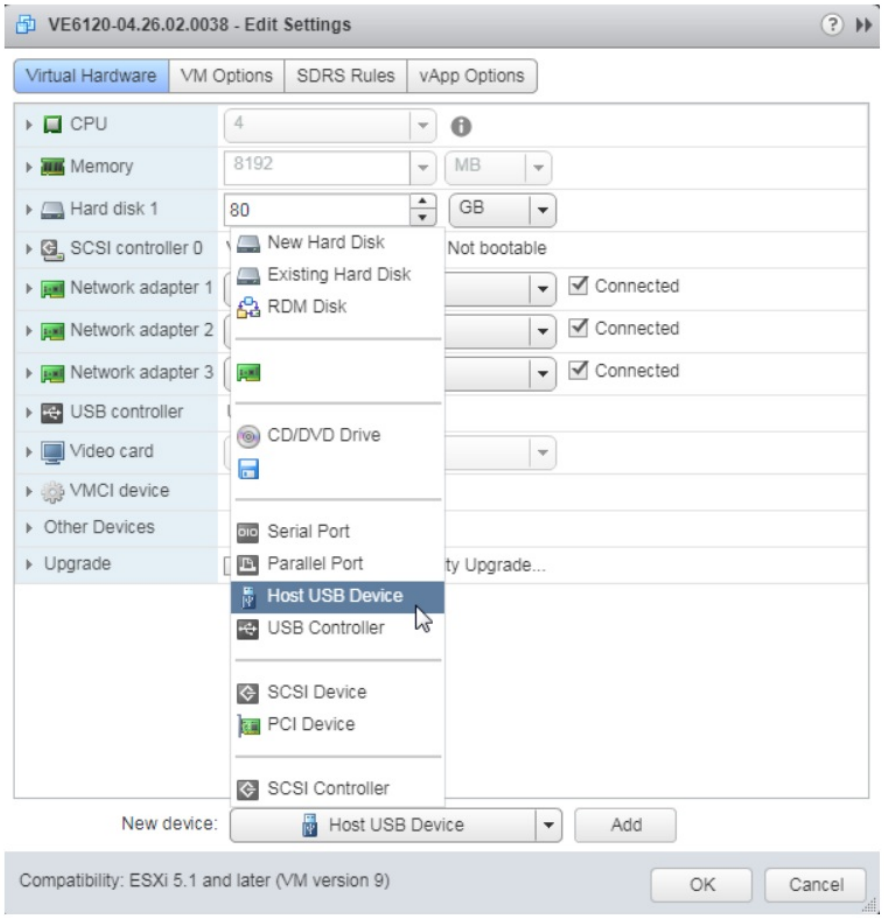


Figure 16: Host USB Device Selection

4. If running vSphere and a USB device has been inserted and is not assigned to another guest, the USB Device option will be listed. Select that option and click **OK**.

   The **USB Device** dialog appears. The dialog lists all USB devices plugged into the host that are not assigned to guest operating systems.
5. Select a USB Flash drive (as other devices are not supported by VE6120/VE6125), and click **OK**.

   The **Ready to Complete** dialog appears.
6. Review the settings and then click **Finish** to add the USB device to the virtual machine or click **Cancel** to abort the operation.

   The **Virtual Machine Properties** dialog displays that the USB device is in the process of being added to the virtual machine. The new USB device will be shown in bold and "adding" appears after the USB device name.
7. Click **OK** to save the configuration.
8. Open the VE6120/VE6125 Virtual Machine Properties dialog from the main vSphere client screen and click the **Hardware** tab.

   The USB device will be listed under **Hardware**. You can now use the USB flash drive on the VE6120/VE6125 just as you would on a physical controller.

Manage the Flash Memory

About This Task

Follow these steps to manage flash memory:

Procedure

1. Log into the ExtremeCloud IQ Controller using your credentials.
2. In the left pane, from the **Administration** drop-down, select **System > Maintenance > External Flash** option.

   Use the **Mount/Unmount** options to mount and unmount flash memory respectively.

