



Upgrading the Cisco Nexus 1000V

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Pre-requisites and Usage Guidelines

Follow these prerequisites and usage guidelines before upgrading Cisco Nexus 1000VE from Release 5.2(1)SV5(1.1) to 5.2(1)SV5(1.2):

- Ensure that the current Nexus 1000VE, release 5.2(1)SV5(1.1) instance is up and running in the existing setup.
- Cisco Nexus 1000VE release 5.2(1)SV5(1.2) supports VMware vCenter v6.7. If you are upgrading ESXi hosts and VMware vCenter Server to release v6.7, we recommend you to follow the upgrade steps in the specified sequence.
- In-Service Software Upgrade (ISSU) is not supported while upgrading to Cisco Nexus 1000VE release 5.2(1)SV5(1.2). There is service disruption during upgrade process. Make sure that you have sufficient maintenance window before proceeding with the upgrade process.

Upgrading Nexus 1000VE Virtual Supervisor Module

To upgrade Cisco Nexus 1000VE Virtual Supervisor Module (VSM), complete the following steps in sequence:

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- Step 1** Log into Cisco.com, and navigate to [Software download](#) page.
 - Step 2** Download and copy the kickstart image (n1000v-dk9-kickstart.5.2.1.SV5.1.2.bin) and system image (n1000v-dk9.5.2.1.SV5.1.2.bin) to VSM `bootflash:` directory.
 - Step 3** Log into Nexus 1000VE switch with administrator credentials.
 - Step 4** Set the boot variable for VSM in global configuration mode.

Note You may ignore the warning messages while changing the boot parameters to new version.

Example:

```
N1KVE-VSM#
N1KVE-VSM#terminal monitor
N1KVE-VSM#configure terminal
N1KVE-VSM(config)#boot kickstart bootflash:n1000v-dk9-kickstart.5.2.1.SV5.1.2.bin
Performing image verification and compatibility check, please wait.
Note: system and kickstart bootvars are pointing to incompatible images

N1KVE-VSM(config)# boot system bootflash:n1000v-dk9.5.2.1.SV5.1.2.bin
Performing image verification and compatibility check, please wait.

N1KVE-VSM(config)#end
N1KVE-VSM#copy running-config startup-config
```

Note For VSM HA setup, wait for approximately 5 minutes for the new kickstart and system images to copy to the standby VSM automatically.

Step 5 Reload the configuration with updates using the **reload** command.

Example:

```
N1KVE-VSM# reload
```

Note It takes few minutes for VSM to reload with the updated Cisco Nexus 1000VE 5.2(1)SV5(1.2) version.

Step 6 Verify the VSM upgrade in the configuration using the **show** commands.

Example:

```
N1KVE-VSM# show version | include version
kickstart: version 5.2(1)SV5(1.2)
system: version 5.2(1)SV5(1.2)

N1KVE-VSM# show module 1-2
Mod Ports Module-Type Model Status
-----
1 0 Virtual Supervisor Module Nexus1000V active *
2 0 Virtual Supervisor Module Nexus1000V ha-standby

Mod Sw Hw
-----
1 5.2(1)SV5(1.2) 0.0
2 5.2(1)SV5(1.2) 0.0

Mod Server-IP Server-UUID Server-Name
-----
1 XXX.XXX.XXX.XXX NA NA
2 XXX.XXX.XXX.XXX NA NA

Mod VSE-IP Host-IP
-----

* this terminal session

N1KVE-VSM# show svs connections

connection XXXX_XXXX:
hostname: -
ip address: XXX.XXX.XXX.XXX
ipv6 address: -
```

```

remote port: 80
transport type: ipv4
vrf: management
protocol: vmware-vim https
certificate: default
datacenter name: XXX
admin:
max-ports: 12000
extension key: any
DVS uuid: xx xx xx xx xx xx xx xx-xx xx xx xx xx xx xx xx
dvs version: 5.0.0
config status: Enabled
operational status: Connected
sync status: Complete
version: VMware vCenter Server 6.5.0 build-xxxxxxxx
vc-uuid: xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
ssl-cert: self-signed or not authenticated

```

Upgrading VMWare vCenter Server

Complete these steps to upgrade VMware vCenter Server to v6.7 version:

