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Cisco Nexus 1010 Software Configuration Guide, Release 4.0(4)SP1(1)

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Preface

This document describes the Cisco Nexus 1010 and how to configure its software to create and manage virtual service blades.

This preface provides information about the *Cisco Nexus 1010 Software Configuration Guide, Release 4.0(4)SP1(1)* in the following sections:

- [Audience, page v](#)
- [Recommended Reading, page v](#)
- [Organization, page vi](#)
- [Document Conventions, page vi](#)
- [Available Documents, page vii](#)
- [Obtaining Documentation and Submitting a Service Request, page viii](#)

Audience

This document is for network administrators with knowledge of the Cisco Nexus 1000V and experience in the installation, upgrade, and management of Cisco Nexus 1000V VSMs.

Prerequisites

Before configuring your Cisco Nexus 1010 software, make sure you have already connected and configured the uplinks using the instructions in the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.

Recommended Reading

Cisco recommends that you have read and are familiar with the following documentation:

- *Cisco Nexus 1000V Getting Started Guide, Release 4.0(4)SV1(3)*
- *Cisco Nexus 1010 Management Software Release Notes, Release 4.0(4)SP1(1)*
- *Cisco Nexus 1000V Software Installation Guide, Release 4.0(4)SV1(3)*
- *Cisco Nexus 1000V Software Upgrade Guide, Release 4.0(4)SV1(3)*

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- *Cisco VN-Link: Virtualization-Aware Networking* white paper

Organization

This document is organized as follows:

Chapter and Title	Description
Chapter 1, “Overview”	Provides an overview of virtual service blades.
Chapter 2, “Setting Up the Management Software”	Describes how to set up the initial configuration of the Cisco Nexus 1010 software.
Chapter 3, “Setting Up Remote Management”	Describes how to set up remote management in your startup configuration for use in recovering an unreachable Cisco Nexus 1010.
Chapter 4, “Configuring the Uplinks”	Describes how to modify the operational Cisco Nexus 1010 configuration.
Chapter 5, “Configuring Virtual Service Blades”	Describes how to create and configure virtual service blades.
Chapter 6, “Migrating a VSM”	Describes how to move or migrate a virtual service to the Cisco Nexus 1010 or from the Cisco Nexus 1010.
Chapter 7, “Reinstalling or Upgrading the Software”	Describes how to upgrade or reinstall the Cisco Nexus 1010 software in the event of a corrupt disk.
Appendix A, “Cisco Nexus 1010 Configuration Limits”	Provides configuration limits for Cisco Nexus 1010.

Document Conventions

This document uses the following conventions:



Note

Means reader *take note*. Notes contain helpful suggestions or references to material not covered in the manual.



Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.



Tip

Means *the following information will help you solve a problem*.

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Command descriptions use these conventions:

Convention	Description
boldface font	Commands and keywords are in boldface.
<i>italic font</i>	Arguments for which you supply values are in italics.
[]	Elements in square brackets are optional.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Screen examples use these conventions:

screen font	Terminal sessions and information that the switch displays are in screen font.
boldface screen font	Information that you must enter is in boldface screen font.
<i>italic screen font</i>	Arguments for which you supply values are in italic screen font.
< >	Non-printing characters, such as passwords, are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or number sign (#) at the beginning of a line of code indicates a comment line.

Available Documents

This section lists the documents used with the Cisco Nexus 1000 and available on [Cisco.com](http://www.cisco.com) at the following url:

http://www.cisco.com/en/US/products/ps9902/tsd_products_support_series_home.html

General Information

Cisco Nexus 1000V Documentation Roadmap, Release 4.0(4)SV1(3)

Cisco Nexus 1000V Release Notes, Release 4.0(4)SV1(3)

Cisco Nexus 1000V Compatibility Information, Release 4.0(4)SV1(3)

Cisco Nexus 1010 Management Software Release Notes, Release 4.0(4)SP1(1)

