



Configuring Virtual Service Blades

This chapter describes how to create and configure virtual service blades and includes the following sections:

- [Information About Virtual Service Blades, page 4-1](#)
- [Guidelines and Limitations, page 4-5](#)
- [Configuring Virtual Service Blades, page 4-5](#)
- [Additional References, page 4-29](#)
- [Feature History for Virtual Service Blade, page 4-29](#)

Information About Virtual Service Blades

The Cisco Nexus Cloud Services Platform manages services called virtual service blades (VSBs). The VSBs are created using ISO or OVA files found in the Cisco Nexus Cloud Services Platform bootflash repository. The ISO or OVA defines the following for a VSB:

- Required number of interfaces
- Required hard disk emulation
- Disk and RAM defaults



Note The Cisco Nexus Cloud Services Platform supports the Cisco Nexus 1000V Virtual Supervisor Modules (VSMs) for VMware vSphere and Microsoft Hyper-V hypervisors.

The Cisco Nexus Cloud Services Platform supports the following types of VSB: :

- [Cisco Nexus 1000V VSM Virtual Service Blade, page 4-2](#)
- [Cisco Network Analysis Module Virtual Service Blade, page 4-4](#)
- [Cisco Virtual Security Gateway Module Virtual Service Blade, page 4-4](#)
- [Cisco Nexus VXLAN Gateway Virtual Service Blade, page 4-5](#)

For information about the supported VSBs and their weighting matrix, see the *Cisco Nexus Cloud Services Platform Compatibility Information Guide*.

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Cisco Nexus 1000V VSM Virtual Service Blade

The Cisco Nexus Cloud Services Platform product family supports the Cisco Nexus 1000V VSMs for VMware vSphere and Microsoft Hyper-V hypervisors.

The Cisco Nexus 1110-S can host up to six VSMs and the Cisco Nexus 1110-X can host up to ten VSMs, each controlling a group of virtual Ethernet modules (VEMs). From a network management perspective, a VSM and its VEMs make up a virtual switch. The Cisco Nexus Cloud Services Platform and the multiple virtual switches that it hosts are viewed as a cluster of switches.

You can create redundant VSMs on the Cisco Nexus Cloud Services Platform with the Cisco Nexus 1000V ISO or OVA image that is located in the bootflash:repository. The image is copied to a new VSB when you create it. After you create the first VSM, you can point to that software image to create additional VSMs. You can upgrade your VSMs to a new release of Cisco Nexus 1000V software as needed.

This section includes the following topics:

- [VSB Management VLAN, page 4-2](#)
- [VSB High Availability, page 4-2](#)

To create a VSM virtual service blade, see [Creating a Virtual Service Blade](#).

VSB Management VLAN

The Cisco Nexus Cloud Services Platform and its hosted VSBs share the same management VLAN in a static topology because the management VLAN is inherited. However, this constraint does not exist in the flexible topology where the management VLAN of a VSB can be different from that of the Cisco Nexus Cloud Services Platform host.

VSB High Availability

High availability is configured for the redundant VSB pairs that you create on the Cisco Nexus Cloud Services Platform. At a given time, not all VSBs are active on the active Cisco Nexus Cloud Services Platform. As long as there is connectivity between the active and standby Cisco Nexus Cloud Services Platforms, access through a serial connection is maintained to any VSB. When a Cisco Nexus Cloud Services Platform fails, the other Cisco Nexus Cloud Services Platform becomes active and all VSBs in the standby state on that Cisco Nexus Cloud Services Platform become active on their own.

The VSB high availability has the following features:

- **Deployment**—You must deploy an HA-capable VSB on a Cisco Nexus Cloud Services Platform HA pair.
- **HA Role and inheritance** —A VSB's HA role is inherited from the host Cisco Nexus Cloud Services Platform's HA role. A primary VSB always resides on a Primary Cisco Nexus Cloud Services Platform and a secondary VSB always resides on a secondary Cisco Nexus Cloud Services Platform.
- **Independence**—A VSB's HA role is independent of the state of the Cisco Nexus Cloud Services Platform. For example, an active primary VSB can reside on a standby primary Cisco Nexus Cloud Services Platform or a standby primary Cisco Nexus Cloud Services Platform can reside on an active primary VSB.
- **Control VLAN and domain ID**—HA information for the Cisco Nexus Cloud Services Platform and a VSB are formed based on the control VLAN and Domain ID combination.

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**Note**

The Cisco Nexus Cloud Services Platform does not support the control VLAN and domain ID combinations in the following cases:

- (a) Across a VSM and Cisco Nexus Cloud Services Platform
- (b) Across VSMs of different releases
- (c) Across VSMs of the same hypervisors (VMware or Hyper-V)

If a VSM/VSB is configured with such a combination, it might result in system instability and/or traffic loss.

- **Back-up and save**—You must save modifications to the configuration of a VSB and the Cisco Nexus Cloud Services Platform, and backup their respective settings independently. It is important to do so because the configuration settings of a Cisco Nexus Cloud Services Platform are different from the settings of a VSB and the copy or save configuration commands do not produce uniform results on both the platforms.
- **Removing from the Cisco Nexus Cloud Services Platform**—You can remove a VSB from both Cisco Nexus Cloud Services Platforms or from only one. If one of the redundant pair of VSB's becomes unusable, you can remove it from only the Cisco Nexus Cloud Services Platform where it resides, which mitigates the recovery by preserving the remaining VSB in the HA pair.

For more information about high availability on the Cisco Nexus Cloud Services Platform, see the Cisco Nexus Cloud Services Platform High Availability section.

For more information about VSM high availability, see the *Cisco Nexus 1000V High Availability and Redundancy Configuration Guide, Release 4.2(1)SV2(2.1)*.

Role Collision Detection on the Cisco Nexus Cloud Services Platform

When you configure a Cisco Nexus 1000V VSM with the same role as an existing VSM with the same control VLAN and domain ID, the new VSM and the existing VSM exchange heartbeats to discover each other. Both VSMs detect a role collision when they exchange heartbeats. When a collision occurs, identifying the primary and secondary VSMs becomes disruptive and inconsistent on a Cisco Nexus Cloud Services Platform.

**Note**

A Cisco Nexus 1000V VSM in this guide refers to the service on both VMware and Hyper-V hypervisors and their different versions.

A role collision is detected on the control and the management interfaces if the Cisco Nexus 1000V VSMs and the Cisco Nexus Cloud Services Platforms are configured in the following combinations:

1. When a Cisco Nexus 1000V VSM is configured with the same role and the control VLAN and domain ID as that of an existing VSM in the same platform (VMware with VMware or Hyper-V with Hyper-V VSMs) or with another Cisco Nexus 1000V VSM from a different release.
2. When a VSM shares the control VLAN and the domain ID with a Cisco Nexus Cloud Services Platform.
3. When a Cisco Nexus Cloud Services Platform shares the control VLAN and domain ID with another Cisco Nexus Cloud Services Platform.

**Caution**

The Cisco Nexus Cloud Services Platform does not support the architecture to detect and display a role collision in the HA-paired Cisco Nexus 1000V VSMs or between two Cisco Nexus Cloud Services Platforms.

