Migrating Hosts to Cisco Nexus 1000V Using Cisco VSUM

This chapter contains the following sections:

Information About Migrating Hosts to the Cisco Nexus 1000V Switch Using Cisco VSUM

You can use the Cisco VSUM GUI to migrate hosts from the VMware vSwitch and VMware distributed virtual switch (DVS) to the Cisco Nexus 1000V switch.

Cisco VSUM enables you to do the following:

- Add hosts and/or migrate multiple hosts.
- Migrate each VMware port group or kernel NIC to the correct port profile.
- Migrate each physical NIC from the VMware vSwitch or VMware DVS to the correct uplink on the Cisco Nexus 1000V.
- Migrate VM NICs from the VMware vSwitch or VMware DVS to the corresponding uplink on the Cisco Nexus 1000V.

See the *Cisco Nexus 1000V and VMware Compatibility Information* for more information on the compatibility information for Cisco Nexus 1000V.

Prerequisites for Migrating Hosts to the Cisco Nexus 1000V Using Cisco VSUM

The migration of hosts to the Cisco Nexus 1000V using Cisco VSUM has the following prerequisites:

- The host must have one or more physical NICs on each VMware vSwitch/VMware DVS in use.

- You must have administrative privileges for the vCenter server.

- You must have the distributed switch—Create and Modify privilege permission enabled on the vCenter server.

- You must have Cisco Nexus 1000V distributed switch in Layer 3 mode.

Guidelines and Limitations for Migrating Hosts to the Cisco Nexus 1000V Using Cisco VSUM

When you move the ESX/ESXi host that runs the Virtual Supervisor module (VSM) from the VMware vSwitch or VMware DVS to the Cisco Nexus 1000V, the connectivity between the active and standby VSM might get temporarily lost. In that situation, both active and standby VSMs assume the active role.

The reboot of the VSM is based on the following conditions:

1 The number of modules attached to the VSM

- If a VSM has more modules attached than the other VSMs, and there is no virtual channel (VC) connectivity on either VSM, the VSM that has fewer modules is rebooted.

- If modules are attached to both VSMs and one VSM has VC connectivity, the VSM without connectivity is rebooted.

2 VC connectivity

Note This option is invoked when the previous condition is not met.

- If both VSMs have the same number of modules or no modules, the software makes a selection that is based on the VC connectivity status.

3 Last configuration change

Note This condition is invoked when the previous two conditions are not met.

- If both VSMs have the same number of modules and no VC connectivity, the VSM with the latest configuration remains active and the other VSM is rebooted.

4 Last active VSM

> • If the previous three conditions are not met, the VSM that became active most recently is rebooted.

Migrating Hosts to the Cisco Nexus 1000V Using Cisco VSUM

You can install a Cisco Nexus 1000V Virtual Ethernet module (VEM) using Cisco VSUM. When the Cisco VSUM installs VEMs, it migrates all VM kernels and their corresponding VM NICs across vSwitches to the Cisco Nexus 1000V VEMs.

Before You Begin

Know the following information about the switch:

- vCenter IP address

- vCenter user ID

- vCenter password

- Cisco Nexus 1000V switch username

- Cisco Nexus 1000V switch password
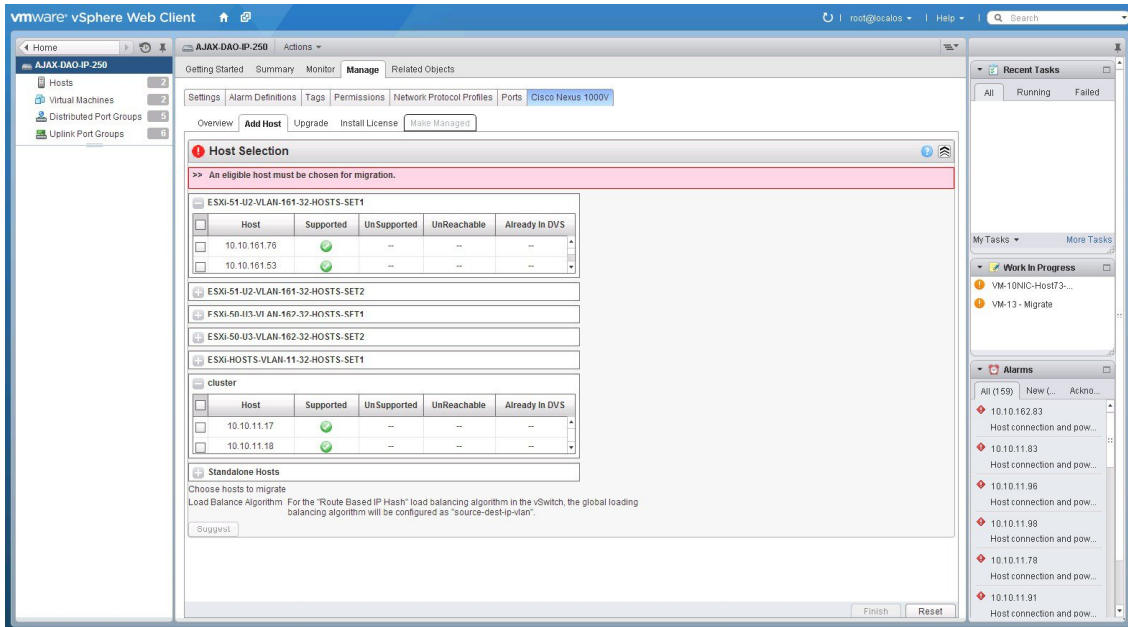
Step 1   Log in to the VMware vSphere Web Client.

