



## CHAPTER 7

# Migrating a VSB to Cisco Nexus 1110 Series

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This chapter describes how to move or migrate a VSB to from Cisco Nexus 1010 series to Cisco Nexus 1110 Series and includes the following sections:

- [Information About Migrating a VSB, page 7-1](#)
- [Guidelines and Limitations, page 7-1](#)
- [Migrating a VSB to the Cisco Nexus 1110 Series, page 7-2](#)
- [Migrating OVA to Cisco Nexus Virtual Services Appliance Product Family, page 7-7](#)
- [Verifying the Migration, page 7-8](#)
- [Additional References, page 7-9](#)
- [Feature History for Migration, page 7-10](#)

## Information About Migrating a VSB

After you have installed the Cisco Nexus Virtual Services Appliance, you can move, or migrate your VSBs from Cisco Nexus 1010 series to the Cisco Nexus 1110 Series. For information on VSB, see [Information About Virtual Service Blades, page 4-1](#).

## Guidelines and Limitations

Follow these guidelines and limitations when moving or migrating a VSB from from Cisco Nexus 1010 series to the Cisco Nexus 1110 Series:

- HA pair cannot be formed with Cisco Nexus 1110-S and Cisco Nexus 1110-X. HA pair can only be formed with the same hardware.
- You must use the same management VLAN for both Cisco Nexus 1010 series and Cisco Nexus 1110 Series.
- You must use the same RAM size and disk size for the new VSB on Cisco Nexus Virtual Services Appliance as those for the migrating VSB on Cisco Nexus 1110 Series.

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## Migrating a VSB to the Cisco Nexus 1110 Series

Use this procedure to move, or migrate, a VSB to the Cisco Nexus 1110 Series without service interruption. The migration involves the following steps:

- 
- Step 1** Verify that the Cisco Nexus 1010 series has the VSBs configured that need to be migrated to Cisco Nexus 1110 Series.
  - Step 2** Set up Cisco Nexus 1110 Series in a redundant HA pair. See *Cisco Nexus Virtual Services Appliance Software Installation and Upgrade Guide, Release 4.2(1)SP1(5.1)*.
  - Step 3** Migrate the HA VSBs like VSM and VSG to Cisco Nexus 1110 Series. See [Migrating HA VSB to Cisco Nexus 1110 Series, page 7-2](#).
  - Step 4** Migrate the non HA VSBs like NAM to Cisco Nexus 1110 Series. See [Migrating Non HA VSB to Cisco Nexus 1110 Series, page 7-6](#).
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## Migrating HA VSB to Cisco Nexus 1110 Series

### BEFORE YOU BEGIN

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

- You have installed a primary and secondary Cisco Nexus 1110 Series in HA mode.
- You are logged in to the CLI of the Cisco Nexus 1110 Series in EXEC mode.
- You know the name of the VSB that you want to move or migrate from the Cisco Nexus 1010 series.
- When creating the secondary virtual service, use the same information that you used for the primary VSB for the following:
  - ISO filename
  - Management IP address
  - Domain ID
  - Hostname
  - Default gateway
  - Control and packet VLAN IDs




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**Note** If you use a value that results in a mismatch with the Cisco Nexus 1110 Series, then the synchronization between the Cisco Nexus 1110 Series and the Cisco Nexus 1010 series overwrites your configuration on the Cisco Nexus 1010 series.

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- When creating the secondary virtual service, use the same information used for the VSB for the following:
  - RAM size
  - Disk size
- Designate the secondary VSM as active. If primary VSM is active, then change it to make the secondary VSM active

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## DETAILED STEPS

- Step 1** From the CLI of the primary VSB on Cisco Nexus 1010, use the following command to initiate a manual switchover, and then shutdown the primary VSB.

```
config t
```

```
virtual-service-blade name
```

```
login virtual-service-blade name primary
```

After logging into the VSB, use the following command to initiate a manual switchover.

```
system switchover
```

When the switchover completes and the CLI returns to the Cisco Nexus 1010, use the following command to shut the primary VSB.

```
shut primary
```

- Step 2** From the CLI of the active Cisco Nexus 1110 Series, use the following commands to create a primary virtual service for the VSB that you want to migrate. Use the same information that you used to create the VSB on Cisco Nexus 1010.

```
config t
```

```
virtual-service-blade name
```

```
virtual-service-blade-type new iso filename
```

```
enable primary
```