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In any of these combinations, identifying the primary and secondary VSM becomes inconsistent and might result in flapping and rebooting, and some traffic loss. This problem can occur on a primary or a secondary Cisco Nexus 1000V VSM, depending on whether the newly configured or the installed VSM has the primary or the secondary role assigned to it.

At the first instance of a role collision on a Cisco Nexus Cloud Services Platform, the HA pairing begins to fluctuate when the secondary VSM tries to identify the primary and causes system instability. Also, when the Cisco Nexus 1000V VSM stops communicating in the domain, the collision time is not updated anymore. After an hour elapses since the last collision, the collision MAC entries are removed.

For combinations 1 and 2, you can enter the **show system redundancy status** command on the primary or secondary VSM console to display the traffic collision details. You can subsequently change the domain ID on the Cisco Nexus 1000V VSM or the Cisco Nexus Cloud Services Platform to ensure proper operation of the Cisco Nexus Cloud Services Platform.



Note

The colliding VSMs might also report a collision detection from the original VSM. Because the colliding VSMs can use the same IP address for their management interfaces, the remote SSH/Telnet connections might fail. Therefore, we recommend that you use the consoles during a role collision detection

However, when a Cisco Nexus Cloud Services Platform shares the control VLAN and domain ID with another Cisco Nexus Cloud Services Platform, you cannot use the **show system redundancy status command** to display the role collision details. We recommend that you keep the domain IDs unique on both the Cisco Nexus Cloud Services Platforms to maintain high availability and to avoid the potential system instability and data loss due to the role collision.

For more information about High Availability on the Cisco Nexus Cloud Services Platform, see the Cisco Nexus Cloud Services Platform High Availability section.

Cisco Network Analysis Module Virtual Service Blade

You can create a Network Analysis Module (NAM) on the Cisco Nexus Cloud Services Platform with the NAM ISO image in the Cisco Nexus 1010 bootflash: repository. This image is copied to a new NAM VSB when you create it. To create a VSB for NAM, see [Creating a Virtual Service Blade, page 4-6](#).

For more information about NAM, see the *Cisco Network Analysis Module Software Documentation Guide*.

Cisco Virtual Security Gateway Module Virtual Service Blade

You can create up to three Cisco Virtual Security Gateway (VSG) modules on the Cisco Nexus Cloud Services Platform with the VSG ISO image. You can copy the VSG ISO image from the following link and then copy it to the new VSG VSB when you create it.

- www.cisco.com

The Cisco Nexus Cloud Services Platform product family does not support OVA deployment and migration on the Cisco VSG VSB.

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Cisco Nexus VXLAN Gateway Virtual Service Blade

VXLAN is a Layer 2 gateway that extends the Virtual Extensible LAN (VXLAN) Layer 2 domain to physical servers and services deployed on a VLAN. The VXLAN Gateway is created when a Layer 2 adjacency is required between Virtual Machines on a VXLAN and physical servers and services on a VLAN.

The VXLAN Gateway is managed as a VEM from the Cisco Nexus 1000V VSM and defines the mapping between a VXLAN and VLAN on a VSM. The VXLAN Gateway acts as a bridge between the VXLAN and the VLAN to direct traffic to and from the VXLAN to a traditional VLAN.

You can copy the VXLAN Gateway ISO image from www.cisco.com and then copy it to the new VXLAN Gateway VSB when you create it.

The Cisco Nexus Cloud Services Platform product family does not support OVA deployment and migration on VXLAN GW VSB.

For more information about installing and configuring VXLAN Gateway as a VSB, see the *Cisco Nexus 1000V VXLAN Configuration Guide, Release 4.2(1)SV2(2.1)*.

Guidelines and Limitations

Virtual Service Blades have the following configuration guidelines and limitations:

- The Cisco Nexus Cloud Services Platform and its hosted Cisco Nexus 1000V VSMs must share the same management VLAN.
- Unlike the control and packet VLANs that are set when a virtual service blade is created, a virtual service blade inherits its management VLAN from the Cisco Nexus Cloud Services Platform.



Caution

Do not change the management VLAN on a VSB. Because the management VLAN is inherited from the Cisco Nexus Cloud Services Platform, if you change it, then the change is applied to both the Cisco Nexus Cloud Services Platform and all of its hosted Cisco Nexus 1000V VSMs.

- The VXLAN Gateway VSB is supported only in flexible topology mode.

Configuring Virtual Service Blades

This section includes the following topics:

- [Creating a Virtual Service Blade, page 4-6](#)
- [Deleting a Virtual Service Blade, page 4-10](#)
- [Modifying a Virtual Service Blade, page 4-12](#)
- [Defining Form Factors for a Cisco Virtual Security Gateway VSB, page 4-19](#)
- [Setting up a Passthrough Interface, page 4-22](#)

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Creating a Virtual Service Blade

You can create a VSB such as a VSM, by installing and configuring the software.



Note

For information about upgrading Cisco Nexus 1000V software on an existing VSB, see the *Cisco Nexus 1000V Software Upgrade Guide, Release 4.2(1)SV2(2.1)*.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- Log in to the CLI in EXEC mode.
- Know the name of the VSB that you want to create.
- You can create a new VSB using an ISO file from any of the following sources:
 - From a previously created VSB.
 - Ships with the Cisco Nexus Cloud Services Platform in bootflash repository:
 - Downloaded from www.cisco.com and copied to the bootflash repository.
- If you are using an ISO file from the bootflash repository or downloaded, make sure that you know the filename.
- If you are using an ISO file from an existing virtual service blade, make sure that you know the name of the VSB type. This procedure includes information about identifying this name.
- Know the following properties for the VSB:
 - Domain ID
 - Management IP address
 - Management subnet mask length
 - Default gateway IP4 address
 - Switchname
 - Administrator password
 - Control and packet VLAN IDs
- This procedure shows you how to identify and assign control and packet VLANs for the virtual service blade. Do not assign a management VLAN because the management VLAN is inherited from the Cisco Nexus Cloud Services Platform.



Note

- When you are connected through a serial port on the Cisco Nexus Cloud Services Platform, and you want to create a VSB, do the following:
 - Manually enter the configuration commands one after the other. If you copy and paste the commands in bulk into the CLI, the terminal might hang and leave the process incomplete.
 - Avoid using **show** commands that generate large outputs. Using these commands causes the serial port to lock and hangs the terminal.
- If a terminal becomes unresponsive, open a new console and manually enter the commands one after the other to set up a new VSB.

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SUMMARY STEPS

1. **configure terminal**
2. **virtual-service-blade** *name*
3. **show vsb-type summary**
4. **virtual-service-blade-type** [**name** *name* | **new iso file name** | **new ova file name**]
5. **description** *description*
6. **show virtual-service-blade name** *name*
7. **interface** *name* **vlan** *vlanid*
8. **enable** [**primary** | **secondary**]
9. **show virtual-service-blade name** *name*
10. **copy running-config startup-config**



DETAILED STEPS

	Command	Purpose
Step 1	configure terminal Example: switch# configure terminal switch(config)#	Enters the global configuration mode.
Step 2	virtual-service-blade <i>name</i> Example: switch(config)# virtual-service-blade vsm-1 switch(config-vs-b-config)#	Creates the named virtual service blade and places you into configuration mode for that service. <i>name</i> : an alphanumeric string of up to 80 characters
Step 3	show virtual-service-blade-type summary Example: switch(config-vs-b-config)# show virtual-service-blade-type summary ----- Virtual-Service-Blade-Type Virtual-Service-Blade ----- VSM_SV1_3 vsm-1 vsm-2 NAM-MV nam-1 switch(config-vs-b-config)#	Displays a summary of all virtual service blade configurations by type name, such as VSM or NAM. You use this type name in the next step.