Install and Upgrade

Cisco Nexus 1000V Software Installation Guide, Release 4.0(4)SV1(3)

Cisco Nexus 1000V Software Upgrade Guide, Release 4.0(4)SV1(3)

Cisco Nexus 1000V Virtual Ethernet Module Software Installation Guide, Release 4.0(4)SV1(3)

Cisco Nexus 1010 Virtual Services Appliance Hardware Installation Guide

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Configuration Guides

Cisco Nexus 1000V License Configuration Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V Getting Started Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V High Availability and Redundancy Configuration Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V Interface Configuration Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V Layer 2 Switching Configuration Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V Port Profile Configuration Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V Quality of Service Configuration Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V Security Configuration Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V System Management Configuration Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1010 Software Configuration Guide, Release 4.0(4)SP1(1)

Programming Guide

Cisco Nexus 1000V XML API User Guide, Release 4.0(4)SV1(3)

Reference Guides

Cisco Nexus 1000V Command Reference, Release 4.0(4)SV1(3)
Cisco Nexus 1000V MIB Quick Reference
Cisco Nexus 1010 Command Reference, Release 4.0(4)SP1(1)

Troubleshooting and Alerts

Cisco Nexus 1000V Troubleshooting Guide, Release 4.0(4)SV1(3)
Cisco Nexus 1000V Password Recovery Guide
Cisco NX-OS System Messages Reference

Network Analysis Module Documentation

Cisco Network Analysis Module Software Documentation Guide, 4.2
Cisco Nexus 1000V NAM Virtual Service Blade Installation and Configuration Guide
Network Analysis Module Command Reference Guide, 4.2
User Guide for the Cisco Network Analysis Module Virtual Service Blades, 4.2
Cisco Network Analysis Module Software Release Notes, 4.2

Obtaining Documentation and Submitting a Service Request

For information about obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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CHAPTER 1

Overview

This chapter describes the Cisco Nexus 1010 appliance and hosted virtual service blades. This chapter includes the following sections:

- [Description, page 1-1](#)
- [Comparison with a Virtual Machine, page 1-2](#)
- [Cisco Integrated Management Controller, page 1-3](#)
- [Virtual Service Blades, page 1-3](#)
- [Uplinks, page 1-6](#)
- [Software Included, page 1-12](#)
- [Getting Started With Cisco Nexus 1010, page 1-13](#)
- [Flow Chart: Installing and Configuring the Cisco Nexus 1010, page 1-13](#)
- [Replacing a Cisco Nexus 1010, page 1-15](#)

Description

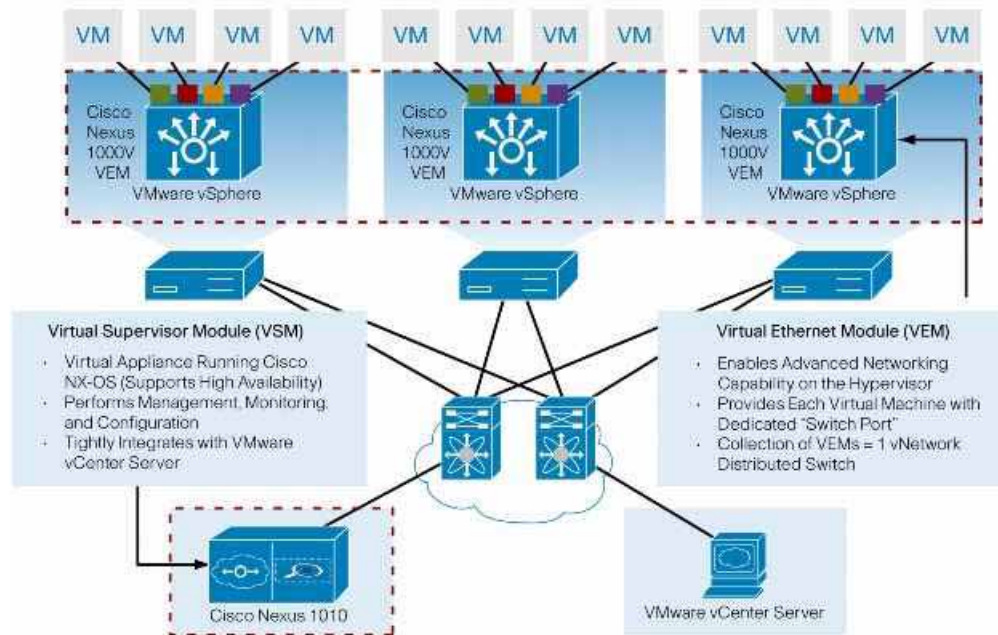
The Cisco Nexus 1010 is a networking appliance that hosts four Cisco Nexus 1000V virtual supervisor modules (VSMs) and a Cisco Network Analysis Module (NAM). The Cisco Nexus 1010 provides dedicated hardware for the VSM. VSMs that were hosted on VMware virtual machines can now be hosted on a Cisco Nexus 1010 appliance. This allows you to install and manage the VSM like a standard Cisco switch. The modules (VSM or NAM) managed by the Cisco Nexus 1010 are called virtual service blades (VSBs). For more information about VSBs, see the [“Virtual Service Blades” section on page 1-3](#).

