Installing and Upgrading VMware

This chapter contains the following sections:

VMware Release Upgrades

Upgrading from VMware Releases 4.0, 4.1, 5.0, 5.1 to VMware Release 5.5

The steps to upgrade are as follows:

Note
From vCenter Server Release 5.1, you cannot directly upgrade an existing vCenter Server from an older version to Release 5.1. vSphere 5.1 introduces the vCenter Single Sign On service as part of the vCenter Server management infrastructure. This change affects vCenter Server installation, upgrading, and operation. When you upgrade to vCenter Server 5.1, the upgrade process installs vCenter Single Sign On first and then upgrades the vCenter Server.

Procedure

Step 1	
Step 2	
Step 3	
Step 4	
Step 5	
Step 6	

Installing the vCenter Single Sign On

Before You Begin

- Download the upgrade ISO file that contains the ESXi image and the Cisco Nexus 1000V software image files.

- See the *Cisco Nexus 1000V and VMware Compatibility Information* document to determine the correct VIB Version, VEM Bundle, Host Build, vCenter Server, and Update Manager versions.

Procedure

Step 1	Navigate to the desired VMware vSphere installation file.
	Note If you have the ISO image, you should mount it on the host.
Step 2	Double-click **autorun.**
Step 3	In the VMware vCenter Installer window, click **vCenter Single Sign On**.
Step 4	Click **OK** on the warning message and click **Next**.
Step 5	In the Patent Agreement window, click **Next**.
Step 6	In the License Agreement window, click the **I agree to the terms in the license agreement radio button** and Click **Next**.
Step 7	In the vCenter Single Sign On Deployment Type window, keep the default setting of installing vCenter Single SignOn with basic node and click **Next**.
Step 8	In the vCenter Single Sign On Type window, keep the default setting of Install basic vCenter Single Sign On and click **Next**.
Step 9	In the vCenter Single Sign On Information window, provide the single sign on server password and click **Next**.
	Note Ensure your single sign on server password is different from the windows VM password.

Step 10 In the Database Options screen, click **Next**.

Step 11 In the Database User Information screen, provide the SSO password for RSA_DBA and RSA_USER.

Step 12 In the Local system information screen, provide the IP address of your local machine.

Step 13 Ignore the warning message and Click **Ok**.

Step 14 Click **Next**.

Step 15 Retain the default HTTPs port settings and Click **Next**.

Step 16 Click **Install**.

Step 17 Click **Finish**.

Installing the vCenter Inventory Service

Procedure

Step 1 In the VMware vCenter Installer window, click **vCenter Inventory Service**.

Step 2 Click **Install**.

Step 3 Choose the desired language and click **OK**.

Step 4 Click **Next**.

Step 5 In the Patent Agreement window, click **Next**.

Step 6 In the License Agreement window, click **I agree to the terms in the license agreement radio button** and click **Next**.

Step 7 In the Database Options screen, click **Next** .

Step 8 In the Local system information window, provide the IP address of your local machine.

Step 9 Ignore the warning message and Click **Ok**.

Step 10 Click **Next**.

Step 11 Retain the default configured port settings and Click **Next**.

Step 12 Retain the default Inventory size for vCenter Server deployment and Click **Next** .

Step 13 Enter the vCenter Single Sign On server credentials and Click **Next** .

Step 14 In the Certificate Installation for Secure Connection window, select **Overwrite Certificates**.

Step 15 Click **Install**.

Step 16 Click **Finish**.

Upgrading the vCenter Server

Note   This upgrade procedure applies to vCenter Server 5.0, 5.0 Update 1 and later, 5.1, and 5.5 versions.

Before You Begin

- Download the upgrade ISO file that contains your desired ESXi image and the desired Cisco Nexus 1000V image.

- See the *Cisco Nexus 1000V and VMware Compatibility Information* document to determine the correct VIB Version, VEM Bundle, Host Build, vCenter Server, and Update Manager versions.

Procedure

Step 1 Navigate to the VMware vSphere installation file.
Note If you have the ISO image, you should mount it on the host.

Step 2 Double-click **autorun.**

Step 3 In the **VMware vCenter Installer** screen, click **vCenter Server**.

Step 4 Click **Install**.

Step 5 Choose a language and click **OK.**

Step 6 Click **Next.**

Step 7 In the **Patent Agreement** screen, click **Next.**

Step 8 In the **License Agreement** screen, click the **I agree to the terms in the license agreement** radio button.

Step 9 Click **Next.**

Step 10 In the **Database Options** screen, click **Next.**

Step 11 Click the **Upgrade existing vCenter Server database** radio button and check the **I have taken a backup of the existing vCenter Server database and SSL certificates in the folder: C:\ProgramData\VMware\VMware VirtualCenter\SSL\.** check box.

Step 12 From the **Windows Start** Menu, click **Run.**

Step 13 Enter the name of the folder that contains the vCenter Server database and click **OK.**

Step 14 Drag a copy of the parent folder (SSL) to the desktop as a backup.

Step 15 Return to the installer program.

Step 16 Click **Next.**

Step 17 In the **vCenter Agent Upgrade** screen, click the **Automatic** radio button.

Step 18 Click **Next.**

Step 19 In the **vCenter Server Service** screen, check the **Use SYSTEM Account** check box.