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	Command	Purpose
Step 4	<p>virtual-service-blade-type [name <i>name</i> new iso <i>file name</i> new ova <i>file name</i>]</p> <p>Example:</p> <pre>switch(config-vs-b-config)# virtual-service-blade-type new nexus-1000v.4.2.1.SV1.5.1.iso switch(config-vs-b-config)#</pre> <p>Example:</p> <pre>switch(config-vs-b-config)# virtual-service-blade-type new nexus-1000v.4.2.1.SV1.5.1.1010.ova switch(config-vs-b-config)#</pre>	<p>Specifies the type and name of the software image file to add to this virtual service blade. The keywords are as follows:</p> <ul style="list-style-type: none"> name—The name of the existing virtual service blade type. Enter the name of an existing type found in the Step 5 command output. new— The name of the new ISO or OVA software image file in bootflash: repository folder.
Step 5	<p>description <i>description</i></p> <p>Example:</p> <pre>switch(config-vs-b-config)# description vsm hamilton storage switch(config-vs-b-config)#</pre>	<p>(Optional) Adds a description to the virtual service blade.</p> <p>The <i>description</i> is an alphanumeric string of up to 80 characters</p>
Step 6	<p>show virtual-service-blade name <i>name</i></p> <p>Example:</p> <pre>switch(config-vs-b-config)# show virtual-service-blade name vsm-1 virtual-service-blade vsm-1 Description: Slot id: 6 Host Name: Management IP: VSB Type Name : vsm-1.iso vCPU: 0 Ramsize: 0 Disksize: 0 Heartbeat: 0 ----- Interface Type VLAN State Uplink-Interface Primary Secondary Oper Admin ----- HA Role: Primary HA Status: NONE Status: VSB NOT PRESENT Location: PRIMARY SW version: HA Role: Secondary HA Status: NONE Status: VSB NOT PRESENT Location: SECONDARY SW version: VSB Info:</pre>	<p>Displays the VSB that you have just created including the interface names that you configure in the next step.</p>

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	Command	Purpose
Step 7	<pre>interface name vlan vlanid</pre> <p>Example:</p> <pre>switch(config-vs-b-config)# interface control vlan 1044 switch(config-vs-b-config)#</pre> <p>Example:</p> <pre>switch(config-vs-b-config)# interface packet vlan 1045 switch(config-vs-b-config)#</pre>	<p>Applies the interface and VLAN ID to this VSB. Use the interface names from the Step 6 command output.</p> <p>If you attempt to apply an interface that is not present, the following error is displayed:</p> <p>"ERROR: Interface name not found in the associated virtual-service-blade type."</p> <p> Caution Do not assign a management VLAN. Unlike control and packet VLANs, the management VLAN is inherited from the Cisco Nexus Cloud Services Platform.</p> <p> Caution To prevent a loss of connectivity, you must configure the same control and packet VLANs on the hosted VSMs.</p>
Step 8	Repeat Step 7 to apply additional interfaces.	
Step 9	<pre>enable [primary secondary]</pre> <p>Example:</p> <pre>switch(config-vs-b-config)# enable Enter domain id[1-4095]: 1054 Enter Management IP address: 10.78.108.40 Enter Management subnet mask length 28 IPv4 address of the default gateway: 10.78.108.117 Enter Switchname: VSM-1 Enter the password for 'admin': pwd123 switch(config-vs-b-config)#</pre>	<p>Initiates the configuration of the VSB and then enables it.</p> <p>If you are enabling a non redundant VSB, you can specify its HA role as follows:</p> <ul style="list-style-type: none"> • primary—Designates the VSB in a primary role. • secondary—Designates the VSB in a secondary role. <p>The Cisco Nexus Cloud Services Platform prompts you for the following:</p> <ul style="list-style-type: none"> • Domain ID This ID must be a different domain ID than the one you used for the Cisco Nexus Cloud Services Platform. • Management IP address • Management subnet mask length • Default gateway IPV4 address • Switch name • Administrator password
Step 10	<pre>show virtual-service-blade name</pre>	<p>(Optional) Displays the new virtual service blade for verification.</p> <p>While the switch is configuring the virtual service blade, the switch output for this command progresses from <i>in progress</i> to <i>powered on</i>.</p>

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Command	Purpose
<pre> Example: switch(config-vs-b-config)# show virtual-service-blade name vsm-1 virtual-service-blade vsm-1 Description: Slot id: 1 Host Name: switch Management IP: 172.23.181.37 VSB Type Name : VSM-1.1 vCPU: 1 Ramsizes: 2048 Disksize: 3 Heartbeat: 35275 ----- Interface Type VLAN State Uplink-Interface Oper Admin Primary Secondary ----- VsbEthernet1/1 control 423 up up Po1 Po1 VsbEthernet1/2 management 231 up up Po1 Po1 VsbEthernet1/3 packet 423 up up Po1 Po1 internal NA NA up up HA Role: Primary HA Status: ACTIVE Status: VSB POWERED ON Location: PRIMARY SW version: 4.2(1)SV1(4a) HA Role: Secondary HA Status: STANDBY Status: VSB POWERED ON Location: SECONDARY SW version: 4.2(1)SV1(4a) VSB Info: Domain ID : 441 switch(config-vs-b-config)# switch# switch(config-vs-b-config)# </pre>	
<p>Step 11 copy running-config startup-config</p> <p>Example:</p> <pre> switch(config-vs-b-config)# copy running-config startup-config </pre>	Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

Deleting a Virtual Service Blade

You can delete a VSB, such as a VSM or NAM.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- You are logged in to the CLI in EXEC mode.
- You know the name of the virtual service blade you are deleting.

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- Shut down the VSB before it can be deleted. This procedure includes instructions for shutting down the virtual service blade.
- You can remove a VSB from both redundant Cisco Nexus Cloud Services Platforms or from only one. If one of a redundant pair of VSBs becomes unusable, you can remove it from only the Cisco Nexus Cloud Services Platform where it resides which mitigates the recovery by preserving the remaining virtual service blade in the pair. This action might become necessary if a new instance of the service must be provisioned.

SUMMARY STEPS

1. **configure terminal**
2. **virtual-service-blade** *name*
3. **shutdown**
4. **show virtual-service-blade summary**
5. **One of the following:**
 - **no virtual-service-blade** *name*
 - **no enable**
6. **show virtual-service-blade summary**
7. copy running-config startup-config

DETAILED STEPS

	Command	Purpose
Step 1	configure terminal Example: switch# config t switch(config)#	Places you in the CLI Global Configuration mode.
Step 2	virtual-service-blade <i>name</i> Example: switch(config)# virtual-service-blade vsm-5 switch(config-vs-b-config)#	Places you into the configuration mode for the named virtual service blade.
Step 3	shutdown Example: switch(config-vs-b-config)# shutdown switch(config-vs-b-config)#	Shuts down the VSB.
Step 4	show virtual-service-blade summary	(Optional) Displays a summary of services for verification of the shutdown.