Step 2   In the vSphere Client, choose **Home** > **Cisco Virtual Switch Update Manager** > **Nexus 1000V** > **Configure**.

Step 3   Choose a data center and a distributed virtual switch, and then click **Manage**.

     Note   If the switch is not managed by Cisco VSUM, you are prompted to enter the switch credentials in the **Make Managed** window. For more information, see the chapter Managing an Existing Cisco Nexus 1000V Switch.

Step 4 In the switch pane, click **Add Host**.

Step 5 (Optional) In case of multiple vCenter Servers, choose **Home** > **Cisco Virtual Switch Update Manager** > **vCenter Server** > **Configure**.

Step 6 (Optional) You can also access Cisco VSUM in the vSphere Client by navigating to **vCenter** > **Distributed Switches**.

Step 7 (Optional) In the switch pane, click **Manage** > **Cisco Nexus 1000V** > **Add Host**.

Figure 1: Cisco VSUM—Migrating Hosts

Step 8 In the **Host Selection** area, review the following fields.

Name	Description
Cluster	Lists all the hosts that are in an HA pair. Check the check box next to the hosts to be migrated.
Standalone Hosts	Lists the standalone hosts. Check the check box next to the hosts to be migrated.
Supported	If checked, the host can be migrated to the current version of the Cisco Nexus 1000V.
UnSupported	If checked, the host cannot be migrated to the current version of the Cisco Nexus 1000V. For information on the list of hosts that are not supported, see the Cisco Nexus 1000V and VMware Compatibility Documentation, at: http://www.cisco.com/c/en/us/support/switches/nexus-1000v-switch-vmware-vsphere/products-device-support-tables-list.html.
UnReachable	If checked, the host is in an unreachable state.

Name	Description
Already in DVS	If checked, the host is already migrated to the Cisco Nexus 1000V.

Step 9 Click **Suggest**.

Cisco VSUM displays the list of existing and proposed port profiles and suggests appropriate port profiles for each VMKNIC, VM NIC, and physical NIC.

Step 10 Review the port profile populated in the **Port Profile Editor** area. You can edit the fields based on your requirements. To edit the fields, you must use the **Port Profile Editor**.

The port profiles that are already available on the VSM are not editable. You can edit only those port profiles that are suggested by the Cisco VSUM. Click the **Duplicate** button to create a new port profile from an existing or from a suggested port profile.

Step 11 In the **Port Profile Editor** area, complete the following fields.

Name	Description
Port Profile Editor	The list of existing port profiles or new port profiles to be created is displayed. Choose the port profile. • In Use—Displays true when the port profile is in use on the current Add Host screen. Displays false when the port profile is not in use on the current Add Host screen. • Valid—Displays true when all the port profile fields are completed. Displays false when one or more of the port profile fields is incomplete. • Editable—Displays true if the port profile is editable. Displays false if the port profile is not editable. • Profile Name—Displays the name of the port profile.
Uplink	If checked, displays the uplink associated with the port profile.
Trunk	If checked, displays the trunk associated with the port profile.
L3 Capable	If checked, the L3 capability is associated with the port profile.
ISCSI Multipath	If checked, the ISCSI Multipath is associated with the port profile.
Neither L3 nor ISCSI	If checked, then neither the L3 or the ISCSI is associated with the port profile.
Channel-group auto mode on	If checked, the channel group auto mode is associated with the port profile.
Mac-pinning	If checked, the channel group auto mode on MAC pinning is associated with the port profile.
Name	The name of the port profile.