Step 20 Click **Next.**

Step 21 Review the port settings and click **Next.**

Step 22 In the **vCenter Server JVM Memory** screen based on the number of hosts, click the appropriate memory radio button.

Step 23 Click **Next.**

Step 24 Click **Install.**

Step 25 Click **Finish.**

This step completes the upgrade of the vCenter Server.

Step 26 Upgrade the VMware vSphere Client to your desired ESXi version.

Step 27 Open the VMware vSphere Client.

Step 28 From the **Help** menu, choose **About VMware vSphere**.

Step 29 Confirm that the vSphere Client and the VMware vCenter Server are both the same VMware versions.

Step 30 Click **OK**, and exit the VMware vSphere Client.

What to Do Next

Complete the steps in

Upgrading the vCenter Update Manager to Release 5.5

Note This upgrade procedure also applies to vCenter Update Manager 5.0, 5.0 Update 1 and later, 5.1, and 5.5 versions.

Before You Begin

You have upgraded the vCenter Server to the desired VMware ESXi version.

Procedure

Step 1 On the local drive, double-click **VMware-UpdateManager**.

Step 2 Choose a language and click **OK.**

The Update Manager Installer opens.

Step 3 Click **OK** to upgrade.

Step 4 Click **Next** to begin.

Step 5 Click **Next** at the Patent Agreement.

Step 6 Click the **I agree to the terms in the license agreement** radio button.

Step 7 Click **Next.**

Step 8 In the **VMware vCenter Server Information** area, verify the IP address and username.

Step 9 In the **Password** field, enter your password.

Step 10 Click **Next.**

Step 11 Click **Next.**

Step 12 Click the **Yes, I want to upgrade my Update Manager database** radio button.

Step 13 Click **Next.**

Step 14 Verify the Update Manager port settings.

Step 15 Click **Next.**

Step 16 Verify the proxy settings.

Step 17 Click **Next.**

Step 18 Click **Install** to begin the upgrade.

Step 19 Click **OK** to acknowledge that a reboot will be required to complete the setup.
During the upgrade, the vSphere Client is disconnected.

Step 20 Click **Cancel** for the attempt to reconnect.

Step 21 Click **OK** in the **Server Connection Invalid** dialog box.

Step 22 Click **Finish.**

Step 23 Reboot the VUM/vCenter Server.

Step 24 In the **Shut Down Windows** dialog box from the **Option** drop-down list, choose **Other (Planned)**, enter a value in the **comment** field, and click **OK.**

Step 25 After the system has rebooted, browse to the `C:\ProgramData\VMware\VMware Update Manager\Logs\` folder.

Step 26 Open the `vmware-vum-server-log4cpp` file.

Step 27 From the **VMware vCenter Server's Plug-in** menu, choose **Manage Plug-ins**.

Step 28 Under **Available Plug-ins**, click **Download and Install** for VMware vSphere Update Manager Extension.

What to Do Next

Complete the steps in

Augmenting the Customized ISO for VMware Release 5.1 and Later

Before You Begin

If you are using a QLogic NIC, download the driver to include in the customized ISO for that specific NIC.

Procedure

If the ESXi host that is being upgraded needs any Async drivers that are not already in the VMware release, see the respective vendor documentation for the drivers and the procedure to update the customized ISO.

What to Do Next

Complete the steps in

Upgrading the ESXi Hosts to Release 5.x

Note
- This upgrade procedure also applies to ESXi hosts 5.0, 5.0 Update 1, 5.1 and 5.5 versions.
- If you have multiple vmkernel interfaces on the same subnet when upgrading you ESXi host, you must place your management vmkernel interface into the Layer 3 capable port profile.

Procedure

Step 1 In the vSphere Client, click **Home**.

Step 2 Click the **Update Manager** tab.

Step 3 Click the **ESXi Image** tab.

Step 4 Click the **Import ESXi Image** link in the **ESXi Image** window.

Step 5 Click the **Browse** button and navigate to the customized upgrade ISO image.

Step 6 Choose the upgrade file and click **Open.**

Step 7 To import the ISO file, click **Next**.

Step 8 When the upgrade ISO file is uploaded, click **Next**.

Step 9 In the **Baseline Name and Description** area, enter a name for the baseline and an optional description.

Step 10 Click **Finish.**

Step 11 In the vSphere Client, choose **Home** > **Hosts and Clusters**.

Step 12 In the **left-hand** pane, select the host or cluster to upgrade and click the **Update Manager** tab.

Step 13 Click **Attach.**

Step 14 In the **Individual Baselines by Type** area, check your upgrade baseline's check box.

Step 15 Click **Attach.**

Step 16 Click **Scan.**
After the scan, the baseline will display non-compliant.

Step 17 In the **Confirm Scan** dialog box, check the **Upgrades** check box and click **Scan.**

Step 18 In the **Upgrade Details** window, if the Compliance State has a value of Incompatible, reboot the host with the baseline attached.

After the reboot, the Compliance State will have a value of Non-Compliant.

Step 19   When you are finished viewing the upgrade details, click **Close**.

Step 20   Verify that all hosts are Non-Compliant.

Step 21   Click **Remediate**.

