Installing the Cisco VSG on a Cisco Cloud Services Platform Virtual Services Appliance

This chapter contains the following sections:

# Information About Installing the Cisco VSG on the Cisco Cloud Services Platform

The Cisco VSG software is provided with the other virtual service blade (VSB) software in the Cisco Cloud Services Platform bootflash: repository directory. The Cisco Cloud Services Platform has up to six virtual

service blades (VSBs) on which you can choose to place a Cisco VSG, VSM, or Network Analysis Module (NAM).

Figure 1: Cisco Cloud Services Platform Architecture Showing Virtual service Blades Usage
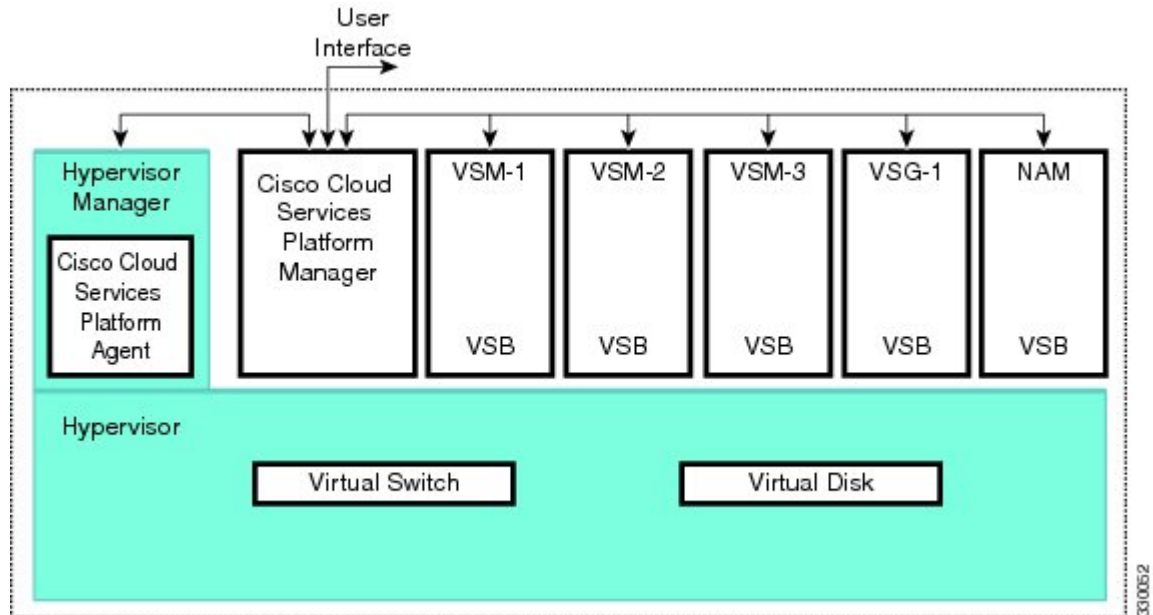
Prerequisites for Installing Cisco VSG on Cisco Cloud Services Platform

• You must first install the Cisco Cloud Services Platform Virtual Services Appliance and connect it to the network. For procedures on installing the hardware, see the *Cisco Cloud Services Platform Virtual Services Appliance Hardware Installation Guide*.

• After you install the hardware appliance and connect it to the network, you can configure the Cisco Cloud Services Platform management software, migrate existing VSMs residing on a VM to the Cisco Cloud Services Platform as virtual service blades (VSBs), and create and configure new VSBs that might host the Cisco VSG. For procedures on configuring the software, see the *Cisco Cloud Services Platform Software Configuration Guide*.

Guidelines and Limitations

• The Cisco Cloud Services Platform appliance and its hosted Cisco VSG VSBs must share the same management VLAN.

• Unlike the data and high availability (HA) VLANs that are set when a Cisco VSG VSB is created, a Cisco VSG VSB inherits its management VLAN from the Cisco Cloud Services Platform.

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Caution   Do not change the management VLAN on a VSB. Because the management VLAN is inherited from the Cisco Cloud Services Platform, any changes to the management VLAN are applied to both the Cisco Cloud Services Platform and all of its hosted VSBs.

Installing a Cisco VSG on a Cisco Cloud Services Platform

You can install the Cisco VSG on a Cisco Nexus 1000V as a virtual service blade (VSB).

Before You Begin

- Log in to the CLI in EXEC mode.

- Know the name of the Cisco VSG VSB that you want to create.

- Whether you are using a new ISO file from the bootflash repository folder or from an existing VSB, do one of the following:

  – If you are using a new ISO file in the bootflash repository, you know the filename.