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Command	Purpose															
<p>Example: <pre>switch(config-vs-b-config)# show virtual-service-blade summary</pre> </p> <pre>-----</pre> <table border="1"> <thead> <tr> <th>Name</th> <th>HA-Role</th> <th>HA-Status</th> <th>Status</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>vsm-1</td> <td>PRIMARY</td> <td>ACTIVE</td> <td>VS-B POWERED ON</td> <td>PRIMARY</td> </tr> <tr> <td>vsm-1</td> <td>SECONDARY</td> <td>STANDBY</td> <td>VS-B POWERED ON</td> <td>SECONDARY</td> </tr> </tbody> </table> <pre>-----</pre> <p>switch(config-vs-b-config)#</p>	Name	HA-Role	HA-Status	Status	Location	vsm-1	PRIMARY	ACTIVE	VS-B POWERED ON	PRIMARY	vsm-1	SECONDARY	STANDBY	VS-B POWERED ON	SECONDARY	
Name	HA-Role	HA-Status	Status	Location												
vsm-1	PRIMARY	ACTIVE	VS-B POWERED ON	PRIMARY												
vsm-1	SECONDARY	STANDBY	VS-B POWERED ON	SECONDARY												
<p>Step 5 Do one of the following:</p> <ul style="list-style-type: none"> • no virtual-service-blade <i>name</i> • no enable [primary secondary] <p>Example: <pre>switch(config-vs-b-config)# no virtual-service-blade vsm-5</pre> <pre>switch(config-vs-b-config)#</pre> </p> <p>Example: <pre>switch(config-vs-b-config)# no enable</pre> <pre>switch(config-vs-b-config)#</pre> </p>	<p>Deletes the specified virtual service blade. The keywords are as follows:</p> <ul style="list-style-type: none"> • no virtual-service-blade—Removes the virtual service blade in its entirety from the Cisco Nexus Cloud Services Platform. • no enable—Removes the specified virtual service blade from the system but retains the infrastructure configuration (interface VLANs, RAM size, disk size overrides) in the Cisco Nexus Cloud Services Platform. Use this command to delete only one virtual service blade in a pair (primary or secondary). 															
<p>Step 6 show virtual-service-blade summary</p>	<p>Displays a summary of services for verification of the removal.</p>															
<p>Step 7 copy running-config startup-config</p> <p>Example: <pre>switch(config)# copy running-config startup-config</pre> </p>	<p>Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</p>															

Modifying a Virtual Service Blade

You can modify the control VLAN, packet VLAN, or the RAM size of a VSB and then make the corresponding changes to the VSM.

This section includes the following topics:

- [Modifying a Virtual Service Blade on the Cisco Nexus Cloud Services Platform, page 4-13](#)
- [Modifying a VSM on the Cisco Nexus 1000V, page 4-15](#)
- [Defining Form Factors for a Cisco Virtual Security Gateway VSB, page 4-19](#)

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Modifying a Virtual Service Blade on the Cisco Nexus Cloud Services Platform

You can modify the control VLAN, packet VLAN, or the RAM size of a VSB.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- Log in to the CLI in EXEC mode.
- Know the name of the virtual service blade you are modifying.
- Shut down the VSB before modifying the RAM size. This procedure includes instructions for shutting down the VSB.
- Shut down the VSB before modifying the control VLAN. This procedure includes instructions for shutting down the VSB.



Caution

The VSM must be in the shut down state before you modify the control VLAN to preserve high availability when the service comes back. The control VLAN passes control messages to the standby VSM.

- Change the configuration first in the VSB configuration and then in the Cisco Nexus 1000V VSM configuration. This procedure changes the VSB. To change the Cisco Nexus 1000V configuration, see the “[Modifying a VSM on the Cisco Nexus 1000V](#)” section on page 4-15.



Caution

Do not modify the management VLAN. If you change the management VLAN, the change is applied to both the Cisco Nexus Cloud Services Platform and all of the Cisco Nexus 1000V VSMs. The Cisco Nexus Cloud Services Platform and its hosted Cisco Nexus 1000V VSMs share the same management VLAN. Unlike the control and packet VLANs that are set when a VSB is created, the management VLAN is inherited.

SUMMARY STEPS

1. **configure terminal**
2. **virtual-service-blade** *name*
3. Do one of the following:
 - If you are modifying the ram size or the control VLAN, then continue with the next step.
 - Otherwise, go to Step 6.
4. **shutdown**
5. **show virtual-service-blade summary**
6. **One of the following:**
 - **ramsize** *size*
 - **interface control vlan** *vlanid*
 - **interface control vlan** *vlanid*
7. **no shutdown**
8. **show virtual-service-blade name** *name*
9. copy running-config startup-config

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DETAILED STEPS

	Command	Purpose
Step 1	configure terminal Example: switch# config t switch(config)#	Places you in the CLI Global Configuration mode.
Step 2	virtual-service-blade <i>name</i> Example: switch(config)# virtual-service-blade vsm-5 switch(config-vs-b-config)#	Places you into the configuration mode for the named VSB.
Step 3	Do one of the following: <ul style="list-style-type: none"> If you are modifying the RAM size or the control VLAN, continue with the next step. Otherwise, go to Step 6. 	
Step 4	shutdown Example: switch(config-vs-b-config)# shutdown switch(config-vs-b-config)#	Shuts down the VSB.
Step 5	show virtual-service-blade summary Example: show virtual-service-blade summary ----- Name HA-Role HA-Status Status Location ----- vsm-1 PRIMARY ACTIVE VSB POWERED ON PRIMARY vsm-1 SECONDARY STANDBY VSB POWERED ON SECONDARY ----- switch(config-vs-b-config)#	Displays a summary of services for verification of the shutdown.
Step 6	Do one of the following: <ul style="list-style-type: none"> ramsize <i>size</i> interface control vlan <i>vlanid</i> interface packet vlan <i>vlanid</i> Example: switch(config-vs-b-config)# ramsize 1024 switch(config-vs-b-config)# Example: switch(config-vs-b-config)# interface control vlan 1116 switch(config-vs-b-config)# Example: switch(config-vs-b-config)# interface packet vlan 1117 switch(config-vs-b-config)#	Modifies the VSB. You can modify any of the following virtual service blade parameters: <ul style="list-style-type: none"> Memory allocated for RAM (1024-4096 MB). Control VLAN ID Packet VLAN ID

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	Command	Purpose
Step 7	no shutdown Example: switch(config-vsب-config)# no shutdown switch(config-vsب-config)#	Returns the VSB status to powered on.
Step 8	show virtual-service-blade name name Example: switch(config-vsب-config)# show virtual-service-blade name vsm-1 virtual-service-blade vsm-1 Description: Slot id: 1 Host Name: switch Management IP: 172.23.181.37 VSB Type Name : VSM-1.1 vCPU: 1 Ramsize: 2048 Disksize: 3 Heartbeat: 35275 ----- <pre> Interface Type VLAN State Uplink-Interface Oper Admin Primary Secondary ----- VsbEthernet1/1 control 423 up up Po1 Po1 VsbEthernet1/2 management 231 up up Po1 Po1 VsbEthernet1/3 packet 423 up up Po1 Po1 internal NA NA up up HA Role: Primary HA Status: ACTIVE Status: VSB POWERED ON Location: PRIMARY SW version: 4.2(1)SV1(4a) HA Role: Secondary HA Status: STANDBY Status: VSB POWERED ON Location: SECONDARY SW version: 4.2(1)SV1(4a) VSB Info: Domain ID : 441 switch(config-vsب-config)# </pre>	Displays the VSB information for verification of the changes.
Step 9	copy running-config startup-config Example: switch(config)# copy running-config startup-config	Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

You have completed this procedure. You must now update the VSM configuration using the [“Modifying a VSM on the Cisco Nexus 1000V”](#) section on page 4-15.