Step 22   Click **Next**

Step 23   In the **End User License Agreement** screen, check the **I accept the terms and license agreement** check box.

Step 24   Click **Next**

Step 25   In the **ESXi 5.x Upgrade** window, click **Next**.

Step 26   Click **Next**.

Step 27   In the **Maintenance Mode Options** area, check the **Disable any removable media devices connected to the virtual machines on the host** check box.

Step 28   Click **Next**.

Step 29   In the **Cluster Remediation Options** window, check all check boxes.

Step 30   Click **Next**.

Step 31   Click **Finish** to begin the remediation.

Step 32   To check the host versions, click each host in the left-hand pane and confirm that 5.1 appears in the top-left corner of the right-hand pane and that the version information matches the contents of the *Cisco Nexus 1000V and VMware Compatibility Information*.

Step 33   The upgrade can also be confirmed by running the **show module** command on the VSM and observing that the VEMs are on the correct build.

The upgrade is complete.

What to Do Next

Complete the steps in Verifying the Build Number and Upgrade.

VMware Release 5.1 to VMware Release 5.1 Update 1

Creating the Host Patch Baseline for 5.1 Update 1

Before You Begin

Ensure you configure the VMware Update Manager Download settings with proxy enabled and VMware production portal links for VMware ESX/ESXi in connected state and download those images into the VUM patch repository.

Procedure

Step 1	Under **Home** > **Solutions and Applications** > **Update Manager**, select **Baselines and Groups** tab.
Step 2	Under **Baseline**, click **Create** to create a baseline.
Step 3	In the **Baseline Name and Type** window, enter a name for the baseline, select the **Host Patch** radio button and click **Next**.
Step 4	In the **Patch Options** window, select the **Fixed** radio button and click **Next**.
Step 5	In the **Patches** window, select the required patch to upgrade to version 5.1 Update 1 and move the selected patch to **Fixed patches to Add** column and click **Next**.

> **Note** To know the 5.1 update 1 patches, refer to http://www.vmware.com/patchmgr/findPatch.portal .

> **Note** In the combined upgrade scenario, add the required Cisco Nexus 1000V VEM patch that corresponds to 5.1 Update 1 release to the **Fixed patches to Add** column along with ESXi 5.1 Update 1 patches. You can get the required Cisco Nexus 1000V VEM patches into the VUM patch repository either from www.cisco.com, VMWare production portal links or through the VSM home page.

Upgrading the ESXi Hosts to Release 5.1 Update 1 using VMware Update Manager

> **Note** Follow the same procedure to upgrade ESXi hosts 5.0 to 5.0 Update 1 and later.

Procedure

Step 1	In the vSphere Client, choose **Home** > **Hosts and Clusters** .
Step 2	From the left navigation pane, select the host or cluster that needs to be upgraded and click **Update Manager**.
Step 3	Click **Attach**.
Step 4	In the Individual Baselines by Type area, select your Patch baseline's radio button check box.
Step 5	Click **Attach**.
Step 6	Click **Scan**.
Step 7	In the Confirm Scan dialog box, check the **Patches and extensions box** and click **Scan**.
	Verify if all the hosts are non-compliant.

Step 8   Click **Stage**.

Step 9   In Baseline Selection window, keep the default selected baseline and click **Next**.

Step 10   In Patch and Extension exclusion window, keep the default selected baseline and click **Next**.

Step 11   Click **Finish**.

Step 12   Click **Remediate** and click **Next**.

Step 13   In Patch and Extension exclusion window, keep the default selected baseline and click **Next**.

Step 14   Click **Next**.

Step 15   In the Host Remediate Options window, under Maintenance Mode Options, select the **Disable any removable media devices connected to the virtual machines on the host** check box.

> **Note**   If you have stateless host in your setup, select **Enable Patch Remediation on Powered on PXE booted ESXi hosts** radio button.

Step 16   Click **Next**.

Step 17   In the Cluster Remediation Options window, select all the check boxes and click **Next**.

Step 18   Click **Finish** to begin the remediation.

To check the host versions, on the left-hand pane, click on each host to confirm if version 5.1 appears in the top-left corner of the right-hand pane and the version information matches the information provided under the *Cisco Nexus 1000V and VMware Compatibility Information* guide.

You can also confirm if the upgrade was successful by executing the **show module** command on the VSM and check if the VEMs are running the correct build.

> **Note**   Follow the same procedure for combined upgrade of 5.0 or 5.1 and the initial version of Cisco Nexus 1000V to 5.0 Update1 or 5.1 Update1 and the upgraded version of Cisco Nexus 1000V.

Upgrading the ESXi Hosts to Release 5.1 Update 1 using the CLI

You can upgrade an ESXi host by installing a VMware patch or update with the compatible Cisco Nexus 1000V VEM software.

Before You Begin

- You have downloaded and installed the VMware vCLI. For information about installing the vCLI, see the VMware vCLI documentation.

- You are logged in to the remote host when the vCLI is installed.

> **Note**   The vSphere Command-Line Interface (vSphere CLI) command set allows you to enter common system administration commands against ESXi systems from any machine with network access to those systems. You can also enter most vSphere CLI commands against a vCenter Server system and target any ESXi system that the vCenter Server system manages. vSphere CLI commands are especially useful for ESXi hosts because ESXi does not include a service console.