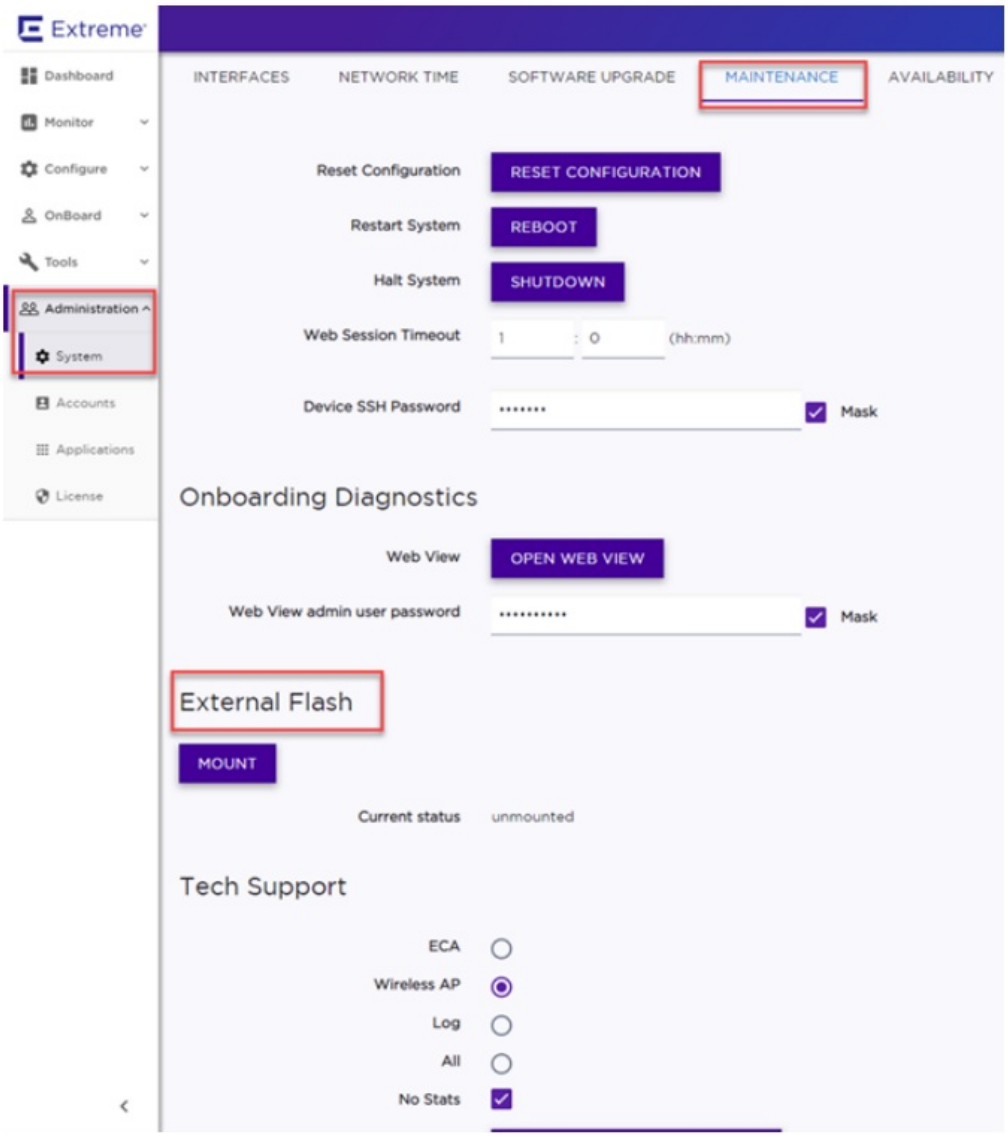


Figure 17: Flash Memory Maintenance Window

Remove the Flash Drive

About This Task

Follow these steps to remove the flash drive.

Note

The Virtual Appliance can be in service when the USB flash drive is assigned to it. Within a few seconds of the USB flash drive being assigned to it, the virtual appliance will detect the flash drive and mount it for use.

Procedure

1. When you are ready to remove the USB Flash drive, click **Un-Mount** from the Maintenance page.
2. Remove the drive.
3. You can delete the USB flash drive from the VE6120's **Virtual Machine Properties** dialog after unmounting it from the VE6120/VE6125 appliance.

Generate and Install the Activation Package

How to generate and install an Activation Package.

About This Task

All customers must generate and install an Activation Package for ExtremeCloud IQ Controller. Regardless of whether you obtain a new license or upgrade to ExtremeCloud IQ Controller. Take the following steps to generate and install the Activation Package:

Procedure

1. Log in to ExtremeCloud IQ Controller.
2. Go to **Administration** > **License** to obtain the system **Locking ID**.
3. Log into the Extreme Support Portal.
4. Go to **Assets** > **Licenses Home** and select the ExtremeCloud IQ Controller Voucher ID line item from the list.

5. On the **Voucher Details** page, select **Generate Activation Key**.

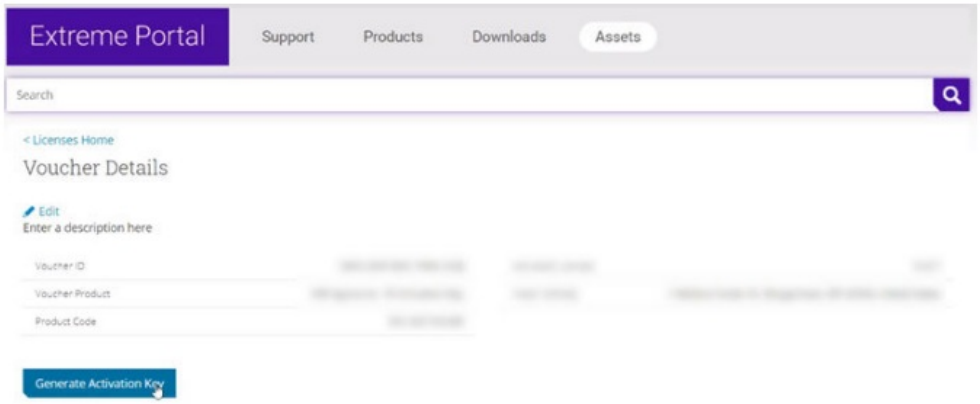


Figure 18: Generate Activation Key

6. Provide the Locking ID for the ExtremeCloud IQ Controller that will be activated.
7. Check the box to accept **Terms and Conditions** and select **Submit**.
8. The Activation package is generated, and the **Save As** dialogue displays.
9. Download the Activation Package to your local machine.

Note
The Activation Package *file name* includes the Locking ID for the specific ExtremeCloud IQ Controller.

Install the Activation Package

About This Task
Stage your ExtremeCloud IQ Controller instance. Install the Activation Package to activate ExtremeCloud IQ Controller:

Procedure

1. Return to the ExtremeCloud IQ Controller instance from where you obtained the Locking ID.
2. Go to **Administration** > **License**.
3. Select the plus sign next to the **Activation License** field.
4. Drag the Activation Package to the **Upload License** dialog to install the Activation Package.

What to Do Next
For more information on licensing, refer to the ExtremeCloud IQ Controller User Guide.

Related Links

Subscription License on page 36

Subscription License

ExtremeCloud IQ Controller is available for subscription licensing only, leveraging a single subscription SKU with ExtremeCloud IQ. The number of licenses corresponds to the number of managed access points. For more information, see the "Product Subscription License" section of the ExtremeCloud IQ Controller User Guide.

Configure vSwitches for the Virtual Appliance

Create a New Virtual Switch or Port Group on the ESXi Server on page 37
Configuring the Virtual Switch for Promiscuous Connections on page 40
Configure the Virtual Switch for Jumbo Frames Support on page 42

The Virtual Appliance has some specific requirements on the virtual switches (vSwitch) to which its data plane ports are connected. The following section explains how to create a vSwitch on an ESXi host that satisfies these requirements.

This does not replace the vSphere ESXi documentation. Before performing this procedure, you must log into the vSphere client using credentials that grant full administrative access to the vSphere ESXi host server.

Create a New Virtual Switch or Port Group on the ESXi Server

About This Task

This is an optional procedure since it is possible to reconfigure the virtual switch created by default when ESXi is installed to support VLANs or when another custom vSwitch is configured on the host. However, using separate vSwitches for the data plane traffic helps to isolate that traffic from other virtual devices and permits the switch to be configured specifically to meet the needs of the VE6120 appliance.

Note
Alternatively, it is also possible to define more than one network (port group) on a single vSwitch. All networks on the same vSwitch share the NICs assigned to the vSwitch.

To create a new switch or a port group:

Procedure

1. Login to the vSphere web client.

   For more information, see Access the Virtual Appliance Console on page 20.
2. On the vSphere web client screen, select the vSphere server's IP address or host name in the left pane. The **Configure** tab displays on the right pane.
3. Select **Networking** > **Virtual switches**.