[Figure 1-1](#) shows how the Cisco Nexus 1010 hosts a Cisco Nexus 1000V VSM and its VEMs in your network.

The Cisco Nexus 1010 requires VMware vSphere 4 Enterprise+, and works with all Ethernet switches and all VMware compatible servers.

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Figure 1-1 Cisco Nexus 1010 Virtual Services Appliance Architecture



Comparison with a Virtual Machine

Table 1-1 compares running a VSM on a Cisco Nexus 1010 with running a VSM on a virtual machine.

Table 1-1 VM and Cisco Nexus 1010 Comparison

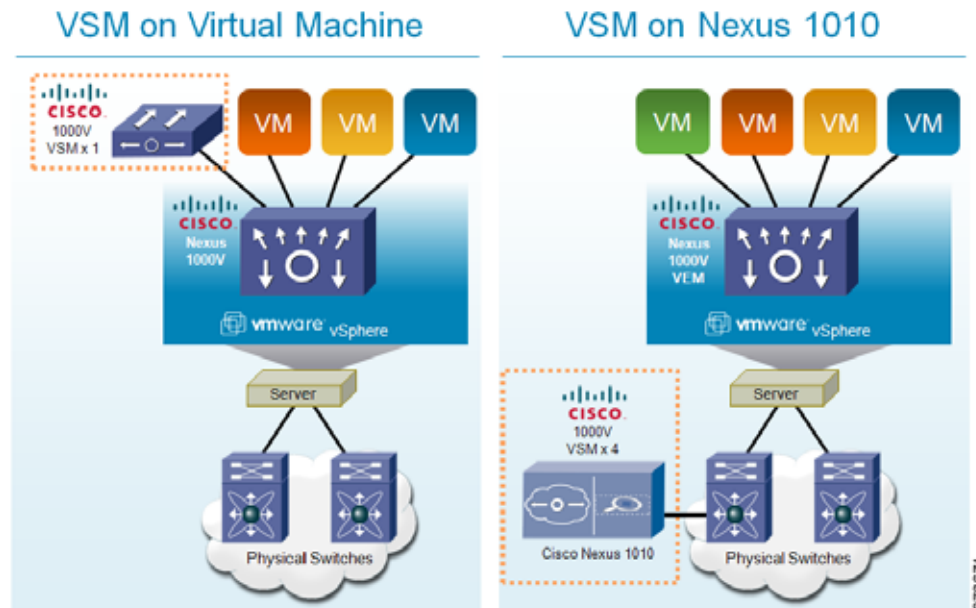
Feature	Virtual Machine	Cisco Nexus 1010
Host (ESX or ESXi) Management Capacity	64	256 ¹
VSM with Cisco NX-OS high availability	Yes	Yes
VEM running on vSphere 4 Enterprise Plus	Yes	Yes
Cisco Nexus 1000 features and scalability	Yes	Yes
Software-only switch	Yes	No
Dedicated services appliance, such as Cisco NAM	No	Yes
Installation like a standard Cisco switch	No	Yes
Network Team manages the switch hardware	No	Yes