- If you are using the esxupdate command, you are logged into the ESX host.

- Check the *Cisco Nexus 1000V and VMware Compatibility Information* for compatible versions.

• You have already copied the ESXi host software and VEM software installation file to the /tmp directory.

• You know the name of the ESXi and VEM software file to be installed.

Procedure

Step 1 Download the VEM software and copy them to the local host.

Step 2 Determine the upgrade method that you want to use.
If you are using the vCLI, enter the esxcli command and install the ESXi and VEM software simultaneously.

esxcli software vib install -v *full-path-to-vib*

Note When using the esxcli software VIB install command, you must log in to each host and enter the command. ESXi 5.1 expects the VIB to be in the /var/log/vmware directory if the absolute path is not specified.

```
# esxcli software vib update -d /var/tmp/update-from-esxi5.1-5.1_update01.zip
Installation Result
  Message: The update completed successfully, but the system needs to be rebooted for the
 changes to be effective.
  Reboot Required: true
  VIBs Installed: VMware_bootbank_esx-base_5.1.0-0.12.1065491,
VMware_locker_tools-light_5.1.0-0.12.1065491
  VIBs Removed: VMware_bootbank_esx-base_5.1.0-0.3.799733,
VMware_locker_tools-light_5.0.0-0.0.799733
  VIBs Skipped: VMware_bootbank_ata-pata-amd_0.3.10-3vmw.510.0. 3.799733,
VMware_bootbank_ata-pata-atiixp_0.4.6-3vmw.510.0. 3.799733,
```

<==>

```
  VMware_bootbank_scsi-qla4xxx_5.01.03.2-3vmw.510.0.3.799733.,
VMware_bootbank_uhci-usb-uhci_1.0-3vmw.510.0.3.799733
```

What to Do Next

Complete the steps under Verifying the Build Number and Upgrade

Verifying the Build Number and Upgrade

Before You Begin

• You have upgraded the VSMs and VEMs to the current Cisco Nexus 1000V release.

Note The VSM upgrade will not proceed if ESX/ESXi 4.0 or 4.1 is part of the DVS. You must either remove ESX 4.0 or 4.1 from the DVS and proceed with VSM upgrade or upgrade ESX 4.0 or 4.1 to 5.0 or later releases and proceed with the VSM upgrade.

• You have upgraded the vCenter Server to VMware Release 5.1 Update 1.

• You have upgraded the VMware Update Manager to VMware Release 5. 1 Update 1.

• You have upgraded your ESX/ESXi hosts to VMware Release 5. 1 Update 1.

Procedure

Step 1 Verify the build number on the ESXi host.
```
~ # vmware -v
VMware ESXi 5.1.0 build-1065491
VMware ESXi 5.1.0 Update 1
```
Step 2 Verify the upgrade on the Cisco Nexus 1000V.
```
switch# show module

Mod  Ports  Module-Type                       Model              Status
---  -----  --------------------------------  -----------------  -----------
1    0      Virtual Supervisor Module         Nexus1000V         ha-standby
2    0      Virtual Supervisor Module         Nexus1000V         active *
3    1022   Virtual Ethernet Module           NA                 ok
5    1022   Virtual Ethernet Module           NA                 ok
6    1022   Virtual Ethernet Module           NA                 ok


Mod  Sw                 Hw
---  -----------------  ------------------------------------------------
1    5.2(1)SV3(1.3)     0.0
2    5.2(1)SV3(1.3)     0.0
3    5.2(1)SV3(1.3)     VMware ESXi 5.1.0 Releasebuild-1065491 (3.1)
5    5.2(1)SV3(1.3)     VMware ESXi 5.5.0 Releasebuild-2068190 (3.2)
6    5.2(1)SV3(1.3)     VMware ESXi 5.0.0 Releasebuild-914586 (3.0)


Mod  Server-IP       Server-UUID                          Server-Name
---  --------------  -----------------------------------  --------------------
1    10.197.133.108  NA                                   NA
2    10.197.133.108  NA                                   NA
3    10.197.132.44   7b1a5e63-bcd0-11e0-bd1d-30e4dbc2c3ae 10.197.132.44
5    10.197.132.42   e0829a21-bc61-11e0-bd1d-30e4dbc2ba66 NA
6    10.197.132.45   8d8ff0e8-b565-11e0-bd1d-30e4dbc297da 10.197.132.45

* this terminal session
```

Upgrading to VMware ESXi 5.0 Patch 01

Upgrading a VMware ESXi 5.0 Stateful Host to VMware ESXi 5.0 Patch 01

Procedure

Step 1 Copy the ESXi 5.0 Patch 01 bundle (`ESXi500- 201301152108.zip`) to the host.