4. Select the globe icon to **Add host networking**.

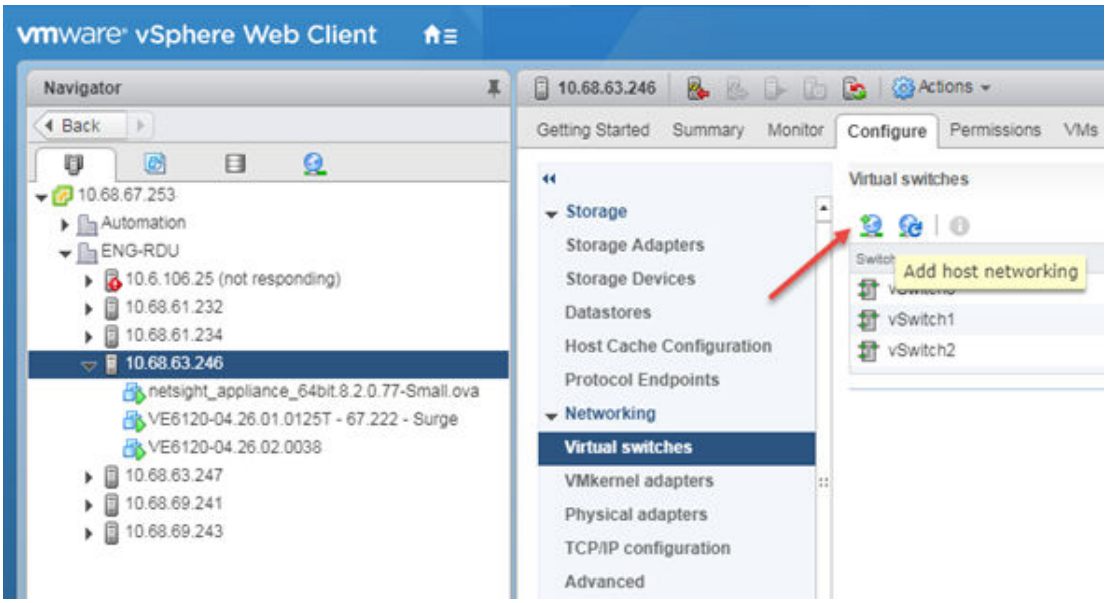


Figure 19: How to Add a Virtual Switch

5. **Select the connection type:** Select **Virtual Machine Port Group for a Standard Switch**.
6. **Select target device:**.

   You can create a new switch or create a new port group on an existing switch.

   - To create a port group on an existing switch:
     a. Select, **Select an existing standard switch**.
     b. Select **Browse**, and select a switch from the list.
     c. Select **Next**.
   - To create a new switch:
     a. Select **New standard switch**.
     b. Select **Next**.
     c. Select **Assigned adapters** to add new adapters.
     d. Select the adapter, and select **OK**.

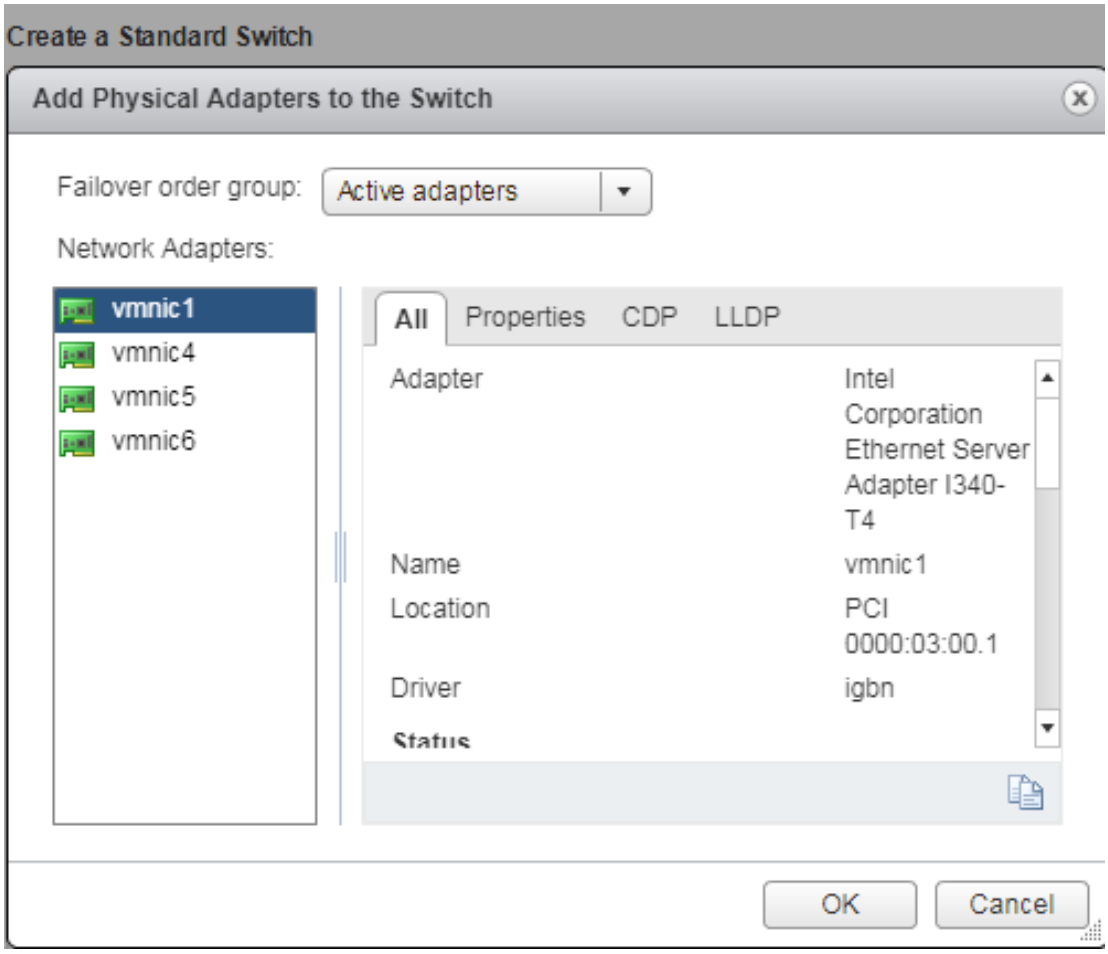


Figure 20: Adding Network Adapters

e. On the **Create a Standard Switch** dialog, select **Next**.

7. **Connection settings:**
   - Provide a network label for the switch or port group.
   - VLAN ID — **All (4095)**
8. **Ready to complete:** Review the settings and select **Finish**.