Modifying a VSM on the Cisco Nexus 1000V

You can modify the control VLAN ID, packet VLAN ID, or RAM size in the VSM configuration on the Cisco Nexus 1000V.

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BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- Log in to the CLI in EXEC mode.
- Know the name of the VSM you are modifying.
- You change the configuration first in the Cisco Nexus Cloud Services Platform VSB and then in the Cisco Nexus 1000V VSM configuration. This procedure changes the Cisco Nexus 1000V VSM configuration. To change the Cisco Nexus Cloud Services Platform virtual service blade configuration, see the [“Modifying a Virtual Service Blade on the Cisco Nexus Cloud Services Platform” section on page 4-13](#).



Caution

Do not modify the management VLAN. If you change the management VLAN, the change is applied to both the Cisco Nexus Cloud Services Platform and all of the Cisco Nexus 1000V VSMs. The Cisco Nexus 1010 and its hosted Cisco Nexus 1000V VSMs share the same management VLAN. Unlike the control and packet VLANs which are set when a virtual service blade is created, the management VLAN is inherited.

SUMMARY STEPS

1. **login virtual-service-blade vb6**
2. *login*
3. *password*
4. **show svcs domain**
5. **config t**
6. **svcs-domain**
7. **control vlan *vlanid***
8. **packet vlan *vlanid***
9. **show svcs domain**
10. **copy running-config startup-config**
11. **Ctrl **
12. **close**

DETAILED STEPS

	Command	Purpose
Step 1	login virtual-service-blade vb6	Logs you into the Cisco Nexus 1000V CLI for the VSM that you are modifying.
Step 2	<i>Enter your username</i>	Authenticates your user ID.
Step 3	<i>Enter your password</i>	Authenticates your password.

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	Command	Purpose
	<p>Example: switch-1# login virtual-service-blade 1 Telnet escape character is '^\''. Trying 192.168.0.18... Connected to 192.168.0.18. Escape character is '^\''. User Access Verification switch-vsml login: password:</p>	
Step 4	<p>show svcs domain</p> <p>n1000v# show svcs domain SVS domain config: Domain id: 100 Control vlan: 1114 Packet vlan: 1115 L2/L3 Control mode: L2 L3 control interface: NA Status: Config push to VC successful. n1000v#</p>	Displays the domain configuration for the VSM.
Step 5	<p>config t</p> <p>Example: n1000v# config t n1000v(config)#</p>	Places you in the CLI Global Configuration mode.
Step 6	<p>svcs-domain</p> <p>Example: n1000v(config)# svcs domain n1000v(config-svcs-domain)#</p>	Places you into SVS Domain Configuration mode.
Step 7	<p>control vlan <i>vlanid</i></p> <p>Example: n1000v(config-svcs-domain)# control vlan 1116 n1000v(config-svcs-domain)#</p>	Modifies the VLAN ID of the VSM domain control VLAN.
Step 8	<p>packet vlan <i>vlanid</i></p> <p>Example: n1000v(config-svcs-domain)# packet vlan 1117 n1000v(config-svcs-domain)#</p>	Modifies the VLAN ID of the VSM domain packet VLAN.
Step 9	<p>show svcs domain</p> <p>Example: n1000v(config-svcs-domain)# show svcs domain SVS domain config: Domain id: 100 Control vlan: 1116 Packet vlan: 1117 L2/L3 Aipc mode: L2 L2/L3 Aipc interface: mgmt0 Status: Config push to VC successful. n1000v(config-svcs-domain)#</p>	(Optional) Displays the domain configuration for verification of the changes.

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	Command	Purpose
	<p>Example:</p> <pre>switch-1# login virtual-service-blade 1 Telnet escape character is '^\''. Trying 192.168.0.18... Connected to 192.168.0.18. Escape character is '^\''. User Access Verification switch-vsml login: password:</pre>	
Step 4	<p>show svcs domain</p> <pre>n1000v# show svcs domain SVS domain config: Domain id: 100 Control vlan: 1114 Packet vlan: 1115 L2/L3 Control mode: L2 L3 control interface: NA Status: Config push to VC successful. n1000v#</pre>	Displays the domain configuration for the VSM.
Step 5	<p>config t</p> <p>Example:</p> <pre>n1000v# config t n1000v(config)#</pre>	Places you in the CLI Global Configuration mode.
Step 6	<p>svcs-domain</p> <p>Example:</p> <pre>n1000v(config)# svcs domain n1000v(config-svcs-domain)#</pre>	Places you into SVS Domain Configuration mode.
Step 7	<p>control vlan <i>vlanid</i></p> <p>Example:</p> <pre>n1000v(config-svcs-domain)# control vlan 1116 n1000v(config-svcs-domain)#</pre>	Modifies the VLAN ID of the VSM domain control VLAN.
Step 8	<p>packet vlan <i>vlanid</i></p> <p>Example:</p> <pre>n1000v(config-svcs-domain)# packet vlan 1117 n1000v(config-svcs-domain)#</pre>	Modifies the VLAN ID of the VSM domain packet VLAN.
Step 9	<p>show svcs domain</p> <p>Example:</p> <pre>n1000v(config-svcs-domain)# show svcs domain SVS domain config: Domain id: 100 Control vlan: 1116 Packet vlan: 1117 L2/L3 Aipc mode: L2 L2/L3 Aipc interface: mgmt0 Status: Config push to VC successful. n1000v(config-svcs-domain)#</pre>	(Optional) Displays the domain configuration for verification of the changes.

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	Command	Purpose
Step 10	copy running-config startup-config Example: n1000v(config-svs-domain)# copy running-config startup-config n1000v(config-svs-domain)#	Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.
Step 11	Press the Ctrl key and \ key Example: n1000v(config-svs-domain)# Ctrl \ Telnet>	Exits from the SVS domain configuration mode and returns you to a Telnet prompt.
Step 12	close Example: Telnet> close switch#	Closes the Telnet session and returns you to EXEC mode on the Cisco Nexus Cloud Services Platform.

You have completed this procedure.

Defining Form Factors for a Cisco Virtual Security Gateway VSB

The Cisco Nexus Cloud Services Platform supports the Virtual Security Gateway as a VSB in different formats. While instantiating the Cisco VSG, you can define the form factor for the VSB by specifying the number of assigned virtual CPUs. Your network performance depends on the form factor that you choose to define for the Cisco VSG virtual service blade.

Table 4-1 lists the metrics of the Cisco VSG deployed as a VSB in different form factors:

Table 4-1 Metrics for defining form factors for a Cisco VSG VSB:

Cisco Nexus Cloud Services Platform	Metrics	Small/Medium	Large
Cisco Nexus 1010	Memory	2 GB	2GB
	Number of virtual CPUs	1	2
Cisco Nexus 1110	Memory	2 GB	2 GB
	Number of virtual CPUs	1	2

For more information about the Cisco VSG, see the *Cisco Virtual Security Gateway for Nexus 1000V Series Switch Configuration Guide*. To create a VSB for Cisco VSG see the [Creating a Virtual Service Blade, page 4-6](#).