Step 2 Upgrade the host to ESXi 5.0 Patch 01.
```
~ # esxcli software vib update -d /vmfs/volumes/newnfs/MN-patch01/ESXi500-201301152108.zip
Installation Result
   Message: The update completed successfully, but the system needs to be rebooted for the
 changes to be effective.
   Reboot Required: true
   VIBs Installed: VMware_bootbank_esx-base_5.0.0-0.3.474610,
VMware_locker_tools-light_5.0.0-0.3.474610
   VIBs Removed: VMware_bootbank_esx-base_5.0.0-0.0.469512,
```

```
VMware_locker_tools-light_5.0.0-0.0.469512
   VIBs Skipped: VMware_bootbank_ata-pata-amd_0.3.10-3vmw.500.0.0.469512,
VMware_bootbank_ata-pata-atiixp_0.4.6-3vmw.500.0.0.469512,
```

<—==—>

```
   VMware_bootbank_scsi-qla4xxx_5.01.03.2-3vmw.500.0.0.469512,
VMware_bootbank_uhci-usb-uhci_1.0-3vmw.500.0.0.469512
```

Installing ESXi 5.1 Host Software Using the CLI

You can upgrade an ESXi host by installing a VMware patch or update with the compatible Cisco Nexus 1000V VEM software.

Before You Begin

• If you are using the vCLI, do the following:

  ◦ You have downloaded and installed the VMware vCLI. For information about installing the vCLI, see the VMware vCLI documentation.

  ◦ You are logged in to the remote host when the vCLI is installed.

> ✎
>
> **Note**   The vSphere Command-Line Interface (vSphere CLI) command set allows you to enter common system administration commands against ESXi systems from any machine with network access to those systems. You can also enter most vSphere CLI commands against a vCenter Server system and target any ESXi system that the vCenter Server system manages. vSphere CLI commands are especially useful for ESXi hosts because ESXi does not include a service console.

• If you are using the **esxupdate** command, you are logged into the ESX host.

• Check the *Cisco Nexus 1000V and VMware Compatibility Information* for compatible versions.

• You have already copied the ESXi host software and VEM software installation file to the /tmp directory.

• You know the name of the ESXi and VEM software file to be installed.

Procedure

Step 1   Download the VEM bits and copy them to the local host.

Step 2   Determine the upgrade method that you want and use the following steps.

a) ~ # **esxcli software vib install -d** *full_path_to_VEM_bundle*
b) ~ # **esxcli software vib install –v***full_path_to_VIB*

If you are using the vCLI, enter the **esxcli** command and install the ESXi and VEM software simultaneously.

Note When using the **esxcli software vib install** command, you must log in to each host and enter the command. ESXi 5.1 expects the VIB to be in the `/var/log/vmware` directory if the absolute path is not specified.

This command loads the software manually onto the host, loads the kernel modules, and starts the VEM Agent on the running system.

Step 3 Verify that the installation was successful by typing the following commands.

Note If the VEM Agent is not running, see the *Cisco Nexus 1000V Troubleshooting Guide*.

a) ~ # **vmware -v -l**

b) ~ # **vemcmd show version**

c) ~ # **vem status -v**

d) ~ # **esxcli software vib list | grep** *name*

e) ~ # **vem version -v**

Step 4 switch# **show module**
Verify that the VEM has been upgraded by entering the following command from the VSM.

Note The highlighted text in the previous command output confirms that the upgrade was successful.

Step 5 Do one of the following:

a) If the installation was successful, the procedure is complete.

b) If not, see the *Recreating the Cisco Nexus 1000V Installation* section in the *Cisco Nexus 1000V Troubleshooting Guide*.

The following example shows how to install ESXi 5.1 software using the CLI.

```
~ # esxcli software vib install -d /var/log/vmware/VEM510-201502172106-BG-release.zip
Installation Result
   Message: Operation finished successfully.
   Reboot Required: false
   VIBs Installed: Cisco_bootbank_cisco-vem-v171-esx_5.2.1.3.1.2.0-3.1.2
   VIBs Removed:
   VIBs Skipped:

~ # esxcli software vib install —v
/var/log/vmware/cross_cisco-vem-v172-5.2.1.3.1.3.0-3.1.1.vib
Installation Result
   Message: Operation finished successfully.
   Reboot Required: false
   VIBs Installed: Cisco_bootbank_cisco-vem-v172-5.2.1.3.1.3.0-3.1.1
   VIBs Removed:
   VIBs Skipped:
~ #
~ # vmware -v -l
VMware ESXi 5.1.0 build-1029768
VMware ESXi 5.1.0 Update 1
~ #

~ # vemcmd show version
VEM Version: 5.2.1.3.1.3.0-3.1.1
VSM Version: 5.2(1)SV3(1.3)
System Version: VMware ESXi 5.1.0 Releasebuild-1065491
ESX Version Update Level: 1
~ #


~ # vem status -v
Package vssnet-esxmn-next-release
```

```
Version 5.2.1.3.1.3.0-3.1.1
Build 1
Date Tue Feb 3 18:32:11 PST 2015

VEM modules are loaded

Switch Name       Num Ports   Used Ports  Configured Ports  MTU     Uplinks
vSwitch0          128         20          128               1500    vmnic7,vmnic6
DVS Name          Num Ports   Used Ports  Configured Ports  MTU     Uplinks
BL                1024        73          1024              1500
vmnic5,vmnic4,vmnic3,vmnic2,vmnic1,vmnic0

VEM Agent (vemdpa) is running

~ # esxcli software vib list | grep cisco
cisco-vem-v171-esx   5.2.1.3.1.2.0-3.1.2   Cisco PartnerSupported    2014-11-10
~ #

~ # vem version -v
Running esx version -1065491 x86_64
VEM Version: 5.2.1.3.1.3.0-3.1.1
VSM Version: 5.2(1)SV3(1.3)
System Version: VMware ESXi 5.1.0 Releasebuild-1065491
ESX Version Update Level: 1

switch# show module

Mod  Ports  Module-Type                        Model              Status
---  -----  ---------------------------------  -----------------  -----------
1    0      Virtual Supervisor Module          Nexus1000V         ha-standby
2    0      Virtual Supervisor Module          Nexus1000V         active *
3    1022   Virtual Ethernet Module            NA                 ok
5    1022   Virtual Ethernet Module            NA                 ok
6    1022   Virtual Ethernet Module            NA                 ok


Mod  Sw                 Hw
---  -----------------  -------------------------------------------------
1    5.2(1)SV3(1.3)     0.0
2    5.2(1)SV3(1.3)     0.0
3    5.2(1)SV3(1.3)     VMware ESXi 5.1.0 Releasebuild-1065491 (3.1)
5    5.2(1)SV3(1.3)     VMware ESXi 5.5.0 Releasebuild-2068190 (3.2)
6    5.2(1)SV3(1.3)     VMware ESXi 5.0.0 Releasebuild-914586 (3.0)


Mod  Server-IP       Server-UUID                          Server-Name
---  --------------  -----------------------------------  --------------------
1    10.197.133.108  NA                                   NA
2    10.197.133.108  NA                                   NA
3    10.197.132.44   7b1a5e63-bcd0-11e0-bd1d-30e4dbc2c3ae 10.197.132.44
5    10.197.132.42   e0829a21-bc61-11e0-bd1d-30e4dbc2ba66 NA
6    10.197.132.45   8d8ff0e8-b565-11e0-bd1d-30e4dbc297da 10.197.132.45

* this terminal session
switch#
```