- Step 1** 1. Change the default DVS version on Cisco N1KVE VSM before upgrading vCenter. Use the **vmware dvs-version dvs_value** command to change the default DVS version:

Example:

```

N1KVE-VSM#terminal monitor
N1KVE-VSM#configure terminal
N1KVE-VSM(config)#svs connection connection-name
N1KVE-VSM(config)#vmware dvs-version 6.0.0
N1KVE-VSM(config)#no connect
N1KVE-VSM(config)#connect
N1KVE-VSM(config)#end
N1KVE-VSM#show svs connection
connection XXXX_XXXX:
hostname: -
ip address: XXX.XXX.XXX.XXX
ipv6 address: -
remote port: 80
transport type: ipv4
vrf: management
protocol: vmware-vim https
certificate: default
datacenter name: XXX
admin:
max-ports: 12000
extension key: any
DVS uuid: xx xx xx xx xx xx xx xx-xx xx xx xx xx xx xx xx
dvs version: 6.0.0
config status: Enabled
operational status: Connected
sync status: Complete
version: VMware vCenter Server 6.5.0 build-70242859
vc-uuid: xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
ssl-cert: self-signed or not authenticated

```

Step 2 Upgrade VMware vCenter to version 6.7. For more information, refer to [VMware documentation](#).

Step 3 Verify whether the svcs connection is established with the upgraded VMware vCenter on Cisco Nexus 1000VE VSM. Use the **svcs connection** and **svcs domain** commands.

Example:

```
N1KVE-VSM#show svcs connection

connection XXXX_XXXX:
hostname: -
ip address: XXX.XXX.XXX.XXX
ipv6 address: -
remote port: 80
transport type: ipv4
vrf: management
protocol: vmware-vim https
certificate: default
datacenter name: XXX
admin:
max-ports: 12000
extension key: any
DVS uuid: xx xx xx xx xx xx xx xx-xx xx xx xx xx xx xx xx
dvs version: 6.0.0
config status: Enabled
operational status: Connected
sync status: Complete
version: VMware vCenter Server 6.7.0 build-10244857
vc-uuid: xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx
ssl-cert: self-signed or not authenticated
```

Step 4 If the SVCS connection is not in a connected state, Use the **no connect** and **connect** command to establish connection with upgraded VMware vCenter.

Example:

```
N1KVE-VSM# no connect
N1KVE-VSM# connect
```

Upgrading Cisco Nexus 1000VE Manager vCenter Plugin

Before you begin upgrading Cisco Nexus 1000VE Manager vCenter plugin, ensure that you have:

- Downloaded and installed the Cisco N1KVE Plugin installation script (`deploy_n1kve_plugin_v2.py`) and Cisco N1KVE Plugin (`n1kve-vcenter-plugin-1.0.2.zip`) from Nexus 1000VE VSM (<https://<VSM-IP>>).

You can install the Cisco Nexus 1000VE Manager vCenter plugin using two methods:

- Upgrading VSE using Cisco Nexus 1000VE Manager vCenter Plugin
- Manually Upgrading VSE



Note You may choose one of the methods to upgrade VSEs. However, we recommend to use the first method, Cisco Nexus 1000VE Manager vCenter Plugin to upgrade VSEs.

Upgrading VSE using Cisco Nexus 1000VE Manager vCenter Plugin

Complete these steps to upgrade VSE using Cisco Nexus 1000VE Manager vCenter Plugin.

Before you begin

Make sure that new plugin corresponding to 5.2(1)SV5(1.2) is installed on vCenter.