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- Log in to the CLI in EXEC mode.
- Know the name of the virtual service blade you have created. If you want to create a new VSB, see [Creating a Virtual Service Blade, page 4-6](#).

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SUMMARY STEPS

1. **configure terminal**
2. **virtual-service-blade** *name*
3. (optional) **shutdown** (for modifying a running VSG)
4. **description** (optional)
5. **numcpu** *number*
6. **show virtual-service-blade** *name*
7. **no shutdown** (optional - only if the VSG was shutdown per step 3)
8. **end**

DETAILED STEPS

	Command	Purpose
Step 1	config terminal Example: switch# configure terminal switch(config)#	Places you in the CLI Global Configuration mode.
Step 2	config virtual-service-blade <i>name</i> Example: switch(config)# virtual-service-blade vy252 switch(config-vs-b-config)#	Places you into the configuration mode for the named virtual service blade.
Step 3	shutdown Example: shutdown vy252	(Optional) Shuts down a running VSG requiring modification.
Step 4	description <i>description</i> Example: switch(config-vs-b-config)# description VSG_vy_252 switch(config-vs-b-config)#	(Optional) Adds a description to the virtual service blade. The <i>description</i> argument is an alphanumeric string of up to 80 characters.
Step 5	numcpu <i>number</i> Example: switch(config-vs-b-config)#numcpu 2 switch(config-vs-b-config)#	Configures the VSB as a medium or large model based on the number of virtual CPUs attached to the VSB. <i>number</i> numeric value 1 or 2
Step 6	show virtual-service-blade <i>name</i> Example: switch(config-vs-b-config)#name vy252	Displays the VSB information for verification of the changes.
Step 7	(Optional- Use if you have shutdown a running VSG per step 3) no shutdown Example: switch(config-vs-b-config)# no shutdown switch(config-vs-b-config)#	Returns the VSB status to powered on.

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Command	Purpose																																										
<p>Example:</p> <pre>switch(config-vsbs-config)# show virtual-service-blade name vy252 virtual-service-blade vy252 Description: VSG_CY_252 Slot id: 2 Host Name: vsg-c252 Management IP: VSB Type Name : VSG-1.2 vCPU: 2 Ramsize: 2048 Disksize: 3 Heartbeat: 1933</pre> <pre>-----</pre> <table border="1"> <thead> <tr> <th>Interface</th> <th>Type</th> <th>VLAN</th> <th>State</th> <th>Uplink-Interface</th> </tr> <tr> <th>Primary</th> <th>Secondary</th> <th>Oper</th> <th>Admin</th> <th></th> </tr> </thead> <tbody> <tr> <td>VsbEthernet2/1</td> <td></td> <td>data</td> <td>21</td> <td>up</td> <td>up</td> <td>Gi3</td> <td>Gi3</td> </tr> <tr> <td>VsbEthernet2/2</td> <td>management</td> <td></td> <td>21</td> <td>up</td> <td>up</td> <td>Gi3</td> <td>Gi3</td> </tr> <tr> <td>VsbEthernet2/3</td> <td></td> <td>ha</td> <td>21</td> <td>up</td> <td>up</td> <td>Gi3</td> <td>Gi3</td> </tr> <tr> <td>internal</td> <td>NA</td> <td>NA</td> <td></td> <td>up</td> <td>up</td> <td></td> <td></td> </tr> </tbody> </table> <pre>HA Role: Primary HA Status: NONE Status: VSB POWERED OFF Location: PRIMARY SW version: 4.2(1)VSG2(1.0.252) HA Role: Secondary HA Status: NONE Status: VSB POWERED OFF Location: SECONDARY SW version: 4.2(1)VSG2(1.0.252) VSB Info: Domain ID : 441</pre>	Interface	Type	VLAN	State	Uplink-Interface	Primary	Secondary	Oper	Admin		VsbEthernet2/1		data	21	up	up	Gi3	Gi3	VsbEthernet2/2	management		21	up	up	Gi3	Gi3	VsbEthernet2/3		ha	21	up	up	Gi3	Gi3	internal	NA	NA		up	up			
Interface	Type	VLAN	State	Uplink-Interface																																							
Primary	Secondary	Oper	Admin																																								
VsbEthernet2/1		data	21	up	up	Gi3	Gi3																																				
VsbEthernet2/2	management		21	up	up	Gi3	Gi3																																				
VsbEthernet2/3		ha	21	up	up	Gi3	Gi3																																				
internal	NA	NA		up	up																																						
<p>Step 8 <code>copy running-config startup-config</code></p> <p>Example:</p> <pre>switch(config)# copy running-config startup-config</pre>	Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.																																										

Configuring a Passthrough VSB Interface

After you create a Cisco Nexus VXLAN Gateway VSB, you can configure it to function as a passthrough interface. The passthrough feature enables the VSB to assign a virtual interface to a dedicated uplink. This uplink can be a Gigabit Ethernet port on the Cisco Nexus Cloud Services Platform or a port channel.

A passthrough VSB interface has the following features and limitations:

- Cisco Nexus Cloud Services Platform supports passthrough only on a flexible topology.
- The Passthrough feature is currently available for the VXLAN Gateway VSBs.
- A VSB can have multiple passthrough interfaces and also have a combination of passthrough and shared interfaces.
- A passthrough uplink has a one-to-one mapping with the corresponding VSB interface and cannot be shared by multiple interfaces of the same or different VSBs.

A Passthrough interface has the following benefits:

- Ensures higher network throughput than a shared uplink interface.

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- Allows the VSB to be in trunkall mode to receive tagged packets.

Setting up a Passthrough Interface

You can configure a VSB interface in the passthrough mode:

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- Log in to the CLI in EXEC mode.
- Know the name of the VSB you have created. If you want to create a new VSB, see [Creating a Virtual Service Blade, page 4-6](#).
- No VLAN IDs are required to be assigned to an interface before you configure it in the passthrough mode. Previously assigned VLANs are ignored while setting up an interface in the passthrough mode.

SUMMARY STEPS

1. **configure terminal**
2. **virtual-service-blade** *name*
3. **virtual-service-blade-type** [*name name* | **new iso file name** | **new ova file name**]
4. **interface** *name* **uplink** *name*
5. **interface** *name* **mode** **passthrough**
6. **enable**
7. **show network summary**
8. copy running-config startup-config

DETAILED STEPS

	Command	Purpose
Step 1	configure terminal Example: switch# configure terminal switch(config)#	Places you in the CLI Global Configuration mode.
Step 2	virtual-service-blade <i>name</i> Example: switch(config)# virtual-service-blade vxgw switch(config-vs-b-config)#	Creates the named VSB and places you into the configuration mode for that service. The <i>name</i> argument is an alphanumeric string of up to 80 characters.

