



# Configuring the Domain

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## Information About the Domain

You must create a domain for the Cisco Nexus 1000V and then add control and packet VLANs for communication and management. This process is part of the initial setup of the a Cisco Nexus 1000V when installing the software. If you need to create a domain later, you can do so by using the **setup** command or the procedures described in this chapter.

## Layer 3 Control

Layer 3 control, or IP connectivity, is supported between the Virtual Supervisor Module (VSM) and the Virtual Ethernet Module (VEM) for control and packet traffic. With Layer 3 control, a VSM can be Layer 3 accessible and can control hosts that reside in a separate Layer 2 network. In the Layer 3 mode, all the VEMs ( hosts ) managed by VSM and the VSM can be in different networks.

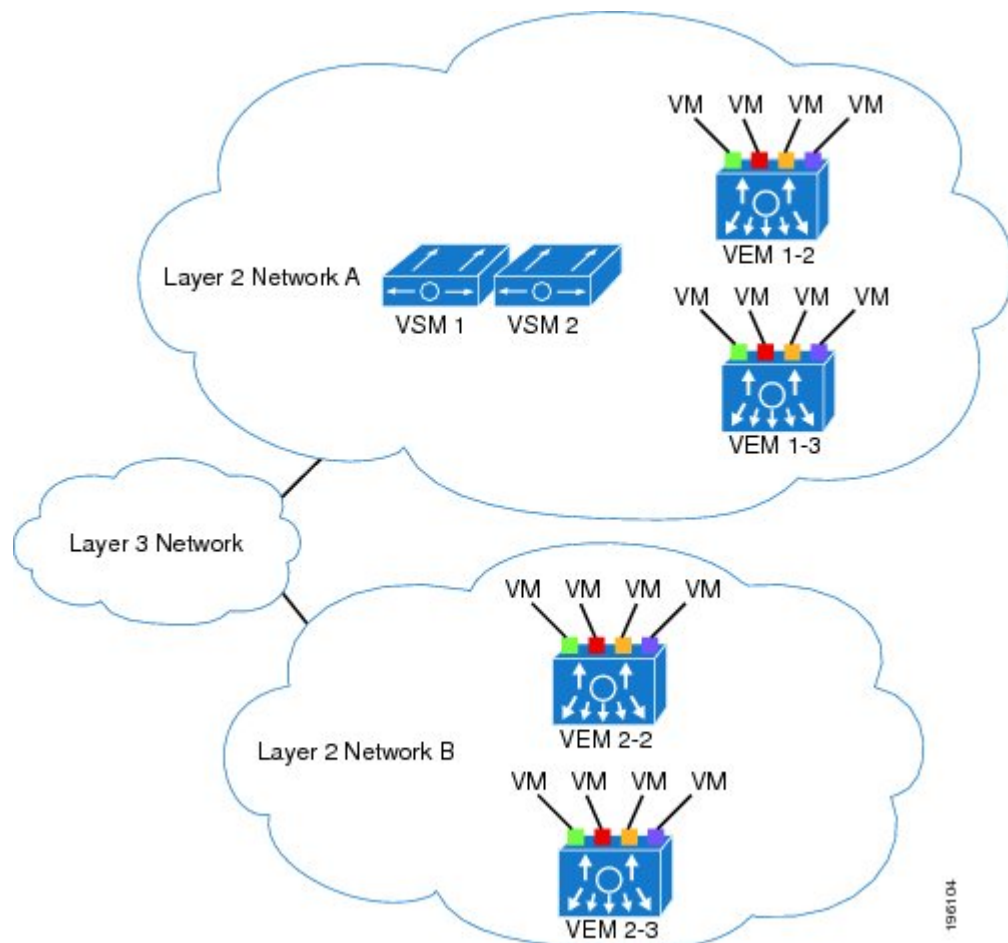
Another VSM cannot control a host that is outside of the Layer 2 network it controls, the host on which it resides must be controlled by another VSM.