Creating an Upgrade ISO with a VMware ESX Image and a Cisco Nexus 1000V VEM Image

Before You Begin

- Install the VMware PowerCLI on a Windows platform. For more information, see the *vSphere PowerCLI Installation Guide*.

- On the same Windows platform, where the VMware PowerCLI is installed, do one of the following:

- Download the ESX depot, which is a .zip file, to a local file path.

- Download the VEM offline bundle, which is a .zip file, to a local file path.

Procedure

Step 1 Start the VMWare PowerCLI application.

Step 2 Connect to the vCenter Server by using the **Connect-VIServer** *IP_address* **-User Administrator -Password** *password_name* command.

Step 3 Load the ESX depot by using the **Add-ESXSoftwareDepot** *path_name\file_name* command.

Step 4 Display the image profiles by using the **Get-EsxImageProfile** command.

Step 5 Clone the ESX standard image profile by using the **New-ESxImageProfile -CloneProfile** *ESXImageProfile_name* **-Name** *clone_profile* command.

> **Note** The image profiles are usually in READ-ONLY format. You must clone the image profile before adding the VEM image to it.

Step 6 Load the Cisco Nexus 1000V VEM offline bundle by using the **Add-EsxSoftwareDepot** *VEM_offline_bundle* command.

Step 7 Confirm that the n1kv-vib package is loaded by using the **Get-EsxSoftwarePackage -Name** *package_name* command.

Step 8 Bundle the n1kv-package into the cloned image profile by using the **Add-EsxSoftwarePackage -ImageProfile** *n1kv-Image* **-SoftwarePackage** *cloned_image_profile* command.

Step 9 Verify that the Cisco VIB is present by listing all the VIBs in the cloned image profile by entering the following commands.

   a) **$img = Get-EsxImageProfile** *n1kv-Image*
   b) **$img.vibList**

   Verify that the Cisco VIB is present by listing all the VIBs in the cloned image profile.

Step 10 Export the image profile to an ISO file by using the **Export-EsxImageProfile -ImageProfile** *n1kv-Image* **-FilePath** *iso_filepath* command.

This example shows how to create an upgrade ISO with a VMware ESX image and a Cisco VEM image.