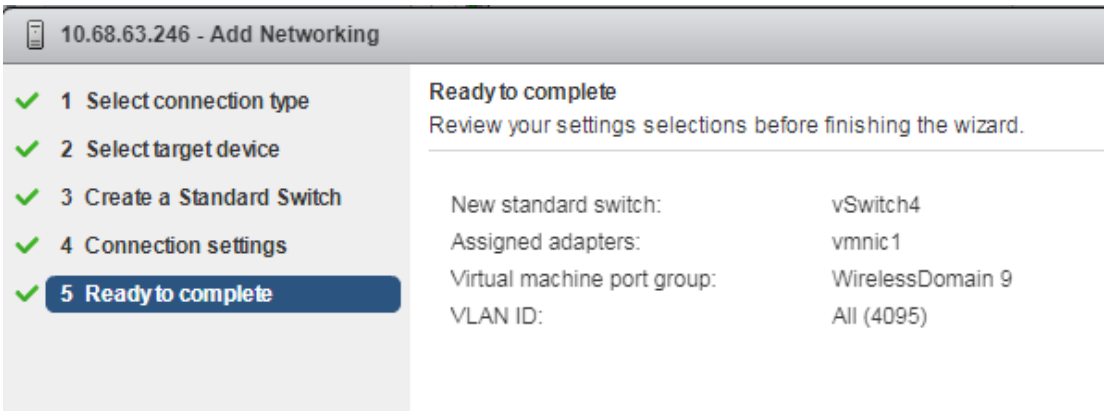


Figure 21: Ready to Complete

9. The new switch is listed in the **Virtual switches** list.

   A diagram of the Port Groups and Physical Adapters displays.

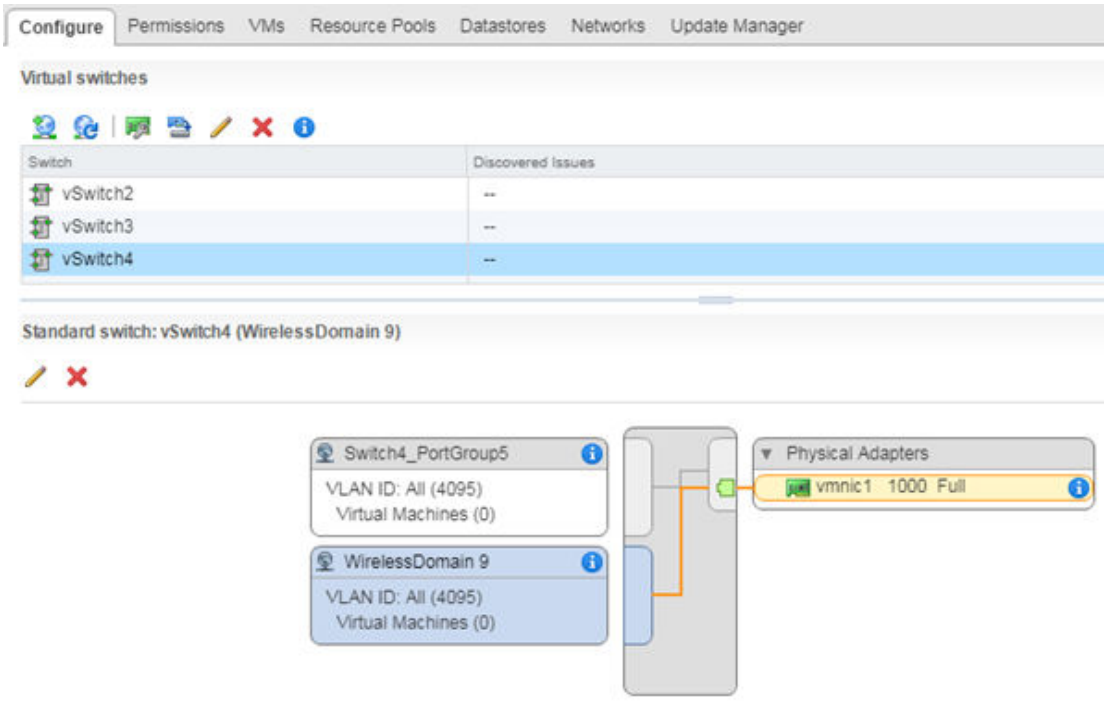


Figure 22: Switch Diagram

What to Do Next

Next, configure the virtual switch for promiscuous connections.

Configuring the Virtual Switch for Promiscuous Connections

About This Task

ESXi virtual switches collect ports into port groups. Every virtual switch must have at least one port group, and one is automatically created by ESXi when the vSwitch is created. The VE6120 data plane ports always operate in promiscuous mode, so it is mandatory to change this default. The new virtual switch and port group will be configured to accept MAC address changes and forged transmits.

To change the security settings of a virtual switch:

Procedure

1. Login to the vSphere web client host network.

   For more information on vSphere login, see Access the Virtual Appliance Console.
2. On the vSphere web client screen,select the vSphere server's IP address or host name. The **Configure** tab is displayed.

3. On the right pane, select **Networking** > **Virtual switches**, and select a switch from the list.

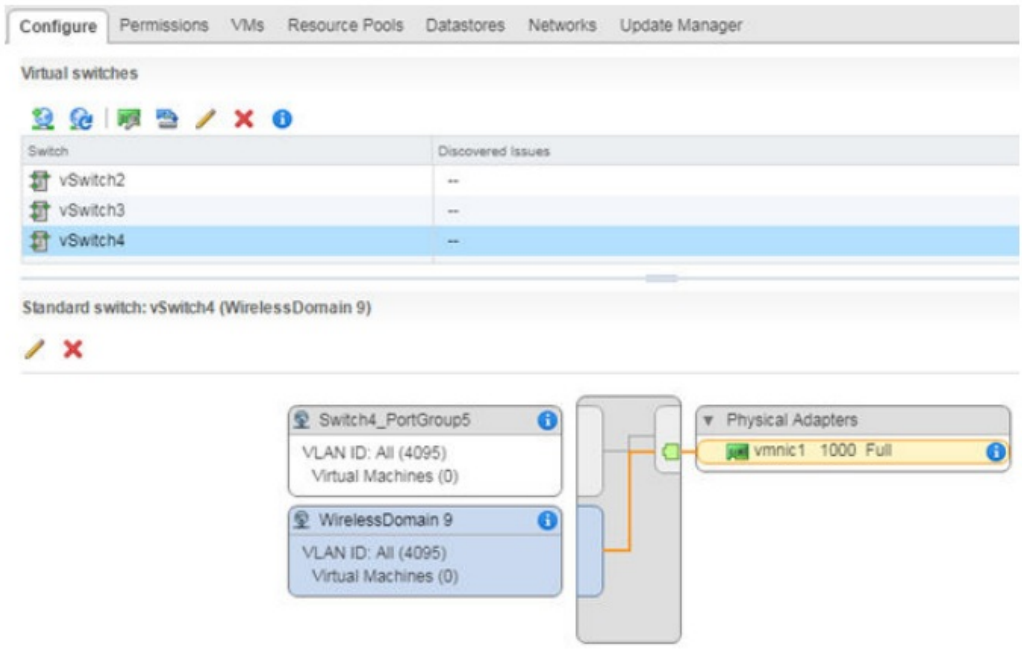


Figure 23: Switch Diagram

4. Select the pencil icon to edit properties:
   - To configure properties for the entire switch, select **switch** in the switch list, then select the pencil icon above the list.
   - To configure properties for a port group, select the port group in the diagram, then select the pencil icon above the diagram.