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	Command	Purpose
Step 3	<p>virtual-service-blade-type [name <i>name</i> new <i>iso file name</i> new <i>ova file name</i>]</p> <p>Example: switch(config-vsb-config)# virtual-service-blade-type new vxgw.4.2.1.SV2.1.1 iso Note: please be patient.. switch(config-vsb-config)</p>	<p>Specifies the type and name of the software image file to add to this virtual service blade.</p> <ul style="list-style-type: none"> •name—The name of the existing virtual service blade type. •new—The name of the new ISO or OVA software image file in bootflash repository folder.
Step 4	<p>interface <i>name</i> uplink <i>name</i></p> <p>Example: 1 switch(config-vsb-config)# [no] interface vxgw_intf_1 uplink1 uplink GigabitEthernet2 switch(config-vsb-config)#</p> <p>Example: 2 switch(config-vsb-config)# interface vxgw_intf_2 uplink2 uplink GigabitEthernet3 switch(config-vsb-config)</p>	<p>Applies the uplink port channel ID to this interface. The range is from 1 to 6.</p> <p>This command also assigns an uplink to a VSB interface to be configured as passthrough. This uplink can be GigabitEthernet or Portchannel.</p>
Step 5	<p>interface <i>name</i> mode passthrough</p> <p>Example: switch(config-vsb-config)# interface vxgw_intf_1 uplink1 mode passthrough vxgw_intf_2 uplink2 mode passthrough switch(config-vsb-config)#</p>	<p>Sets up the interface in passthrough mode on the VSB.</p>
Step 6	<p>enable</p> <p>Example: switch(config-vsb-config)#enable Enter vsb image: [vxgw.4.2.1.SV2.1.1 iso] Enter domain id[1-4095]: 4 Management IP version [V4/V6]:[V4] Enter primary IP address: 10.105.234.50 Enter primary subnet mask: 255.255.255.224 IPv4 address of the default gateway: 10.105.234.33 Enter Hostname: vxgw Enter the password for 'admin': pwd123 VSM L3 Ctrl IPv4 address: 10.105.234.53 VSM Primary MAC Address: 00:02:3d:78:c4:0c Enter VSM uplink port-profile name: UPLINK-VXGW Enter Encapsulation port-profile name: vxlangw-tvlan1495 Note: VSB installation is in progress, please use show virtual-service-blade commands to check the installation status. switch(config-vsb-config)#</p>	<p>Initiates the configuration of the VSB and then enables it.</p>
Step 7	<p>show network summary</p>	<p>Displays a summary of all VSBs including the ones configured in the passthrough mode. The passthrough legend (P) is added to the uplink interfaces for the interfaces that are configured in passthrough mode.</p>

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Command	Purpose
<p>Example: switch# show network summary</p> <p>Legends: P - Passthrough</p> <pre>----- Port State Uplink-Interface Speed RefCnt MTU Nat-Vlan Oper Admin Oper Admin ----- Gi1 up up 1000 3 9000 Gi2 up up 1000 1 9000 Gi3 up up 1000 1 9000 Gi4 up up 1000 Gi5 up up 1000 Gi6 up up 1000 VsbEth1/1 up up Gi2(P) Gi2(P) 1000 VsbEth1/2 up up Gi1 Gi1 1000 VsbEth1/3 up up Gi3(P) Gi3(P) 1000 control0 up up Gi1 Gi1 1000 mgmt0 up up Gi1 Gi1 1000 switch(config- vsb-config)# -----</pre>	
<p>Step 8 <code>copy running-config startup-config</code></p> <p>Example: switch(config- vsb-config)# copy running-config startup-config</p>	<p>Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.</p>

Configuration Examples for Virtual Service Blades

Example:1

This example shows how to display the running configuration of a VXLAN Gateway VSB in passthrough mode:

```
switch#: show running-config
!Time: Mon Jun  3 19:34:49 2013

version 4.2(1)SP1(6.1)
no feature telnet

username admin password 5 $1$D2HM64on$irBEZSiMcBfoFjMjKJgNz0 role network-admin

banner motd #Cisco VSA#

ip domain-lookup
ip domain-lookup
hostname switch
snmp-server user admin network-admin auth md5 0xb64ad6879970f0e57600c443287a79f0
priv 0xb64ad6879970f0e57600c443287a79f0 localizedkey
snmp-server community public group network-admin

vrf context management
 ip route 0.0.0.0/0 172.23.180.1
vlan 1,180,424
port-channel load-balance ethernet source-mac
port-profile default max-ports 32
```


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```
vdc switch id 1
  limit-resource vlan minimum 16 maximum 2049
  limit-resource monitor-session minimum 0 maximum 2
  limit-resource vrf minimum 16 maximum 8192
  limit-resource port-channel minimum 0 maximum 768
  limit-resource u4route-mem minimum 32 maximum 32
  limit-resource u6route-mem minimum 16 maximum 16
  limit-resource m4route-mem minimum 58 maximum 58
  limit-resource m6route-mem minimum 8 maximum 8
network-uplink type 5
interface GigabitEthernet1
interface GigabitEthernet2
interface GigabitEthernet3
interface GigabitEthernet4
interface GigabitEthernet5
interface GigabitEthernet6
svs-domain
  control uplink GigabitEthernet1
  management uplink GigabitEthernet1
virtual-service-blade vxgw
  virtual-service-blade-type name vx-gw-1.2
  interface gw-uplink1 uplink GigabitEthernet2
  interface gw-uplink1 mode passthrough
  interface management vlan 180
  interface management uplink GigabitEthernet1
  interface gw-uplink2 uplink GigabitEthernet3
  interface gw-uplink2 mode passthrough
  ramsize 2048
  disksize 3
  numcpu 3
  cookie 1744302105
  no shutdown primary
interface VsbEthernet1/1
interface VsbEthernet1/2
interface VsbEthernet1/3

interface mgmt0
  ip address 172.23.180.39/24

interface control0
line console
boot kickstart bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.6.1.bin
boot system bootflash:/nexus-1010-mz.4.2.1.SP1.6.1.bin
boot kickstart bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.6.1.bin
boot system bootflash:/nexus-1010-mz.4.2.1.SP1.6.1.bin
svs-domain
  domain id 3049
  control vlan 424
  management vlan 180
  svs mode L2
```

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Verifying the Virtual Service Blade Configuration

To verify the virtual service blade configuration, use the following commands:

Command	Purpose
<code>show virtual-service-blade [name name]</code>	Displays the configuration for a specific VSB. See Example 4-3 on page 4-26 and Example 4-4 on page 4-27 .
<code>show virtual-service-blade summary</code>	Displays a summary of all VSB configurations. Note This command is only recognized by the primary Cisco Nexus Cloud Services Platform. See Example 4-5 on page 4-28 .
<code>show virtual-service-blade-type summary</code>	Displays a summary of all VSB configurations by type, such as VSM or NAM. See Example 4-1 on page 4-26 .
<code>show virtual-service-blade [name name] statistics</code>	Displays statistics for a specific VSB such as CPU utilization, memory, last reboot time, total number of reboots. See Example 4-6 on page 4-28 .
<code>show network-uplink type</code>	Displays the uplink configuration for verification. See Example 4-2 on page 4-26 .
<code>show network summary</code>	Displays a summary of all interfaces including the ones configured in passthrough mode. See Example 4-7 on page 4-28 .

Example 4-1 Virtual Service Blade Type

```
switch# show virtual-service-blade-type summary
-----
Virtual-Service-Blade-Type   Virtual-Service-Blade
-----
VSM_SV1_3                   vsm-1
                              vsm-2