1. 64 hosts per VSM X 4 VSMs

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Figure 1-2 compares running a VSM on a Cisco Nexus 1010 with running a VSM on a virtual machine.

Figure 1-2 VM and Cisco Nexus 1010 Comparison



Cisco Integrated Management Controller

The Cisco Integrated Management Controller (CIMC) is a software interface included with the Cisco Nexus 1010. CIMC allows you to configure serial over LAN (SoL) access and set up remote management in the event the device becomes unreachable. For more information about remote management, see the [“Setting Up Remote Management”](#) section on page 3-1

When installing the Cisco Nexus 1010, you have the option to configure the CIMC interface. To configure the CIMC software while installing the Cisco Nexus 1010, see the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.

Virtual Service Blades

The modules (VSM or NAM) hosted, created, and managed by the Cisco Nexus 1010 are called virtual service blades (VSBs). VSBs are created using ISO files found in the Cisco Nexus 1010 bootflash repository. The ISO defines the following for a VSB:

- Required number of interfaces
- Type of virtual service blade
 - [Cisco Nexus 1000V VSM Virtual Service Blade, page 1-4](#)
 - [Cisco Network Analysis Module Virtual Service Blade, page 1-5](#)
- Required hard disk emulation
- Disk and RAM defaults

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Cisco Nexus 1000V VSM Virtual Service Blade

The Cisco Nexus 1010 can host up to four 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; and the Cisco Nexus 1010 and the multiple virtual switches it hosts are viewed as a cluster of switches.

You can create redundant virtual supervisor modules (VSMs) on the Cisco Nexus 1010 with the Cisco Nexus 1000V ISO image located in bootflash. The image is copied to a new VSB when you create it. Once you have created 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:

- [VSM Management VLAN, page 1-4](#)
- [VSM High Availability, page 1-4](#)

To create a VSM virtual service blade, see the [“Creating a Virtual Service Blade” procedure on page 5-1](#).

VSM Management VLAN

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 VSB is created, the management VLAN is inherited.

Do not change the management VLAN on a VSB. Since the management VLAN is inherited from the Cisco Nexus 1010, if you change it, then the change is applied to both the Cisco Nexus 1010 and all of its hosted Cisco Nexus 1000V VSMs.

VSM High Availability

High availability is configured for the redundant VSB pairs that you create on the Cisco Nexus 1010.

Not all VSBs are active on the active Cisco Nexus 1010. As long as there is connectivity between the active and standby Cisco Nexus 1010, access through a serial connection is maintained to any VSB. When one Cisco Nexus 1010 fails, the remaining Cisco Nexus 1010 becomes active and all VSBs in the standby state on that Cisco Nexus 1010 become active on their own.