  Cisco VSG: nexus-1000v.VSG2.1.iso

  – If you are using an ISO file from an existing VSB, you must know the name of the VSB type. This procedure includes information about identifying this name.

- Know the following properties for the Cisco VSG VSB:

  – HA ID –Management IP address

  – Cisco VSG name

  – Management subnet mask length

  – Default gateway IPV4 address

  – Administrator password

  – Data and HA VLAN IDs

- This procedure shows you how to identify and assign data and HA VLANs for the Cisco VSG VSB. Do not assign a management VLAN because the management VLAN is inherited from the Cisco Nexus 1000V.

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SUMMARY STEPS

1. switch# **configure terminal**
2. (config)# **virtual-service-blade** *name*
3. (config-vsb-config)# **show virtual-service-blade-type summary**
4. (config-vsb-config)# **virtual-service-blade-type** [**name** *name* | **new** *iso file name*]
5. (config-vsb-config)# **description** *description*
6. (config-vsb-config)# **show virtual-service-blade name** *name*
7. (config-vsb-config)# **interface** *name* **vlan** *vlanid*
8. Repeat Step 7 to apply additional interfaces
9. (config-vsb-config)# **enable [primary | secondary]**
10. (config-vsb-config)# **show virtual-service-blade name** *name*
11. (Optional) (config-vsb-config)# **copy running-config startup-config**

DETAILED STEPS

	Command or Action	**Purpose**
Step 1	switch# **configure terminal**	Enters global configuration mode.
Step 2	(config)# **virtual-service-blade** *name*	Creates the named VSB and places you into configuration mode for that service. The name can be an alphanumeric string of up to 80 characters.
Step 3	(config-vsb-config)# **show virtual-service-blade-type summary**	(Optional) Displays a summary of all VSB configurations by type name, such as Cisco VSG, VSM, or NAM. You use this type name (in this case, the name for the Cisco VSG) in the next step.
Step 4	(config-vsb-config)# **virtual-service-blade-type** [**name** *name*	**new** *iso file name*]	Specifies the type and name of the software image file to add to this Cisco VSG VSB: • Use the new keyword to specify the name of the new Cisco VSG ISO software image file in the bootflash repository folder. • Use the **name** keyword to specify the name of the existing Cisco VSG VSB type. Enter the name of an existing type found in the command output.
Step 5	(config-vsb-config)# **description** *description*	(Optional) Adds a description to the Cisco VSG VSB. The *description* is an alphanumeric string of up to 80 characters.
Step 6	(config-vsb-config)# **show virtual-service-blade name** *name*	Displays the Cisco VSG VSB that you have just created including the interface names that you configure in the next step.
Step 7	(config-vsb-config)# **interface** *name* **vlan** *vlanid*	Applies the interface and VLAN ID to this Cisco VSG. Use the interface names from the command output. **Note** If you try to apply an interface that is not present, the following error is displayed: ERROR: Interface name not found in the associated virtual-service-blade type.

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	Command or Action	Purpose
		Caution Do not assign a management VLAN. Unlike data and HA VLANs, the management VLAN is inherited from the Cisco Nexus 1000V.
		Caution To prevent loss of connectivity, you must configure the same data and HA VLANs on the hosted Cisco VSGs.
Step 8	Repeat Step 7 to apply additional interfaces	
Step 9	(config-vsb-config)# **enable [primary | secondary]**	Initiates the configuration of the VSB and then enables it. If you enter the **enable** command without the optional **primary** or **secondary** keywords, it enables both. If you are deploying a redundant pair, you do not need to specify primary or secondary. If you are enabling a nonredundant VSB, you can specify its HA role as follows: • Use the **primary** keyword to designate the VSB in a primary role. • Use the **secondary** keyword to designate the VSB in a secondary role The Cisco Nexus 1000V prompts you for the following: • HA ID • Management IP address • Management subnet mask length • Default gateway IPV4 address • Cisco VSG name • Administrator password
Step 10	(config-vsb-config)# **show virtual-service-blade name** *name*	(Optional) Displays the new VSB for verification. While the Cisco Nexus 1000V management software is configuring the Cisco VSG, the output for this command progresses from in progress to powered on.
Step 11	(config-vsb-config)# **copy running-config startup-config**	(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