**Example:**

```
switch# config t
switch(config)# virtual-service-blade VB-1
switch(config-vs-b-config)# virtual-service-blade-type new dcos_vsm.iso
switch(config-vs-b-config)# interface control vlan 1322
switch(config-vs-b-config)# interface packet vlan 1323
switch(config-vs-b-config)# enable primary
Enter domain id[1-4095]: 1322
Management IP version [V4/V6]: [V4]
Enter Management IP address: 10.78.109.67
Enter Management subnet mask: 255.255.255.224
IPv4 address of the default gateway: 10.78.109.65
Enter HostName: switch
Enter the password for 'admin': xz35vb1zx
switch(config-vs-b-config)#
```

- Step 3** Verify that the configuration is complete.

```
show virtual-service-blade summary
```

**Example:**

```
switch(config-vs-b-config)# show virtual-service-blade summary
```

```
-----
Name                Role      State                Nexus1010-Module
-----
VB-1                PRIMARY  VSB DEPLOY IN PROGRESS  Nexus1010-PRIMARY
VB-1                SECONDARY VSB NOT PRESENT        Nexus1010-SECONDARY
-----
```

**Example:**

```
switch(config-vs-b-config)# show virtual-service-blade summary
```

```
-----
```

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Name	Role	State	Nexus1010-Module
VB-1	PRIMARY	VSB POWERED ON	Nexus1010-PRIMARY
VB-1	SECONDARY	VSB NOT PRESENT	Nexus1010-SECONDARY

Once you have created the virtual service on the primary Cisco Nexus 1110 Series, an HA pair forms between the secondary VSB on the Cisco Nexus 1010 series and the primary virtual service on the Cisco Nexus 1110 Series.

- Step 4** From the CLI of the primary VSB on the Cisco Nexus 1110 Series, use the following command to verify the redundancy status of the VSBs.

**show system redundancy status**

If the output indicates the following, then you can proceed with a system switchover.

- The presence of an active VSB
- The presence of a standby VSB in the HA standby redundancy state

**Example:**

```
switch# show system redundancy status
Redundancy role
-----
administrative: primary
operational: primary
Redundancy mode
-----
administrative: HA
operational: HA
This supervisor (sup-1)
-----
Redundancy state: Standby
Supervisor state: HA standby
Internal state: HA standby
Other supervisor (sup-2)
-----
Redundancy state: Active
Supervisor state: Active
Internal state: Active with HA standby
```

- Step 5** From the CLI of the secondary VSB on the Cisco Nexus 1010, use the following command to initiate a manual switchover to the standby virtual service on the Cisco Nexus 1110 Series.

**config t****virtual-service-blade name****login virtual-service-blade name secondary**

After logging into the VSB, use the following command to initiate a manual switchover.

**system switchover**

When the switchover completes and the CLI returns to the Cisco Nexus 1010, use the following command to shut the secondary VSB.

**shut secondary****Example:**

```
switch# system switchover
-----
2009 Mar 31 04:21:56 n1000v %$ VDC-1 %$ %SYSMGR-2-HASWITCHOVER_PRE_START:
This supervisor is becoming active (pre-start phase).
2009 Mar 31 04:21:56 n1000v %$ VDC-1 %$ %SYSMGR-2-HASWITCHOVER_START:
This supervisor is becoming active.
```

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```
2009 Mar 31 04:21:57 n1000v %$ VDC-1 %$ %SYSMGR-2-SWITCHOVER_OVER: Switchover completed.
2009 Mar 31 04:22:03 n1000v %$ VDC-1 %$ %PLATFORM-2-MOD_REMOVE: Module 1 removed (Serial
number )
switch#
```

Before continuing with the next step, wait until the switchover completes and the standby supervisor becomes active. The following occurs when the switchover is complete:

- The VSB on the Cisco Nexus 1010 reboots.
- The virtual service configuration on the Cisco Nexus 1110 Series is overwritten to match what is on the VSB on the Cisco Nexus 1010.
- The primary virtual service on the Cisco Nexus Virtual Services Appliance is now the active VSB.

**Step 6** From the CLI of the active Cisco Nexus 1110 Series, use the following commands to create a new secondary virtual service. Use the same information that you used to create the primary virtual service.

**config t**

**virtual-service-blade *name***

**enable secondary**

After you enter these commands, the Cisco Nexus 1110 Series prompts you for additional information. Once you have created the secondary virtual service on the active Cisco Nexus 1110 Series, an HA pair is formed between the primary virtual service and the secondary virtual service on the Cisco Nexus 1110 Series.

**Example:**