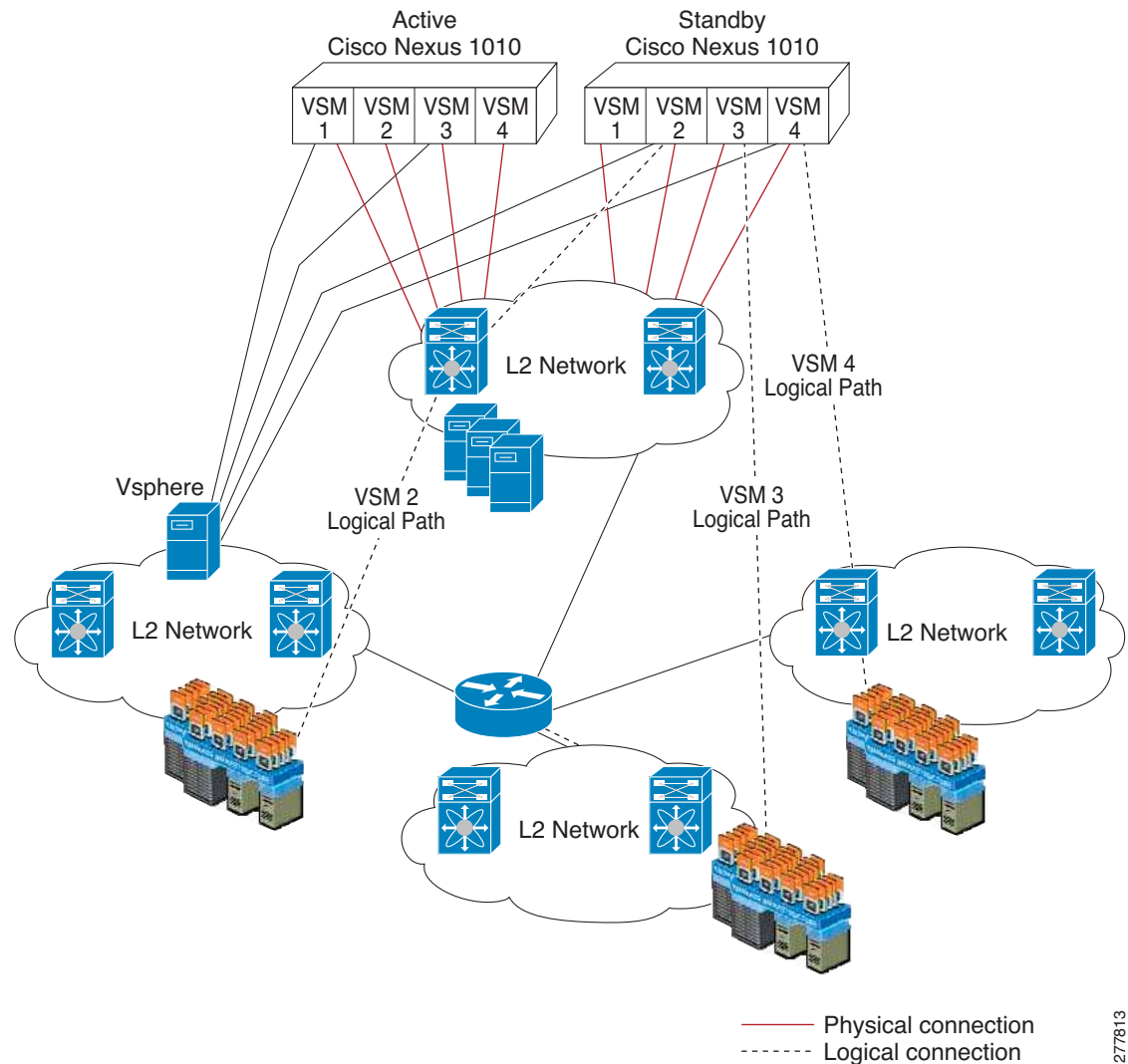
A VSB can be removed completely from both redundant Cisco Nexus 1010s, or from only one. If one of a redundant pair of VSBs becomes unusable, it can be removed from only the Cisco Nexus 1010 where it resides. This mitigates the recovery by preserving the remaining VSB in the pair. This may become necessary if a new instance of the VSM must be provisioned.

For more information about VSM high availability, see the *Cisco Nexus 1000V High Availability and Redundancy Configuration Guide, Release 4.0(4)SV1(3)*.

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Figure 1-3 shows the HA components and the communication links between them.