NAM-MV                       nam-1
switch#
```

Example 4-2 Network Uplink Type

```
switch# show network uplink type
Administrative topology id: 2
Operational topology id: 1
switch#
```

Example 4-3 Virtual Service Blade Name

```
switch#virtual-service-blade vsm-1
```

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```
Description:
Slot id:      1
Host Name:    switch
Management IP: 172.23.181.37
VSB Type Name : VSM-1.1
vCPU:        1
Ramsize:     2048
Disksize:    3
Heartbeat:   35275
```

```
-----
Interface      Type      VLAN      State      Uplink-Interface
              Primary  Secondary Oper  Admin
-----
VsbEthernet1/1 control    423      up        up        Po1    Po1
VsbEthernet1/2 management 2        31       up        up        Po1    Po1
VsbEthernet1/3 packet     423      up        up        Po1    Po1
internal      NA        NA        up        up
```

HA Role: Primary

HA Status: ACTIVE

Status: VSB POWERED ON

Location: PRIMARY

SW version: 4.2(1)SV1(4a)

HA Role: Secondary

HA Status: STANDBY

Status: VSB POWERED ON

Location: SECONDARY

SW version: 4.2(1)SV1(4a)

VSB Info:

Domain ID : 441

Example 4-4 Virtual Service Blade Name

```
switch# show virtual-service-blade vxgw
```

```
Description:
Slot id:      1
Host Name:    vxgw-switch
Management IP: 172.23.180.42
VSB Type Name : vx-gw-1.2
Configured vCPU:      3
Operational vCPU:    3
Configured Ramsize:  2048
Operational Ramsize: 2048
Disksize:           3
Heartbeat:          187631
```

Legends: P - Passthrough

```
-----
Interface      Type      MAC      VLAN      State      Uplink-Int
              Pri  Sec Oper  Adm
-----
VsbEthernet3/1 gw-uplink1 0002.3d7b.e909      up        up Gi2 (P) Gi2 (P)
VsbEthernet3/2 management 0002.3d7b.e908 180      up        up Gi1    Gi1
VsbEthernet3/3 gw-uplink2 0002.3d7b.e90a      up        up Gi3 (P) Gi3 (P)
internal      NA        NA        NA        up
```

virtual-service-blade:

HA Status: ACTIVE

Status: VSB POWERED ON

Location: PRIMARY

SW version:

virtual-service-blade:

HA Status: STANDBY

Status: VSB POWERED ON

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Location: SECONDARY
SW version:

VSB Info:
Domain ID : 99

Example 4-5 Virtual Service Blade Summary

```
switch# show virtual-service-blade summary
```

Name	HA-Role	HA-Status	Status	Location
vsm-1	PRIMARY	ACTIVE	VSB POWERED ON	PRIMARY
vsm-1	SECONDARY	STANDBY	VSB POWERED ON	SECONDARY

Example 4-6 Virtual Service Blade Statistics

```
switch# show virtual-service-blade name VSM statistics
```

```
virtual-service-blade: VSM
Virtual Memory: 2297m
Physical Memory: 1.1g
CPU Usage Percentage: 4.0
Up Since: Mon Sep 10 16:05:21 2012
Number of Restarts: 1
Last heartbeat received at: Thu Sep 13 09:11:17 2012
```

Example 4-7 Network Summary

```
switch# show network summary
switch(config-vs-b-config)# show network summary
```

```
Legends: P - Passthrough
```

Port	State	Uplink-Interface	Speed	RefCnt	MTU	Nat-Vlan
Oper	Admin	Oper	Admin	Oper	Admin	
Gi1	up	up	1000	0	9000	
Gi2	up	up	1000	0	9000	
Gi3	up	up	1000	1	9000	
Gi4	up	up	1000	0	9000	
Gi5	up	up	1000	1	9000	
Gi6	up	up	1000	0	9000	
Po1	up	up	1000	6	9000	
Po2	up	up	1000	0	9000	
Po3	up	up	1000	0	9000	
VsbEth1/1	up	up	Po1	Po1	1000	9000
VsbEth1/3	up	up	Gi3(P)	Gi3(P)	1000	9000
VsbEth1/4	up	up	Gi5(P)	Gi5(P)	1000	9000
VsbEth1/5	up	up	Po1	Po1	1000	9000
VsbEth1/6	up	up	Po1	Po1	1000	9000
VsbEth1/7	up	up	Po1	Po1	1000	9000
control0	up	up	Po1	Po1	1000	9000
mgmt0	up	up	Po1	Po1	1000	9000

```
switch
(config-vs-b-config)#
```

Send document comments to nexus1k-docfeedback@cisco.com.

Additional References

For additional information related to implementing the VSB features, see the following sections:

- [Related Documents, page 4-29](#)
- [MIBs, page 4-29](#)
- [Feature History for Virtual Service Blade, page 4-29](#)

Related Documents

Related Topic	Document Title
Cisco Nexus Cloud Services Platform software setup configuration	<i>Cisco Nexus Cloud Services Platform Software Installation and Upgrade Guide, Release 4.2(1)SP1(6.1)</i>
Complete command syntax, command modes, command history, defaults, usage guidelines, and examples for all Cisco Nexus Cloud Services Platform commands.	<i>Cisco Nexus Cloud Services Platform Command Reference, Release 4.2(1)SP1(6.1)</i>
Complete command syntax, command modes, command history, defaults, usage guidelines, and examples for Cisco Nexus 1000V commands.	<i>Cisco Nexus 1000V Command Reference, Release 4.2(1)SV2(2.1)</i>
Configuring Cisco Nexus 1000V licenses	<i>Cisco Nexus 1000V License Configuration Guide, Release 4.2(1)SV2(2.1)</i>
Configuring the Cisco Nexus 1000V domain	<i>Cisco Nexus 1000V System Management Configuration Guide, Release 4.2(1)SV2(2.1)</i>
Installing and upgrading the Cisco Nexus Cloud Services Platform software	<i>Cisco Nexus Cloud Services Platform Software Installation and Upgrade Guide, Release 4.2(1)SP1(6.1)</i>

MIBs

MIBs	MIBs Link
<ul style="list-style-type: none"> • CISCO-PROCESS-MIB 	To locate and download MIBs, go to the following URL: http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml

Feature History for Virtual Service Blade

This section provides the virtual service blade release history.

Feature Name	Releases	Feature Information
Passthrough Interface	4.2(1)SP1(6.1)	This feature was introduced.
Creating VSBs for VXLAN Gateway	4.2(1)SP1(6.1)	This feature was introduced.

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Feature Name	Releases	Feature Information
Setting up different form factors for the Cisco VSG VSBs	4.2(1)SP1(6.1)	This feature was introduced.
show virtual-service-blade name <i>name</i> statistics command	4.2(1)SP1(5.1)	This command was introduced.
Creating and exporting a VSB backup file	4.2(1)SP1(3)	Commands and procedure added for exporting and importing a VSB configuration file.
Importing a VSB backup file	4.2(1)SP1(3)	Procedure added for recovering a VSM using a saved configuration file.
Escape sequence	4.2(1)SP1(2)	Escape sequence changed from \$ to ^\.
Virtual Service Blade	4.0(4)SP1(1)	This feature was introduced.