> **Note** The example may contain Cisco Nexus 1000V versions and filenames that are not relevant to your release. Refer to the *Cisco Nexus 1000V and VMware Compatibility Information* for your specific versions and filenames.

```
vSphere PowerCLI> Connect-VIServer 10.105.231.40 -User administrator -Password 'XXXXXXXX'

Working with multiple default servers?

    Select [Y] if you want to work with more than one default servers. In this
case, every time when you connect to a different server using Connect-VIServer,
 the new server connection is stored in an array variable together with the
previously connected servers. When you run a cmdlet and the target servers
cannot be determined from the specified parameters, the cmdlet runs against all
 servers stored in the array variable.
    Select [N] if you want to work with a single default server. In this case,
```

```
when you run a cmdlet and the target servers cannot be determined from the
specified parameters, the cmdlet runs against the last connected server.

    WARNING: WORKING WITH MULTIPLE DEFAULT SERVERS WILL BE ENABLED BY DEFAULT
IN A FUTURE RELEASE. You can explicitly set your own preference at any time by
using the DefaultServerMode parameter of Set-PowerCLIConfiguration.

[Y] Yes  [N] No  [S] Suspend  [?] Help (default is "Y"): Y

Name                           Port  User
----                           ----  ----
10.105.231.40                  443   administrator

vSphere PowerCLI> Add-EsxSoftwareDepot 'C:\Documents and
Settings\Administrator\Desktop\upgrade\229\VMware-ESXi-5.1.0-799733-depot.zip'

Depot Url
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zip:C:\Documents and Settings\Administrator\Desktop\upgrade\229\VMware-ESXi-...

vSphere PowerCLI> Get-EsxImageProfile

Name                      Vendor        Last Modified   Acceptance Level
----                      ------        -------------   ----------------
ESXi-5.1.0-20121201001s-no-... VMware, Inc.  12/7/2012 7:... PartnerSupported
CN1-CY                    CISCO         4/22/2013 11... PartnerSupported
ESXi-5.1.0-20121204001-stan... VMware, Inc.  12/7/2012 7:... PartnerSupported
ESXi-5.1.0-20121201001s-sta... VMware, Inc.  12/7/2012 7:... PartnerSupported
ESXi-5.1.0-799733-no-tools VMware, Inc.  8/2/2012 3:0... PartnerSupported
ESXi-5.1.0-20121204001-no-t... VMware, Inc.  12/7/2012 7:... PartnerSupported
ESXi-5.1.0-799733-standard VMware, Inc.  8/2/2012 3:0... PartnerSupported

vSphere PowerCLI> New-EsxImageProfile -CloneProfile ESXi-5.1.0-799733-standard -Name FINAL

cmdlet New-EsxImageProfile at command pipeline position 1
Supply values for the following parameters:
(Type !? for Help.)
Vendor: CISCO

Name                      Vendor        Last Modified   Acceptance Level
----                      ------        -------------   ----------------
FINAL                     CISCO         1/27/2015 3:0... PartnerSupported

vSphere PowerCLI> Add-EsxSoftwareDepot 'C:\Documents and
Settings\Administrator\Desktop\upgrade\229
\cross_cisco-vem-v172-5.2.1.3.1.3.0-3.1.1.zip'

Depot Url
---------
zip:C:\Documents and Settings\Administrator\Desktop\upgrade\229\cisco-vem-v1...

vSphere PowerCLI> Get-EsxSoftwarePackage cisco*

Name               Version               Vendor        Creation Date
                                                        e
----               -------               ------        -------------
cisco-vem-v172-esx 5.2.1.3.1.3.0-3.1.1   Cisco PartnerSupported 2015-02-04

vSphere PowerCLI> Add-EsxSoftwarePackage -SoftwarePackage cisco-vem-v164-esx -ImageProfile
 FINAL

Name               Version               Vendor        Last Modified   Acceptance Level
----               -------               ------        -------------   ----------------
FINAL                                    CISCO         1/24/2014 3:... PartnerSupported

vSphere PowerCLI> $img = Get-EsxImageProfile FINAL

vSphere PowerCLI> $img.vibList

Name               Version               Vendor        Creation Dat
                                                        e
----               -------               ------        -------------
```

```
        scsi-bnx2i              1.9.1d.v50.1-5vmw.510.0.0.7...  VMware   8/2/2012 ...
        sata-sata-promise       2.12-3vmw.510.0.0.799733        VMware   8/2/2012 ...
        net-forcedeth           0.61-2vmw.510.0.0.799733        VMware   8/2/2012 ...
        esx-xserver             5.1.0-0.0.799733                VMware   8/2/2012 ...
        misc-cnic-register      1.1-1vmw.510.0.0.799733         VMware   8/2/2012 ...
        net-tg3                 3.110h.v50.4-4vmw.510.0.0.7...  VMware   8/2/2012 ...
        scsi-megaraid-sas       5.34-4vmw.510.0.0.799733        VMware   8/2/2012 ...
        scsi-megaraid-mbox      2.20.5.1-6vmw.510.0.0.799733    VMware   8/2/2012 ...
        scsi-ips                7.12.05-4vmw.510.0.0.799733     VMware   8/2/2012 ...
        net-e1000e              1.1.2-3vmw.510.0.0.799733       VMware   8/2/2012 ...