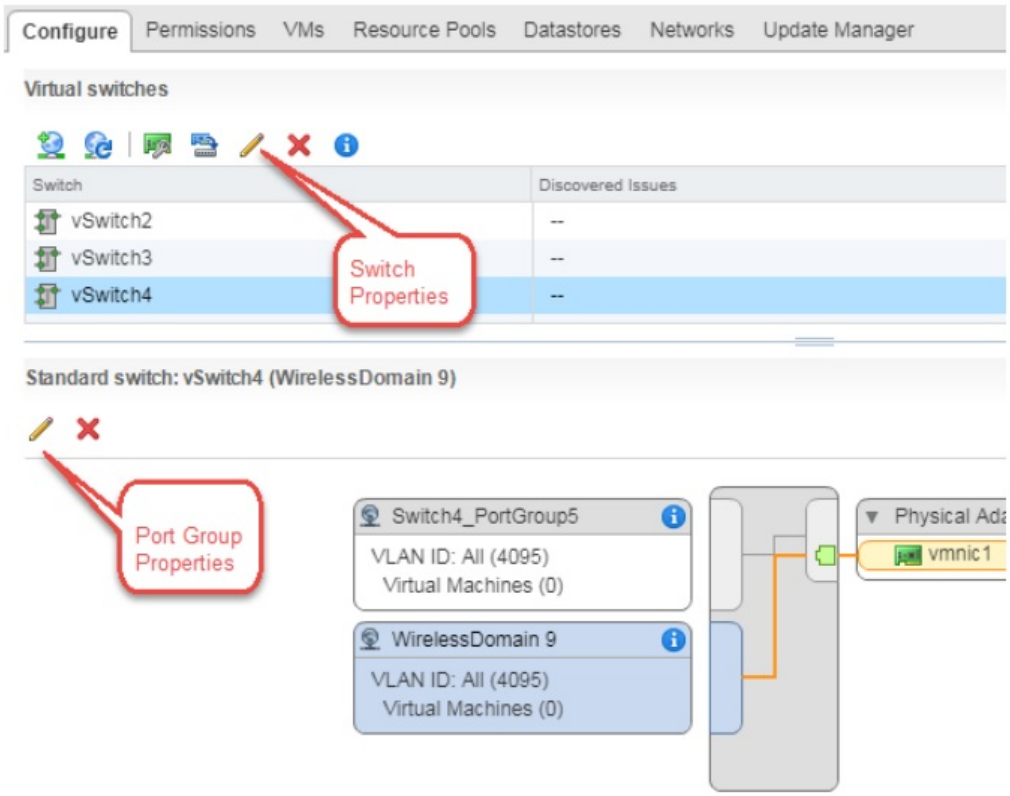


Figure 24: Editing Properties

5. On the **Edit Settings** dialog, select the **Security** tab, and set all options to **Accept**.
6. Select **OK** to close the **Edit Settings** dialog.

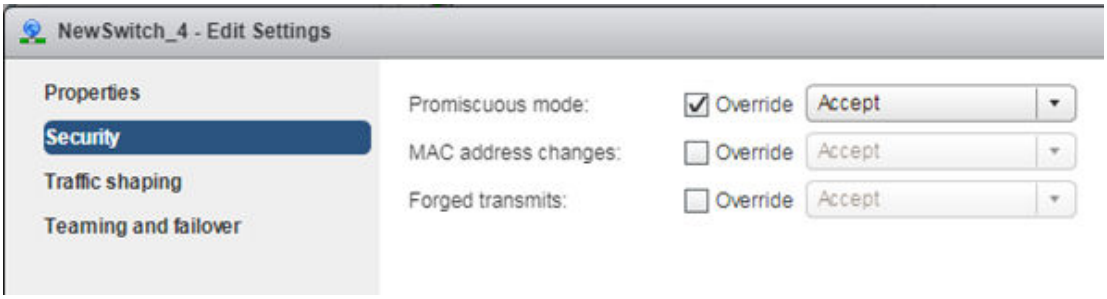


Figure 25: Promiscuous Mode Setting

Configure the Virtual Switch for Jumbo Frames Support

About This Task

The jumbo frames feature enables the configuration of physical Maximum Transmission Unit (MTU) sizes up to 1800 bytes on the access point and appliance Ethernet data plane ports. The Admin port, all protocols, and interfaces continue to use the standard MTU size of 1500 bytes.

Enable Jumbo Frames to facilitate the transmission of MU data between the access point and the appliance, or between the access point and a Switch for VxLAN topologies, without incurring fragmentation.