```
switch# config t
switch(config)# virtual-service-blade VB-1
switch(config-vs-b-config)# enable secondary
Enter vsb image: [dcos_vsm.iso]
Enter domain id[1-4095]: 1322
Management IP version [V4/V6]: [V4]
Enter Management IP address: 10.78.109.67
Enter Management subnet mask length: 27
IPv4 address of the default gateway: 10.78.109.65
Enter HostName: switch
Enter the password for 'admin': xz35vblzx
```

**Step 7** Verify that the configuration is complete.

**show virtual-service-blade summary**

**Example:**

```
switch(config-vs-b-config)# show virtual-service-blade summary
-----
Name                Role        State                Nexus1010-Module
-----
VB-1                PRIMARY    VSB POWERED ON      Nexus1010-PRIMARY
VB-1                SECONDARY  VSB DEPLOY IN PROGRESS Nexus1010-SECONDARY
```

**Example:**

```
switch(config-vs-b-config)# show virtual-service-blade summary
-----
Name                Role        State                Nexus1010-Module
-----
VB-1                PRIMARY    VSB POWERED ON      Nexus1010-PRIMARY
VB-1                SECONDARY  VSB POWERED ON      Nexus1010-SECONDARY
```

**Step 8** You have completed this procedure.

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The VSB is migrated from the Cisco Nexus 1010 series to the Cisco Nexus 1110 Series

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## Migrating Non HA VSB to Cisco Nexus 1110 Series

Migrating a non HA VSB involves the following steps:

- 
- Step 1** From the CLI of Cisco Nexus Virtual Services Appliance, use the following commands to power off the non HA VSB on Cisco Nexus Virtual Services Appliance.
- ```

config t
virtual-service-blade name
shutdown

```
- Step 2** Export non HA VSB to Cisco Nexus Virtual Services Appliance. See [Creating a VSB Backup File, page 6-4](#).
- Step 3** Copy a VSB configuration file to external storage. See [Copying the VSB Backup File to External Storage, page 6-7](#).
- Step 4** Import non HA VSB to Cisco Nexus 1110 Series. See [Importing a VSB Backup File, page 6-8](#).
- Step 5** From the CLI of Cisco Nexus 1110 Series, use the following commands to power on the imported non HA VSB on Cisco Nexus 1110 Series.
- ```

config t
virtual-service-blade name
no shutdown

```

### **Example 7-1 Example for Migrating non HA VSB to Cisco Nexus 1110 Series**

These examples show how to migrate non HA VSB to Cisco Nexus 1110 Series:

On Cisco Nexus Virtual Services Appliance CLI:

```

switch#configure terminal
switch(config)#virtual-service-blade NAM
switch(config-vsb-config)#shut
switch(config-vsb-config)#export
Note: export started..
Note: please be patient..
...
Note: export completed...
switch(config-vsb-config)# copy bootflash:export-import/1/ ftp:
Enter the source filename: Vdisk1.img.tar.00
Enter vrf (If no input, current vrf 'default' is considered):
Enter hostname for the ftp server: 10.78.109.51
Enter username: administrator
Password:
***** Transfer of file Completed Successfully *****

```

On Cisco Nexus 1110 Series CLI:

```

switch#configure terminal
switch(config)#copy ftp: bootflash:export-import
Enter source filename: Vdisk1.img.tar.00
Enter vrf (If no input, current vrf 'default' is considered):

```

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```

Enter hostname for the ftp server: 10.78.109.51
Enter username: administrator
Password:
***** Transfer of file Completed Successfully *****

switch#configure terminal
switch(config)#virtual-service-blade NAM
switch(config-vs-b-config)#import primary Vdisk1.img.tar.00
Note: import started..
Note: please be patient..
...
Note: Import cli returns check VSB status for completion
switch(config-vs-b-config)#no shutdown

```

## Migrating OVA to Cisco Nexus Virtual Services Appliance Product Family

You can use this procedure to export an OVA from ESX and import it into Cisco Nexus Virtual Services Appliance product family as a VSB. This procedure involves running the migration tool script on the OVA, and then taking the generated tar file and use it for importing into Cisco Nexus Virtual Services Appliance product family.

### BEFORE YOU BEGIN

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

- You must have the following binaries installed:
  - /bin/cp
  - /bin/mkdir
  - bin/rm
  - bin/mv
  - bin/tar
  - vmware-vdiskmanager
- You must save the configuration on the VSB before export on ESX.

### DETAILED STEPS

Migrating an OVA file to Cisco Nexus Virtual Services Appliance involves the following steps:

- 
- Step 1** Export the VSB to ESX and then copy the exported OVA into the **esx\_migration\_tool/** directory.
  - Step 2** Run the migration tool script on the OVA.