Name	Description
VLANs	Choose the VLAN.
Native VLAN	The native VLAN associated with the port profile.
Duplicate	Clones an existing port profile configuration to create a new port profile.

Step 12 Scroll down to view the host profile populated in the **Physical NIC Migration** area.

Step 13 In the **Physical NIC Migration** area, review the following fields.

Name	Description
Physical NIC	Review the physical NIC that has been automatically selected by the Cisco Virtual Switch Update Manager. Check/uncheck to select/deselect the VM NICs for the migration. You must ensure that at least one physical NIC is selected for the migration.
Profile	Review the port profile associated with the physical NICs. Alternatively, you can choose the required port profile from the profile drop-down list, to associate it with the physical NIC. You must ensure that all the necessary VLANs are allowed in the selected port profile.
Source	The vSwitch or VDS port group that the PNIC is currently assigned to.
Select All	Migrates all the physical NICs associated with the host.
Select None	Deselects all the selected values for the physical NICs associated with the host.

Step 14 Scroll down to view the host profile populated in the **VM Kernel NIC Setup** area.

Step 15 In the **VM Kernel NIC Setup** area, complete the following fields.

Name	Description
VM Kernel NIC	If checked, displays the port profile configuration that will be created on Cisco Nexus 1000V and associated with the VMkernel NIC. Review the selected VMkernel NICs. You can also uncheck the VMkernel NIC check boxes if you do not want the VMKs to be migrated to the Cisco Nexus 1000V. You must ensure that at least one VMkernel NIC is selected to migrate to the Cisco Nexus 1000V that will carry the L3 traffic. **Note** Do not uncheck any of the VMkernel NIC check boxes, unless the required VMkernel NIC is associated with the Layer3 port profile.

Name	Description
L3 Capable	Displays whether the VMkernel NIC is Layer-3 capable. Only one VMkernel NIC is Layer-3 capable. By default, the VMK0 is selected as the Layer 3 control. **Note** To change the VMkernel to Layer 3 port profile, do the following: • From the **Port Profile** drop-down list, choose the non Layer 3 port profile for VMk0. In absence of non Layer3 veth profile, you can create non Layer 3 port profiles as follows: ◦ Select the Layer 3 port profile and click **Duplicate**. ◦ Check the **Neither L3 nor ISCSI** radio button and click **OK**. You can edit the list of supported VLANs. • Select the Layer-3 enabled port profile to use for Layer 3 control traffic.
Profile	Choose the port profile associated with the VMkernel NIC.
Source Profile	Displays the vSwitch or VDS port group that the VMkernel NIC is currently assigned to.
Select None	Deselects all the selected VMkernel NICs associated with the host.
New	Adds a new VMkernel NIC for Layer 3 control. Enter the IP address and net mask for the new VMkernel NIC and click **OK**. After you create a new VMKernel NIC, complete the following steps: 1 Select the row for the original VMkernel NIC. 2 Uncheck the original VMkernel NIC check box. 3 Select the row for the new VMkernel NIC. 4 Check the new VMkernel NIC check box. 5 Choose a port profile from the drop-down menu in the row for the new VMkernel NIC. **Note** Ensure that the host is selected before you create the new VMkernel NIC.
Edit	Edits the IP address and subnet mask for a newly created VMkernel NIC.

Step 16 Scroll down to view the host profile populated in the **VM Migration** area.

Step 17 In the **VM Migration** area, review the following fields.

Area	Action
Virtual Machine NICs	If checked, displays the VSMs and the network adapters associated with the VM.

Area	Action
Profile	Choose the port profile associated with the virtual NIC.
Source Profile	The source associated with the port profile.
Select None	Deselects all the VMs associated with the host.

Step 18 Click **Finish** to migrate the host from the VMware vSwitch to the Cisco Nexus 1000V switch.

Step 19 Check the status of adding the host by completing the following steps:

a) In the **Recent Tasks** pane to the right of the work pane, click **More Tasks**.
The **Task Console** appears in the work pane, displaying a list of tasks with the most recent task at the top.

b) Find the task in the **Task Name** column and then view the status in the **Status** column.
The **Status** column shows whether the task is complete or in progress. You can click the refresh icon to display new tasks and learn how much of the task is complete.

> **Note** Several tasks might appear above the primary task you just performed. They might be associated with your primary task.

The host addition is confirmed when the primary task `Add hosts to Cisco DVS` has the status `Completed`.

If you close the browser and want to view the history of the task, log in to the web client, and click **Tasks** in the navigation pane to display the lists of tasks in the work pane.