To implement Layer 3 control, you must make the following configuration:

- Configure the VSM in L3 control mode.

In this figure, VSM 1 controls VEMs in Layer 2 Network A and VSM 2 controls VEMs in Layer 2 Network B.

**Figure 1: Example of Layer 3 Control IP Connectivity**



## Guidelines and Limitations

- UDP port 4785 is required for Layer 3 communication between the VSM and VEM. If you have a firewall in your network and are configuring Layer 3 control, make sure that UDP port 4785 is open on your upstream switch or firewall device. For more information, see the documentation for your upstream switch or firewall device.
- The capability attribute (Layer 3 control) cannot be inherited from the port profile.
- Different hosts can use different VLANs for Layer 3 control.
- A port profile used for Layer 3 control must be an access port profile. It cannot be a trunk port profile.
- We recommend that if you are using the VMware kernel NIC for Layer 3 Control, you do not use it for any other purpose. For example, do not also use the Layer 3 Control VMware kernel NIC for VMotion or network file system (NFS) mount.

- You must configure control VLANs, packet VLANs, and management VLANs as regular VLANs and not as private VLANs.

## Default Settings

Parameter	Default
Control VLAN (svs-domain)	VLAN 1
Packet VLAN (svs-domain)	VLAN 1
VMware port group name (port-profile)	The name of the port profile
SVS mode (svs-domain)	Layer 3
Switchport mode (port-profile)	Access
State (port-profile)	Disabled
State (VLAN)	Active
Shut state (VLAN)	No shutdown

## Configuring the Domain

### Creating a Domain

You can create a domain name for the Cisco Nexus 1000V that identifies the VSM and VEMs; and then add control and packet VLANs for communication and management. This process is part of the initial setup of the Cisco Nexus 1000V when installing the software. If you need to create a domain after initial setup, you can do so by using this procedure.



#### Note

We recommend the following:

- Use one VLAN for control traffic and a different VLAN for packet traffic.
- Use a distinct VLAN for each instances of Cisco Nexus 1000V (different domains)

#### Before You Begin

Before beginning this procedure, you must be logged in to the CLI in EXEC mode.

You must know the following information:

- If two or more VSMs share the same control and/or packet VLAN, the domain helps identify the VEMs managed by each VSM.
- A unique domain ID for this Cisco Nexus 1000V instance.
- Identity of the VLANs to be used for control and packet traffic.
- The **svs mode** command in the SVS Domain Configuration mode is not used and has no effect on a configuration.

### Procedure

	Command or Action	Purpose
<b>Step 1</b>	switch# <b>config terminal</b>	Places you in global configuration mode.
<b>Step 2</b>	switch(config)# <b>svs-domain</b>	Places you in SVS domain configuration mode.
<b>Step 3</b>	switch(config-svs-domain)# <b>domain id number</b>	Creates the domain ID for this Cisco Nexus 1000V instance.
<b>Step 4</b>	switch(config-vlan)# <b>show svs domain</b>	(Optional) Displays the domain configuration.
<b>Step 5</b>	switch(config-vlan)# <b>exit</b>	Returns you to global configuration mode.
<b>Step 6</b>	switch(config)# <b>copy running-config startup-config</b>	(Optional) Copies the running configuration to the startup configuration.

```

switch# config terminal
switch(config)# svs-domain
switch(config-svs-domain)# domain id 100

switch(config-vlan)# exit

switch(config)# show svs domain
SVS domain config:
Domain id: 211
Control vlan: NA
Packet vlan: NA
Control mode: L3
Switch guid: 20ccba13-3738-60db-b077-91a774b41eda
L3 control interface: mgmt0
Status: Config push to VC successful.
Control type multicast: No

Note: Control VLAN and Packet VLAN are not used in L3 mode
switch(config)#
switch(config)# copy run start
[#####] 100%
switch(config)#

```

## Changing to Layer 3 Transport

This procedure requires you to disable the control and packet VLANs. You cannot change to Layer 3 Control before disabling the control and packet VLANs.