If the version number of the VSB is supported by the migration tool, then use the following command to run the migration script.

```
./migration.sh <OVA file name > <vsb_type> <cookie> <ha-role> <vmware-vdiskmanager_location>
[-v vsb_version ]
```

where

- OVA file name: The name of the exported OVA file from ESX

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- VSB type: VSG type such as VSM, VSG, NAM
- Cookie: A positive integer unique for every slot. The cookie value must be the same of primary and secondary Cisco Nexus Virtual Services Appliance.
- HA role: Either primary or secondary, and should be imported with the same HA-role in Cisco Nexus Virtual Services Appliance.
- Vmware-vdiskmanager location: The path in which the vmware-vdiskmanager binary can be found.
- VSB version: The version number of the particular VSB.
- Vbtype\_xml\_file\_path: The complete file path where the xml template file of the VSB is placed.

Example:

```
./migration.sh VSM.ova VSM 123456 primary /usr/bin/ -v 4.2(1)SV1(4a)
```

If the version number of the VSB is not supported by the migration tool, then use the following command to run the migration script.

```
./migration.sh <OVA file name > <vsb_type> <cookie> <ha-role> <vmware-vdiskmanager_location> [-f vbtype_xml_file_path]
```

Example:

```
./migration.sh VSM.ova VSM 678910 secondary /usr/bin/ -f /tmp/ovf_vbtype.xml
```

### Step 3

After the script executes, locate the split tar files in the **esx\_migration\_tool/** directory.

### Step 4

Import the VSB to the Cisco Nexus Virtual Services Appliance using the tar file. See [Importing a VSB Backup File](#), page 6-8.

### Step 5

Configure the interface VLAN values then power on the VSB.

## Verifying the Migration

To verify the migration, use the following commands:

Command	Purpose
<b>show virtual-service-blade summary</b>	Displays the redundancy state (active or standby) and the redundancy role (primary or secondary) for each virtual service.
<b>show system redundancy status</b>	Displays the redundancy state (active or standby) and the redundancy role (primary or secondary) for the Cisco Nexus Virtual Services Appliances. See <a href="#">Example 7-3 on page 7-9</a> .

### Example 7-2 Virtual Service Blade Configuration

These examples show how to display and verify virtual service blades during and after migration:

```
switch(config-vs-b-config)# show virtual-service-blade summary
```

```
-----
Name                Role        State                Nexus1010-Module
-----
VB-1                PRIMARY    VSB NOT PRESENT     Nexus1010-PRIMARY
VB-1                SECONDARY  VSB DEPLOY IN PROGRESS Nexus1010-SECONDARY
```



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```
switch(config-vs-b-config)# show virtual-service-blade summary
```

```
-----
Name                Role        State                Nexus1010-Module
-----
VB-1                PRIMARY    VSB NOT PRESENT     Nexus1010-PRIMARY
VB-1                SECONDARY  VSB POWERED ON      Nexus1010-SECONDARY
```

### **Example 7-3 System Configuration**

This example shows how to display and verify the system configuration during migration:

```
switch# show system redundancy status
Redundancy role
-----
administrative: primary
operational: primary
Redundancy mode
-----
administrative: HA
operational: HA
This supervisor (sup-1)
-----
Redundancy state: Standby
Supervisor state: HA standby
Internal state: HA standby
Other supervisor (sup-2)
-----
Redundancy state: Active
Supervisor state: Active
Internal state: Active with HA standby
```

## Additional References

For additional information related to implementing system-level HA features, see the following sections:

- [Related Documents, page 7-9](#)
- [Standards, page 7-10](#)
- [MIBs, page 7-10](#)
- [RFCs, page 7-10](#)

## Related Documents

Related Topic	Document Title
Software setup configuration	<i>Cisco Nexus Virtual Services Appliance Software Installation and Upgrade Guide, Release 4.2(1)SP1(5.1)</i>
Virtual service configuration	<a href="#">Configuring Virtual Service Blades, page 4-1</a>

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Related Topic	Document Title
Cisco Nexus Virtual Services Appliance installation	<i>Cisco Nexus Virtual Services Appliance Hardware Installation Guide</i>
Cisco Nexus Virtual Services Appliance commands	<i>Cisco Nexus Virtual Services Appliance Command Reference, Release 4.2(1)SP1(5.1)</i>

## Standards

Standards	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

## MIBs

MIBs	MIBs Link
No MIBs are supported by this feature	

## RFCs

RFCs	Title
No RFCs are supported by this feature	—

## Feature History for Migration

This section provides the migration feature release history.

Feature Name	Releases	Feature Information
VSB Migration	4.0(4)SP1(3)	This feature was introduced.