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

CHAPTER 7

Migrating a VSB to Cisco Nexus 1010-X

This chapter describes how to move or migrate a VSB to Cisco Nexus 1010-X 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 1010-X, page 7-2
- Migrating OVA to Cisco Nexus 1010 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 1010-X, you can move, or migrate your VSBs from Cisco Nexus 1010 to the Cisco Nexus 1010-X. 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 to the Cisco Nexus 1010-X:

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

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

Migrating a VSB to the Cisco Nexus 1010-X

Use this procedure to move, or migrate, a VSB to the Cisco Nexus 1010-X without service interruption. The migration involves the following steps:

Step 1 Verify that the Cisco Nexus 1010 has the VSBs configured that need to be migrated to Cisco Nexus 1010-X.

Step 2 Set up Cisco Nexus 1010-X in a redundant HA pair. See Setting Up the Management Software, page 2-5

Step 3 Migrate the HA VSBs like VSM and VSG to Cisco Nexus 1010-X. See Migrating HA VSB to Cisco Nexus 1010-X, page 7-2.

Step 4 Migrate the non HA VSBs like NAM and DCNM to Cisco Nexus 1010-X. See Migrating Non HA VSB to Cisco Nexus 1010-X, page 7-6.

Migrating HA VSB to Cisco Nexus 1010-X

BEFORE YOU BEGIN

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

- You have installed a primary and secondary Cisco Nexus 1010-X in HA mode.
- You are logged in to the CLI of the Cisco Nexus 1010-X in EXEC mode.
- You know the name of the VSB that you want to move or migrate from the Cisco Nexus 1010.
- 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

Note If you use a value that results in a mismatch with the Cisco Nexus 1010-X, then the synchronization between theCisco Nexus 1010-X and the Cisco Nexus 1010 overwrites your configuration on the Cisco Nexus 1010.

- 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

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

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 1010-X, 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-vsb-config)# virtual-service-blade-type new dcos_vsm.iso
switch(config-vsb-config)# interface control vlan 1322
switch(config-vsb-config)# interface packet vlan 1323
switch(config-vsb-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-vsb-config)#
```

Step 3 Verify that the configuration is complete.

show virtual-service-blade summary

```
Example:
switch(config-vsb-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-vsb-config)# show virtual-service-blade summary

--------------------------------------------------------------------------------
```

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

```
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 1010-X, an HA pair forms between the secondary VSB on the Cisco Nexus 1010 and the primary virtual service on the Cisco Nexus 1010-X.

Step 4 From the CLI of the primary VSB on the Cisco Nexus 1010-X, 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 1010-X.

config t

virtual-service-blade *name*

login virtual-service-blade name secondary

After logging into the VSB, use the following command to nictitate 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.
```

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

```
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 1010-X is overwritten to match what is on the VSB on the Cisco Nexus 1010.
- The primary virtual service on the Cisco Nexus 1010-X is now the active VSB.

Step 6 From the CLI of the active Cisco Nexus 1010-X, 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 1010-X prompts you for additional information. Once you have created the secondary virtual service on the active Cisco Nexus 1010-X, an HA pair is formed between the primary virtual service and the secondary virtual service on the Cisco Nexus 1010-X.

```
Example:
switch# config t
switch(config)# virtual-service-blade VB-1
switch(config-vsb-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': xz35vb1zx
```

Step 7 Verify that the configuration is complete.

show virtual-service-blade summary

```
Example:
switch(config-vsb-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-vsb-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.

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

The VSB is migrated from the Cisco Nexus 1010 to the Cisco Nexus 1010-X

Migrating Non HA VSB to Cisco Nexus 1010-X

Migrating a non HA VSB involves the following steps:

Step 1 From the CLI of Cisco Nexus 1010, use the following commands to power off the non HA VSB on Cisco Nexus 1010.

config t

virtual-service-blade *name*

shutdown

Step 2 Export non HA VSB to Cisco Nexus 1010. 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 1010-X. See Importing a VSB Backup File, page 6-8.

Step 5 From the CLI of Cisco Nexus 1010-X, use the following commands to power on the imported non HA VSB on Cisco Nexus 1010-X.

config t

virtual-service-blade *name*

no shutdown

Example 7-1 Example for Migrating non HA VSB to Cisco Nexus 1010-X

These examples show how to migrate non HA VSB to Cisco Nexus 1010-X:

```
On Cisco Nexus 1010 CLI:

n1010#configure terminal
n1010(config)#virtual-service-blade NAM
n1010(config-vsb-config)#shut
n1010(config-vsb-config)#export
Note: export started..
Note: please be patient..
...
Note: export completed...
n1010(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 1010-X CLI:
n1010-x#configure terminal
n1010-x(config)#copy ftp: bootflash:export-import
Enter 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
```

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

```
Enter username: administrator
Password:
***** Transfer of file Completed Successfully *****

n1010-x#configure terminal
n1010-x(config)#virtual-service-blade NAM
n1010-x(config-vsb-config)#import primary Vdisk1.img.tar.00
Note: import started..
Note: please be patient..
...
Note: Import cli returns check VSB status for completion
n1010-x(config-vsb-config)#no shutdown
```

Migrating OVA to Cisco Nexus 1010 Product Family

You can use this procedure to export an OVA from ESX and import it into Cisco Nexus 1010 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 1010 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 1010 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
- VSB type: VSG type such as VSM, VSG, NAM, DCNM
- Cookie: A positive integer unique for every slot. The cookie value must be the same of primary and secondary Cisco Nexus 1010.

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

- HA role: Either primary or secondary, and should be imported with the same HA-role in Cisco Nexus 1010.
- 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 1010 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
show virtual-service-blade summary	Displays the redundancy state (active or standby) and the redundancy role (primary or secondary) for each virtual service.
show system redundancy status	Displays the redundancy state (active or standby) and the redundancy role (primary or secondary) for the Cisco Nexus 1010s. See Example 7-3 on page 7-9.

Example 7-2 Virtual Service Blade Configuration

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

```
switch(config-vsb-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


switch(config-vsb-config)# show virtual-service-blade summary

--------------------------------------------------------------------------------
Name                Role        State                    Nexus1010-Module
```

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

```
--------------------------------------------------------------------------------
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	Setting Up the Management Software, page 2-1
Virtual service configuration	Configuring Virtual Service Blades, page 4-1
Cisco Nexus 1010 installation	*Cisco Nexus 1010 Virtual Services Appliance Hardware Installation Guide*
Cisco Nexus 1010 commands	*Cisco Nexus 1010 Command Reference, Release 4.2(1)SP1(4)*

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

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.