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- Step 1** Download the new VSE images, cisco-vse-5.2.1.SV5.1.2.ovf and cisco-vse-5.2.1.SV5.1.2-disk1.vmdk, to VMware vCenter content library.
- Step 2** Navigate to **Home** on VMware vCenter Web Client. If a content library has already been created with the required VSE image, go to Step 6. If not, proceed to step 2.
- Step 3** On the **Navigator** pane, click **Content Libraries** to open the **Content Libraries** page.
- Step 4** On the **Getting Started** tab, click **Create new content library**.
- Step 5** In the **New Content Library** dialog box, do the following:
- On the **Name and Location** page, enter the content library name in the **Name** text field and select vCenter Server IP address from the **vCenter Server** drop-down list
 - Click **Next**.
 - On the **Configure content library** page, verify that the default option, Local content library is selected.
 - Click **Next**.
 - On the **Add Storage** page, choose the **Select a datastore** option and from the **Filter** tab, select a storage location.
 - Click **Next**.
 - On the **Ready to complete** page, click **Finish**.
 - On the **Navigator** tab, select the new content library that you just created.
 - On the **Getting Started** tab, under **Basic Tasks** section, click **Import Item** to open **New Content Library – Import Library Item** dialog box.
 - Choose Local file option and click **Browse** and navigate to the location of the VSE OVF file. Select the VSE OVF file and click **Open**.
 - In the **Select referenced files** dialog box, select the OVF referenced files and click **Open**.
 - On the **Select referenced files** dialog box, click **Ok**.
 - On the **New Content Library – Import Library Item** dialog-box, click **Ok**.
 - On the **Home** page, click **Recent Tasks** tab at the bottom to check VSE file upload progress.
- Step 6** Navigate to **Home** tab on **VMware vSphere Web Client**.
- Step 7** Click **N1KVE Manager**, and enter the VMware vCenter password and click **Login**. The **N1KVE Manager** page opens.
- Step 8** On the **Installation** tab, select a Data Center from the **Select a DC** drop-down list.
- Step 9** Select N1KVE vDS from the **Select a VDS** drop-down list to list the available Hosts.
- Step 10** Select a Host to upgrade from the list of **Hosts**.
- Step 11** Select an OVF file from the **OVF File** drop-down list.
- Step 12** Enter VSM IP address for **VSM IP** text-field.
- Step 13** Enter domain Id for **Domain ID** text-field.
- Step 14** Select an uplink port profile from the **Uplink Port Profile** drop-down list.
- Step 15** Select a management port group from the **Management Port Group** drop-down list.
- Step 16** Select **Auto** or choose from **Datastore** drop-down list for all hosts.

- Step 17** Enter VSM and VSE credentials in respective fields.
- Step 18** Click **Upgrade**.
- Step 19** In the **Upgrade** dialog box, click **Yes** to complete the VSE upgrade process.
- Step 20** Log in to Cisco N1KVE VSM and reload the system using the **reload** command. After the VSM boots up, you should be able to see the modules are up with new version.

Note Module indices change after upgrading VSE.

Example:

```
N1KVE-VSM# show module
Mod Ports Module-Type Model Status
-----
1 0 Virtual Supervisor Module Nexus1000V active *
2 0 Virtual Supervisor Module Nexus1000V ha-standby
5 332 Virtual Service Engine NA ok
6 332 Virtual Service Engine NA ok

Mod Sw Hw
-----
1 5.2(1)SV5(1.2) 0.0
2 5.2(1)SV5(1.2) 0.0
5 5.2(1)SV5(1.2) NA
6 5.2(1)SV5(1.2) NA

Mod Server-IP Server-UUID Server-Name
-----
1 10.XXX.XXX.XXX NA NA
2 10.XXX.XXX.XXX NA NA
9 10.XXX.XXX.XXX XXXXXXXX-YYYY-ZZZZ-XXXX-YYYYYYYYYYYY localhost.localdomain
10 10.XXX.XXX.XXX AAAAAAAA-BBBB-CCCC-DDDD-EEEEEEEEEEEE localhost.localdomain

Mod VSE-IP Host-IP
-----
9 10.XXX.XXX.XXX 10.XXX.XXX.XXX
10 10.XXX.XXX.XXX 10.XXX.XXX.XXX
```

Upgrading VSE Manually

Complete the following steps to upgrade VSE manually. You need to manually upgrade all the VSEs.

- Step 1** Download the new VSE image, cisco-vse-5.2.1.SV5.1.2.ova, to the local system.
- Step 2** Login to VSM.
- Step 3** Use the **show module** command to identify the module to upgrade.
- Step 4** Log into VMware vCenter using VMWare vSphere Web Client. For each host under the VSM complete the following steps:
- Browse over **Hosts and Clusters** tab and Select a Host.
 - Select the VSE Virtual Machine, under the Host. Typically the VSE VMs are named as "N1KVE_VSE_<HOST_IP_ADDRESS>".
 - Right-click the VSE and select to **Edit Settings**. Note down the port-profiles for following network adapters required in future steps: Network Adapter 1 (Management), Network Adapter 2 (inside-trunk1), Network Adapter 3 (inside-trunk2), and Network Adapter 4 (Outside).