## Before You Begin

Before beginning this procedure, you must be logged in to the CLI in EXEC mode.

You have already configured the Layer 3 interface (mgmt 0 or control 0) and assigned an IP address.

## Procedure

	Command or Action	Purpose
<b>Step 1</b>	switch(config)# <b>show svcs domain</b>	Displays the existing domain configuration, including control and packet VLAN IDs.
<b>Step 2</b>	switch# <b>config t</b>	Places you in global configuration mode.
<b>Step 3</b>	switch(config)# <b>svcs-domain</b>	Places you in SVS domain configuration mode.
<b>Step 4</b>	switch(config-svs-domain)# <b>no packet vlan</b>	Removes the packet VLAN configuration.
<b>Step 5</b>	switch(config-svs-domain)# <b>no control vlan</b>	Removes the control VLAN configuration.
<b>Step 6</b>	switch(config-svs-domain)# <b>show svcs domain</b>	(Optional) Displays the domain configuration.
<b>Step 7</b>	switch(config-svs-domain)# <b>svcs mode L3 interface { mgmt0   control0 }</b>	Configures Layer 3 transport mode for the VSM domain.  If configuring Layer 3 transport, then you must designate which interface to use; and the interface must already have an IP address configured.
<b>Step 8</b>	switch(config-vlan)# <b>show svcs domain</b>	(Optional) Displays the new Layer 3 control mode configuration for this VSM domain.
<b>Step 9</b>	switch(config-svs-domain)# <b>[no] control type multicast</b>	Configures the control type multicast in Layer 3 mode on the VSM.
<b>Step 10</b>	switch(config-vlan)# <b>show svcs domain</b>	(Optional) Displays the control type multicast status in Layer 3 mode on the VSM.
<b>Step 11</b>	switch(config)# <b>copy running-config startup-config</b>	(Optional) Copies the running configuration to the startup configuration.

```
switch(config)# show svcs domain
SVS domain config:
  Domain id: 100
  Control vlan: 100
  Packet vlan: 101
  L2/L3 Control mode: L2
  L3 control interface: NA
  Status: Config push to VC successful.
switch# config t
```

```

switch(config)# svcs-domain
switch(config-svs-domain)# no packet vlan
switch(config-svs-domain)# no control vlan
switch(config)# show svcs domain
SVS domain config:
  Domain id: 100
  Control vlan: 1
  Packet vlan: 1
  L2/L3 Control mode: L2
  L2/L3 Control interface: NA
  Status: Config push to VC successful.
switch(config-svs-domain)# svcs mode l3 interface mgmt0
SVS domain config:
  Domain id: 100
  Control vlan: 1
  Packet vlan: 1
  L2/L3 Control mode: L3
  L3 control interface: mgmt0
  Status: Config push to VC successful.
switch(config-svs-domain)# show svcs domain

switch(config-svs-domain)# control type multicast
switch(config)# show svcs domain
SVS domain config:
  Domain id: 343
  Control vlan: NA
  Packet vlan: NA
  L2/L3 Control mode: L3
  L3 control interface: mgmt0
  Status: Config push to VC successful.
  Control type multicast: Yes

switch(config-svs-domain)# no control type multicast
switch(config)# show svcs domain
SVS domain config:
  Domain id: 343
  Control vlan: NA
  Packet vlan: NA
  L2/L3 Control mode: L3
  L3 control interface: mgmt0
  Status: Config push to VC in progress.
  Control type multicast: No
  Limitation : Control type multicast is configured. It is not applicable in svcs L2 mode.

switch(config-svs-domain)# copy running-config startup-config
[#####] 100%
switch(config-svs-domain)#

```

## Feature History for the VSM Domain

This table only includes updates for those releases that have resulted in additions to the feature.

Feature Name	Releases	Feature Information
VSM Domain	Release 5.2(1)IC1(1.1)	This feature was introduced.