This example shows how to configure a Cisco Nexus 1000V appliance VSB as a Cisco VSG:

```
N1110# configure
Enter configuration commands, one per line. End with CNTL/Z.
N1110(config)# virtual-service-blade vsg1
N1110(config-vsb-config)# virtual-service-blade-type new nexus-1000v.VSG2.1.iso
N1110(config-vsb-config)# interface data vlan 72
N1110(config-vsb-config)# interface ha vlan 72
N1110(config-vsb-config)# enable
Enter vsb image: [nexus-1000v.VSG2.1.iso]
Enter HA id[1-4095]: 1233
Management IP version [V4/V6]: [V4]
```

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```
Enter Management IP address: 10.193.73.42
Enter Management subnet mask: 255.255.248.0
IPv4 address of the default gateway: 10.193.72.1
Enter HostName: vsg-1
Enter the password for 'admin': Hello_123
N1110(config-vsb-config)# end
N1110#
```

This example show how to install the Cisco VSG on a Cisco Nexus 1000V as a VSB.

```
N1110# configure
N1110(config)# virtual-service-blade vsg-1
N1110(config-vsb-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
    VSG-1                               vsg-1
    --------------------------------------------------------------------------------

N1110(config-vsb-config)# virtual-service-blade-type new nexus-1000v.VSG2.1.iso
or
N1110(config-vsb-config)# show virtual-service-blade name vsg-1

N1110(config-vsb-config)# description vsg-1 for Tenant1
N1110(config-vsb-config)# show virtual-service-blade name vsg-1
--------------------------------------------------------------------------------
    virtual-service-blade vsg-1
    Description:
    Slot id: 2
    Host Name:
    Management IP:
    VSB Type Name : VSG-2.1
    Interface: ha vlan: 0
    Interface: management vlan: 231
    Interface: data vlan: 0
    Interface: internal vlan: NA
    Ramsize: 2048
    Disksize: 3
    Heartbeat: 0
    HA Admin role: Primary
    HA Oper role: NONE
    Status: VSB NOT PRESENT
    Location: PRIMARY
    SW version:
    HA Admin role: Secondary
    HA Oper role: NONE
    Status: VSB NOT PRESENT
    Location: SECONDARY
    SW version:
    VSB Info:
--------------------------------------------------------------------------------
N1110(config-vsb-config)# interface data vlan 1044
or
N1110(config-vsb-config)# interface ha vlan 1045

N1110(config-vsb-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:Hostname
    Enter the password for 'admin': Hello_123
--------------------------------------------------------------------------------
N1110(config-vsb-config)# show virtual-service-blade name vsg-1
--------------------------------------------------------------------------------
    virtual-service-blade vsg-1
    Description:
    Slot id: 1
    SW version: 4.0(4)SV2(1)
    Host Name: vsg-1
```

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```
        Management IP: 10.78.108.40
        VSB Type Name : VSG-1.1
        Interface: ha vlan: 1044
        Interface: management vlan: 1032
        Interface: data vlan: 1045
        Interface: internal vlan: NA
        Ramsize: 2048
        Disksize: 3
        Heartbeat: 1156
        HA Admin role: Primary
        HA Oper role: STANDBY
        Status: VB POWERED ON
        Location: PRIMARY
        HA Admin role: Secondary
        HA Oper role: ACTIVE
        Status: VB POWERED ON
        Location: SECONDARY
        VB Info:
        Domain ID : 1054
--------------------------------------------------------------------------------
N1110(config-vsb-config)# copy running-config startup-config
```

This example shows how to display a virtual service blade summary on the Cisco Nexus 1000V:

```
N1110# show virtual-service-blade summary
--------------------------------------------------------------------------------
Name     Role        State                   Nexus1010-Module
--------------------------------------------------------------------------------
vsg-1    PRIMARY     VSB POWERED ON          Nexus1010-PRIMARY
vsg-1    SECONDARY   VSB POWERED OFF         Nexus1010-SECONDARY
vsg9     PRIMARY     VSB NOT PRESENT         Nexus1010-PRIMARY
vsg9     SECONDARY   VSB DEPLOY IN PROGRESS  Nexus1010-SECONDARY
nam_1    PRIMARY     VSB POWERED OFF         Nexus1010-PRIMARY
nam_1    SECONDARY   VSB NOT PRESENT         Nexus1010-SECONDARY
vsgc1    PRIMARY     VSB POWERED ON          Nexus1010-PRIMARY
vsgc1    SECONDARY   VSB POWERED ON          Nexus1010-SECONDARY
nam_2    PRIMARY     VSB POWERED OFF         Nexus1010-PRIMARY
nam_2    SECONDARY   VSB NOT PRESENT         Nexus1010-SECONDARY
```

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