- d) Right-click **Power** and select **Power-off**.
- e) Right-click and select **Delete from the disk**.

Note Module will go offline in VSM.

Step 5 4. Login to VSM using administrator credentials and delete VSE module using the **no vse** command.

Example:

```
#no vse module_no
// for deleted VSE module
```

Step 6 Reboot the VSM to clear the stale entry of VSE.

Step 7 Deploy the new VSE VM with the saved configuration settings. Login to VMware vCenter using VMWare vSphere Web Client.

- a) In the **VMware vCenter WebClient**, select the **Host**.
- b) Right-click the host and select **Deploy OVF Template > Local file > Browse**.
- c) In the **Browse** dialog box, choose the cisco-vse-5.2.1.SV5.1.2.ova file from local system and click **Next**.
- d) Enter VSE VM name, follow the standard naming convention, N1KVE_VSE_<HOST_IP_ADDRESS>.
- e) Choose the same datacentre and click **Next**.
- f) Choose the host and click **Next**.
- g) Click **Next**.
- h) In the **Select Networks** window, select **Destination Network** corresponding to inside-trunk1, inside-trunk2, Management and Outside Network Adapters as noted in Step 4c.
- i) Enter the details in the **Customize Template** window:
 - Admin password: Provide VSE administrator password.
 - Controller DomainId: Provide domain id. Use **show svcs domain** command to get domain Id.
 - DNS: Provide DNS server IP address.
 - DNS Domain: Provide DNS domain if required.
 - Default Gateway: Default gateway IP Address.
 - ESX host ip address: Host IP Address.
 - IP Setting(static/dhcp): Enter dhcp or static.
 - L3-Control IP Address : Provide VSM IP address.
 - Network 1 IP Address: Provide VSE IP Address. This IP address should be unused and available IP static IP setting.
 - Network 1 Netmas : Subnet mask for VSE adapter.
 - Uplink Port-profile: Provide the outside-trunk. Use the show running-config port-profile outside-trunk command on VSM to verify.
- j) Click **Next**.
- k) Review the detail of custom template and click **Finish** to deploy VSE on the selected host.
- l) After deployment is completed, Power-On the VSE. Wait for some time to allow VSE to bootup.
- m) Reload Cisco N1KVE VSM using the **reload** command and verify whether VSE is online.

Step 8 Verify the updated VSE using the **show module** command on VSM.

Example:

```

N1KVE-VSM# show module
Mod Ports Module-Type Model Status
-----
1 0 Virtual Supervisor Module Nexus1000V active *
2 0 Virtual Supervisor Module Nexus1000V ha-standby
5 332 Virtual Service Engine NA ok
6 332 Virtual Service Engine NA ok

Mod Sw Hw
-----
1 5.2(1)SV5(1.2) 0.0
2 5.2(1)SV5(1.2) 0.0
5 5.2(1)SV5(1.2) NA
6 5.2(1)SV5(1.2) NA

Mod Server-IP Server-UUID Server-Name
-----
1 10.XXX.XXX.XXX NA NA
2 10.XXX.XXX.XXX NA NA
9 10.XXX.XXX.XXX XXXXXXXX-YYYY-ZZZZ-XXXX-YYYYYYYYYYYY localhost.localdomain
10 10.XXX.XXX.XXX AAAAAAAA-BBBB-CCCC-DDDD-EEEEEEEEEEEE localhost.localdomain

Mod VSE-IP Host-IP
-----
9 10.XXX.XXX.XXX 10.XXX.XXX.XXX
10 10.XXX.XXX.XXX 10.XXX.XXX.XXX

```

Upgrading VMware ESXi Hosts

Refer to VMware documentation to upgrade VMware ESXi host from release 6.5 to 6.7. For more information, see <https://www.vmware.com/support/pubs/>