        sata-ahci               3.0-13vmw.510.0.0.799733        VMware   8/2/2012 ...
        sata-sata-svw           2.3-3vmw.510.0.0.799733         VMware   8/2/2012 ...
        net-cnic                1.10.2j.v50.7-3vmw.510.0.0....  VMware   8/2/2012 ...
        net-e1000               8.0.3.1-2vmw.510.0.0.799733     VMware   8/2/2012 ...
        ata-pata-serverworks    0.4.3-3vmw.510.0.0.799733       VMware   8/2/2012 ...
        scsi-mptspi             4.23.01.00-6vmw.510.0.0.799733  VMware   8/2/2012 ...
        ata-pata-hpt3x2n        0.3.4-3vmw.510.0.0.799733       VMware   8/2/2012 ...
        net-s2io                2.1.4.13427-3vmw.510.0.0.79...  VMware   8/2/2012 ...
        esx-base                5.1.0-0.0.799733                VMware   8/2/2012 ...
        net-vmxnet3             1.1.3.0-3vmw.510.0.0.799733     VMware   8/2/2012 ...
        net-bnx2                2.0.15g.v50.11-7vmw.510.0.0...  VMware   8/2/2012 ...
        cisco-vem-v171-esx      5.2.1.3.1.2.0-3.1.2             Cisco    2014-11-10
        scsi-megaraid2          2.00.4-9vmw.510.0.0.799733      VMware   8/2/2012 ...
        ata-pata-amd            0.3.10-3vmw.510.0.0.799733      VMware   8/2/2012 ...
        ipmi-ipmi-si-drv        39.1-4vmw.510.0.0.799733        VMware   8/2/2012 ...
        scsi-lpfc820            8.2.3.1-127vmw.510.0.0.799733   VMware   8/2/2012 ...
        ata-pata-atiixp         0.4.6-4vmw.510.0.0.799733       VMware   8/2/2012 ...
        esx-dvfilter-generic-...  5.1.0-0.0.799733              VMware   8/2/2012 ...
        net-sky2                1.20-2vmw.510.0.0.799733        VMware   8/2/2012 ...
        scsi-qla2xxx            902.k1.1-9vmw.510.0.0.799733    VMware   8/2/2012 ...
        net-r8169               6.011.00-2vmw.510.0.0.799733    VMware   8/2/2012 ...
        sata-sata-sil           2.3-4vmw.510.0.0.799733         VMware   8/2/2012 ...
        scsi-mpt2sas            10.00.00-5vmw.510.0.0.79...     VMware   8/2/2012 ...
        sata-ata-piix           2.12-6vmw.510.0.0.799733        VMware   8/2/2012 ...
        scsi-hpsa               5.0.0-21vmw.510.0.0.799733      VMware   8/2/2012 ...
        ata-pata-via            0.3.3-2vmw.510.0.0.799733       VMware   8/2/2012 ...
        scsi-aacraid            1.1.5.1-9vmw.510.0.0.799733     VMware   8/2/2012 ...
        scsi-rste               2.0.2.0088-1vmw.510.0.0.799733  VMware   8/2/2012 ...
        ata-pata-cmd64x         0.2.5-3vmw.510.0.0.799733       VMware   8/2/2012 ...
        ima-qla4xxx             2.01.31-1vmw.510.0.0.799733     VMware   8/2/2012 ...
        net-igb                 2.1.11.1-3vmw.510.0.0.799733    VMware   8/2/2012 ...
        scsi-qla4xxx            5.01.03.2-4vmw.510.0.0.799733   VMware   8/2/2012 ...
        block-cciss             3.6.14-10vmw.510.0.0.799733     VMware   8/2/2012 ...
        scsi-aic79xx            3.1-5vmw.510.0.0.799733         VMware   8/2/2012 ...
        tools-light             5.1.0-0.0.799733                VMware   8/2/2012 ...
        uhci-usb-uhci           1.0-3vmw.510.0.0.799733         VMware   8/2/2012 ...
        sata-sata-nv            3.5-4vmw.510.0.0.799733         VMware   8/2/2012 ...
        sata-sata-sil24         1.1-1vmw.510.0.0.799733         VMware   8/2/2012 ...
        net-ixgbe               3.7.13.6iov-10vmw.510.0.0.7...  VMware   8/2/2012 ...
        ipmi-ipmi-msghandler    39.1-4vmw.510.0.0.799733        VMware   8/2/2012 ...
        scsi-adp94xx            1.0.8.12-6vmw.510.0.0.799733    VMware   8/2/2012 ...
        scsi-fnic               1.5.0.3-1vmw.510.0.0.799733     VMware   8/2/2012 ...
        ata-pata-pdc2027x       1.0-3vmw.510.0.0.799733         VMware   8/2/2012 ...
        misc-drivers            5.1.0-0.0.799733                VMware   8/2/2012 ...
        net-enic                1.4.2.15a-1vmw.510.0.0.799733   VMware   8/2/2012 ...
        net-be2net              4.1.255.11-1vmw.510.0.0.799733  VMware   8/2/2012 ...
        net-nx-nic              4.0.558-3vmw.510.0.0.799733     VMware   8/2/2012 ...
        esx-xlibs               5.1.0-0.0.799733                VMware   8/2/2012 ...
        net-bnx2x               1.61.15.v50.3-1vmw.510.0.0....  VMware   8/2/2012 ...
        ehci-ehci-hcd           1.0-3vmw.510.0.0.799733         VMware   8/2/2012 ...
        ohci-usb-ohci           1.0-3vmw.510.0.0.799733         VMware   8/2/2012 ...
        net-r8168               8.013.00-3vmw.510.0.0.799733    VMware   8/2/2012 ...
        esx-tboot               5.1.0-0.0.799733                VMware   8/2/2012 ...
        ata-pata-sil680         0.4.8-3vmw.510.0.0.799733       VMware   8/2/2012 ...
        ipmi-ipmi-devintf       39.1-4vmw.510.0.0.799733        VMware   8/2/2012 ...
        scsi-mptsas             4.23.01.00-6vmw.510.0.0.799733  VMware   8/2/2012 ...

        vSphere PowerCLI> Export-EsxImageProfile -ImageProfile FINAL -FilePath 'C:\Documents and
        Settings\Administrator\Desktop\FINAL.iso' -ExportToIso
```