Procedure

1. Log into the vSphere client host network.
2. Select **networking** > **virtual switches** tab.

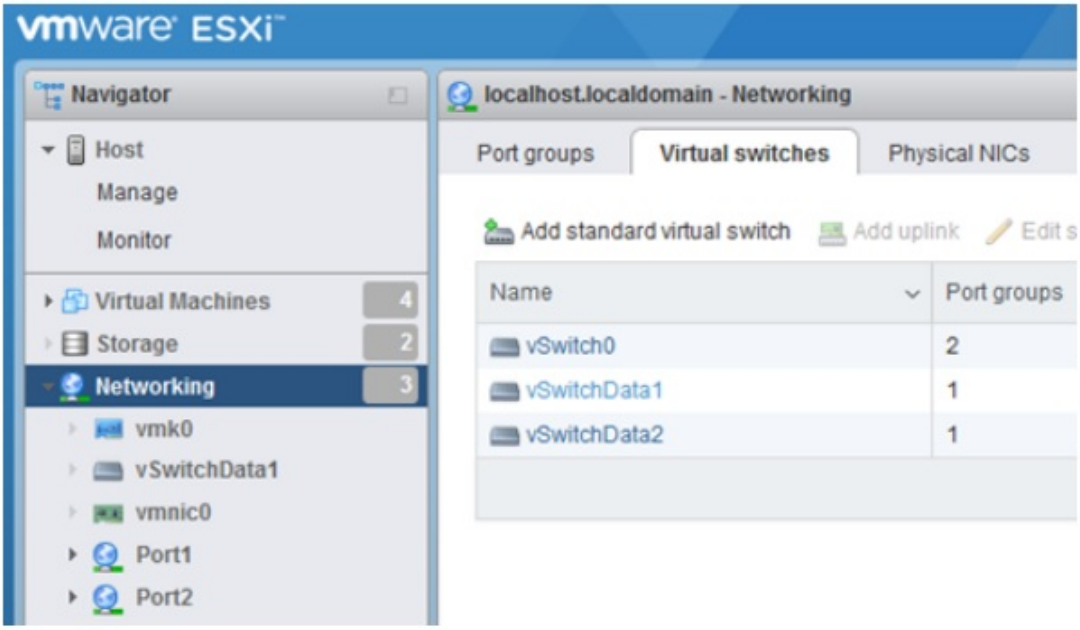


Figure 26: Virtual Switch Selection Window

3. Select the virtual switch to be configured.

4. Select **edit settings**.

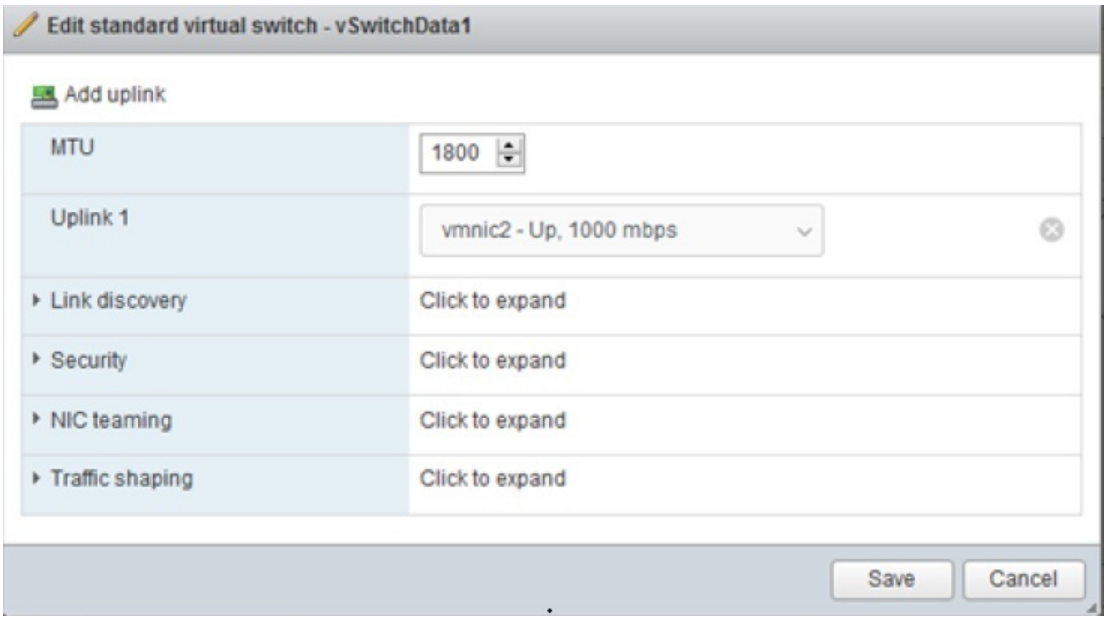


Figure 27: Virtual Switch Properties Information Window

5. Set the MTU to 1800.
6. Select **Save**.

Configure a Virtual Machine to Gain Networking Performance

About This Task

Configuring a virtual machine to gain more networking performance allows you to increase the networking throughput, especially if you use 10 Gbps or faster NICs on the server.

Note
Perform this task after every .ova deployment since the settings cannot be exported with an .ova image.

vSphere uses single receive thread and single transmit thread, regardless of the number of virtual devices configured on it. It is necessary to scale vSphere to prevent packet loss, core overload, and degraded performance.

This configuration creates a special transmit queue on the host server (ESXi) per appliance data plane networking interface. If you do not use both Port 1 and Port 2 on the appliance, the configuration can be applied only on the port that is being used.

If there is a vNIC is overload, you can configure additional cores to parallelize the threads by using the **`ethernetX.ctxPerDev`** command in the virtual machine file.

Note
Use this command only on vNICs that will handle high packet loads.

To configure and enable the **`ethernetX.ctxPerDev`** command on a vNIC:

Procedure

1. Shutdown the virtual machine.

2. Select **VM Options**.

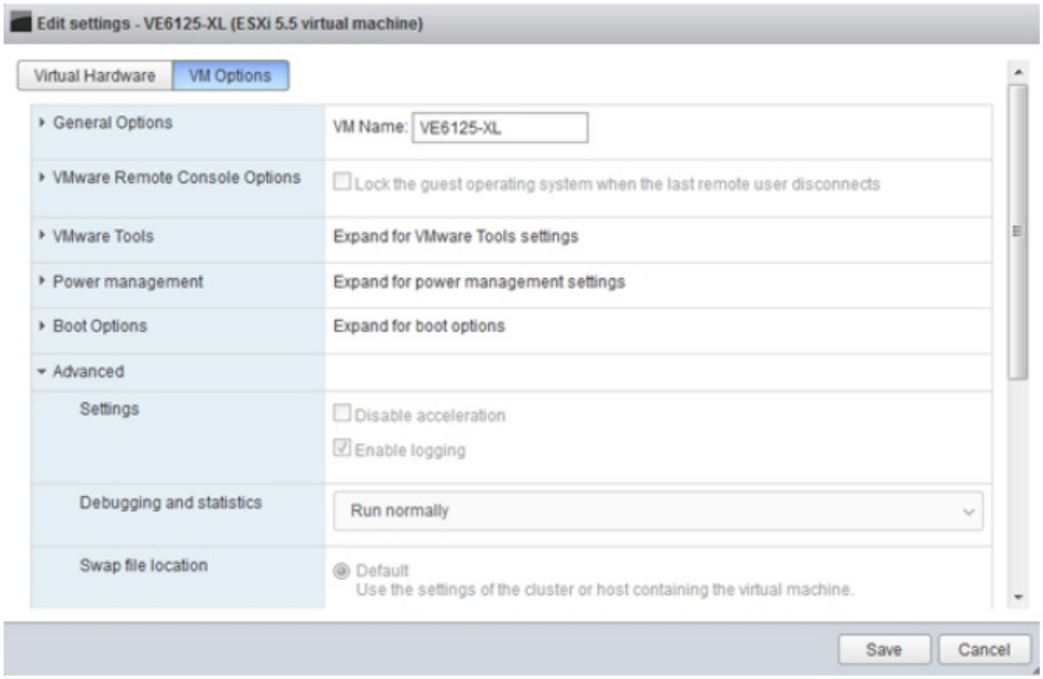


Figure 28: VM Options Tab

3. Expand the **Advanced** option.

4. Select **Edit Configurations** next to the **Configuration Parameters** option.

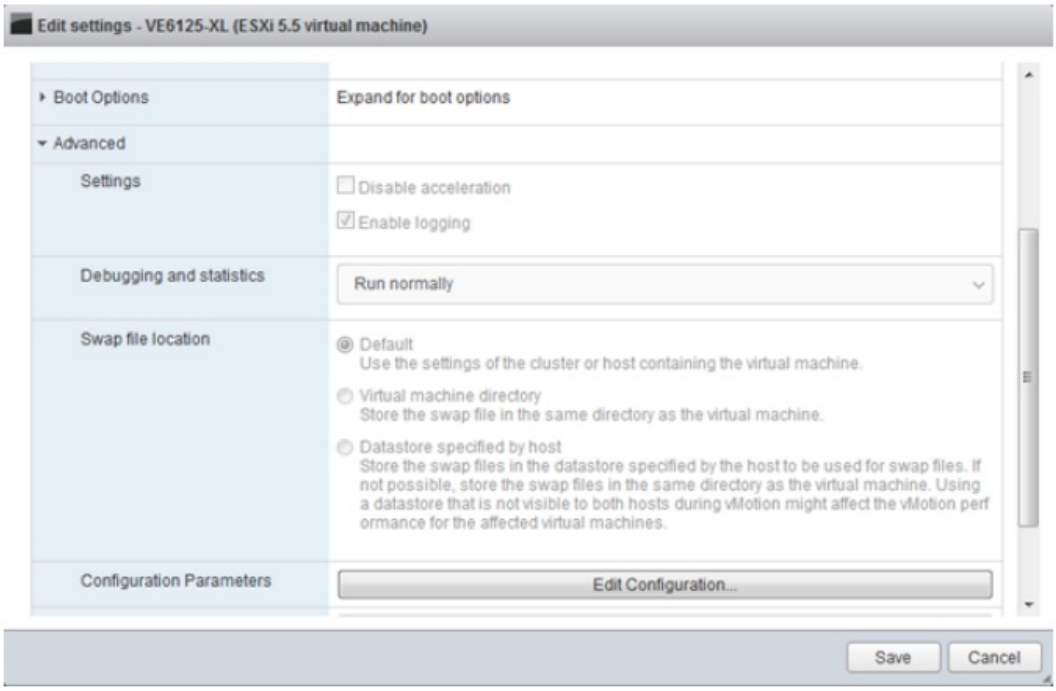


Figure 29: Edit Configuration Option

The **Configuration Parameters** window opens.

5. Select **Add parameter** to add an entry.

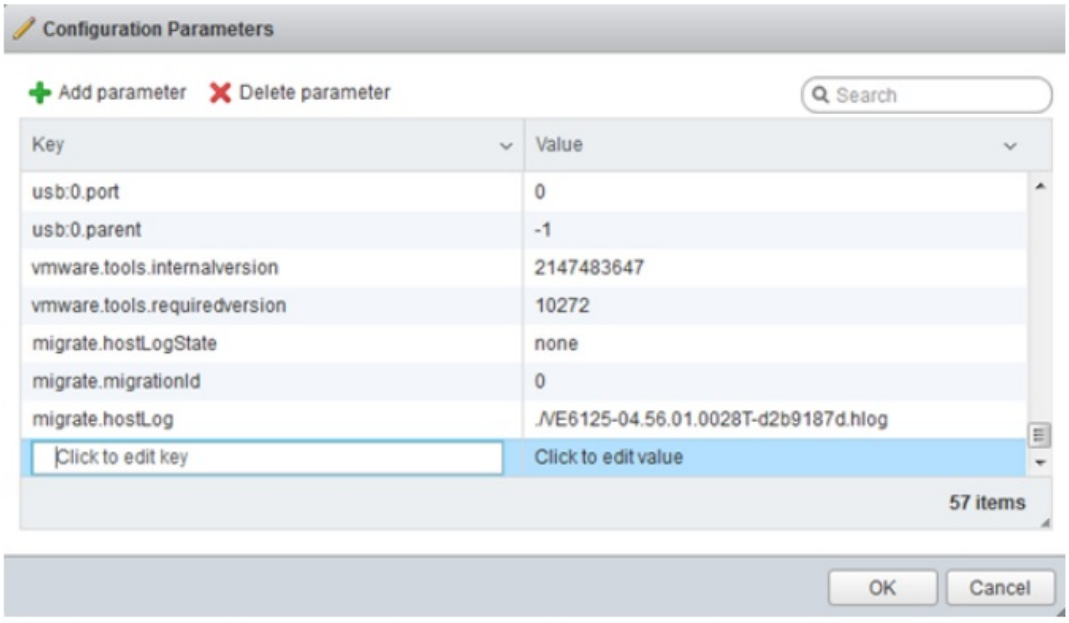


Figure 30: Configuration Parameters Window

6. Set the following parameters in the **Configuration Parameters** window.

Table 8: Configuration Parameters Entries

Key	Value
For Port 1: • ethernet1.ctxPerDev	1
For Port 2: • ethernet2.ctxPerDev	1

Note
The "X" in **`ethernetX.ctxPerDev`** command is replaced with the vNIC number.

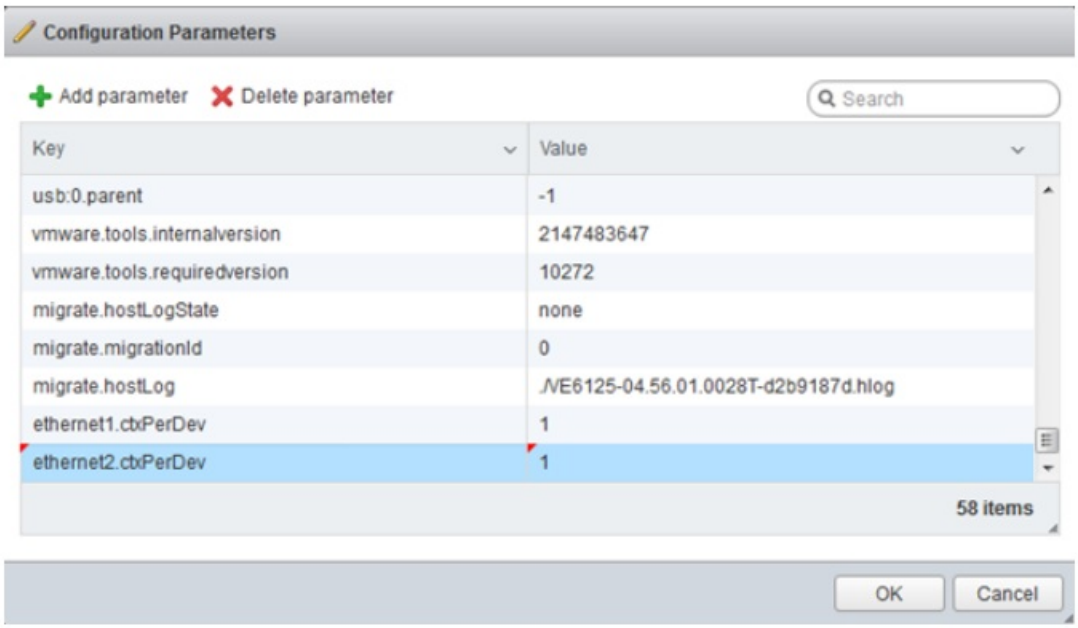
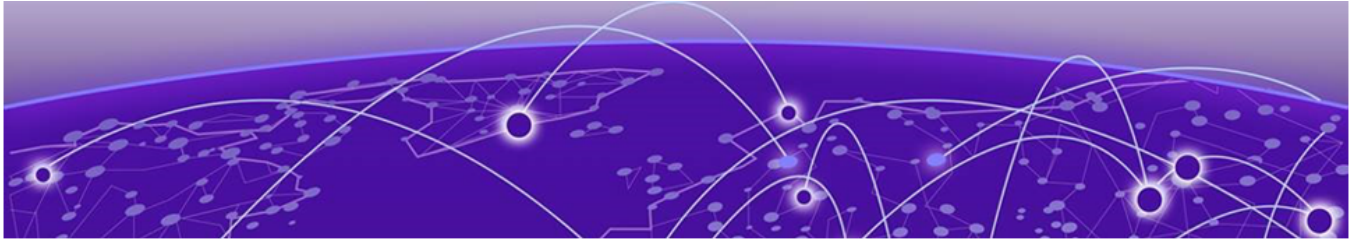


Figure 31: Configuration Parameters

7. Select **OK** to add the configuration parameter.
8. Select **Save** to save the configuration parameter.
9. Turn on the virtual machine.



Shut Down and Restart a Virtual Machine

Shut Down and Restart a Virtual Machine Using the Graphical User Interface (GUI) on page 49
Shut Down and Restart a Virtual Machine on a ESXi Server on page 50

About This Task

You need to shut down a virtual machine before configuring it to gain more networking performance. The following task will outline the various ways through which you can shut down and reboot a virtual machine.

For information on how to access the Basic Configuration Wizard, see Access the Virtual Appliance Console on page 20.

To shut down and reboot the virtual machine using the Command Line Interface (CLI) in the Basic Configuration Wizard:

Procedure

1. Type **`shutdown halt`** and press **Enter** in the Basic Configuration Wizard.

   The virtual machine shuts down.
2. To reboot the virtual machine, type **`shutdown reboot`** and press **Enter**.

   The virtual machine restarts.

Shut Down and Restart a Virtual Machine Using the Graphical User Interface (GUI)

About This Task

To shut down and restart a virtual machine using the GUI:

Procedure

1. Navigate to **Administration** > **System** > **Maintenance**.
2. Select **Halt System (SHUTDOWN)**.

   The machine shuts down.
3. To restart the machine, select **Restart System (REBOOT)**.

   The machine restarts.

Shut Down and Restart a Virtual Machine on a ESXi Server

About This Task

You can shut down and restart a virtual machine through the ESXi server.

Procedure

1. To shut down the virtual machine, right-click the virtual machine listed under **Virtual Machines**, select **Guest OS** > **Shut down**.
2. To restart the virtual machine, right-click the virtual machine listed under **Virtual Machines**, select **Guest OS** > **Restart**.

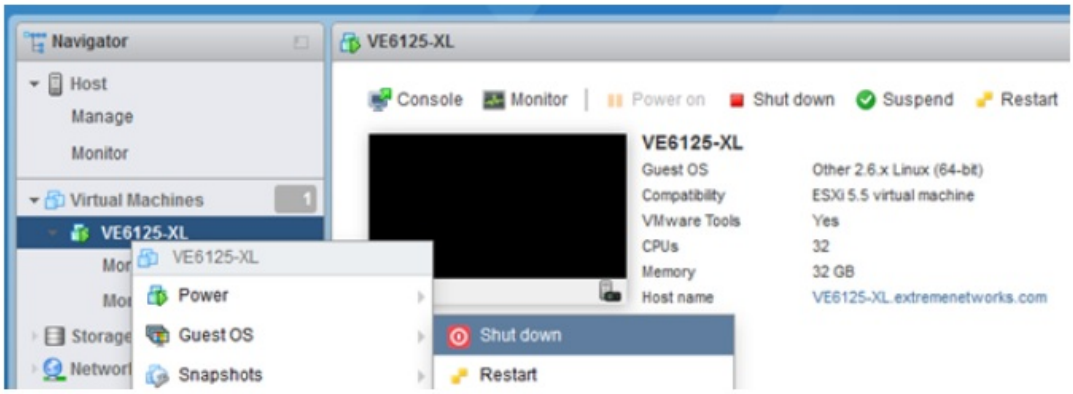
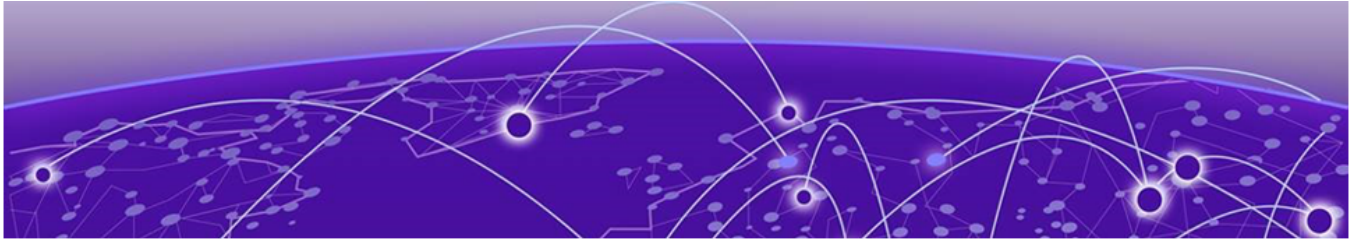


Figure 32: Shut Down or Restart a Virtual Appliance Through ESXi Server

3. You can shut down or restart a virtual machine by directly selecting the **Shut down** or **Restart** option on the ESXi server.



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