Figure 1-3 Cisco Nexus 1010 HA Components and Communication Links



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Cisco Network Analysis Module Virtual Service Blade

You can create a virtual network analysis module (NAM) on the Cisco Nexus 1010 with the NAM ISO image in the Cisco Nexus 1010 bootflash. The image is copied to a new NAM VSB when you create it.

To create a VSB for NAM, see the [“Creating a Virtual Service Blade” procedure on page 5-1](#).

For more information about NAM, see the *Cisco Network Analysis Module Software Documentation Guide, 4.2*.

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Uplinks

This section describes the uplinks that you connected during your installation of the hardware. For more information about these connections and the prerequisites for the switches that are upstream from your Cisco Nexus 1010, see the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.

This section includes the following topics:

- [Traffic Classification, page 1-6](#)
- [Options for Connecting to the Network, page 1-7](#)
- [Topology 1: Single Uplink, page 1-8](#)
- [Topology 2: Two Uplinks—1\) Management and Control and 2\) Data, page 1-9](#)
- [Topology 3: Two Uplinks—1\) Management and 2\) Control and Data, page 1-10](#)
- [Topology 4: Three Uplinks—1\) Management, 2\) Control, and 3\) Data, page 1-11](#)

Traffic Classification

[Table 1-2](#) lists and describes the classes of network traffic carried on the Cisco Nexus 1010 uplinks:

Table 1-2 *Traffic Classifications*

Traffic Class	Data packets exchanged
Management	<ul style="list-style-type: none"> • For Cisco Nexus 1010 and VSB management such as: <ul style="list-style-type: none"> – Telnet – SSH – HTTP <p>Note If your virtual service blade uses the management class of traffic, it inherits the management VLAN from the Cisco Nexus 1010.</p>
Control	<ul style="list-style-type: none"> • Between the Cisco Nexus 1000V VSMs (VSBs) and VEMs. • Between redundant Cisco Nexus 1010 active and standby supervisors. • Between redundant Cisco Nexus 1000V active and standby VSMs.
Data	<ul style="list-style-type: none"> • VSB traffic that is not classified as either management or control. • High volume, application-specific traffic between virtual interfaces. • Traffic that is not considered management for other VSBs should be isolated to a separate interface and classified as data. If the same interface is used for both management and data, as is the case with NAM, the traffic is classified as data. <p>Note Cisco Nexus 1000V VSM VSB traffic is not classified as data traffic.</p>

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Options for Connecting to the Network

Table 1-3 describes the available uplink configurations.

Table 1-3 Uplink Topologies

Uplink Topology	Description	Advantages	Disadvantages
1	All traffic shares a single uplink.	Simplicity. If a switch goes down Cisco Nexus 1010 is not affected.	No traffic separation. Less bandwidth. Not suitable for NAM.
2	Management and control traffic share an uplink.	Data traffic can scale up to 2 Gbps. Control & data traffic separation.	Upstream switch must support LACP. Traffic distribution subject to hash algorithm and may not be evenly distributed. Small set of relatively static sources (up to 64) could result in over-use of one link and under-use of the other.
3	Control and data traffic share an uplink.	Control and data traffic together can scale up to 2 Gbps. Management and data traffic separation.	Upstream switch must support LACP. Traffic distribution subject to hash algorithm and may not be evenly distributed.
4	Management, control, and data traffic are all on separate uplinks.	Management, control, and data traffic separation. Upstream switch does not need LACP.	Maximum 1 G bandwidth for data traffic.

You choose the type of uplink for your network using the [“Setting Up the Management Software” procedure on page 2-5](#).



Note

Once you configure an uplink type, the only way to modify it is to reload the software.

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Topology 1: Single Uplink

In this topology, your Cisco Nexus 1010 pair connects to your network in two uplinks as shown in the following figures:

- [Figure 1-4](#), without vPC or VSS
- [Figure 1-5](#), with vPC or VSS

For detailed information about connecting uplinks, see the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.

Figure 1-4 Topology 1: Single Uplink Without vPC or VSS

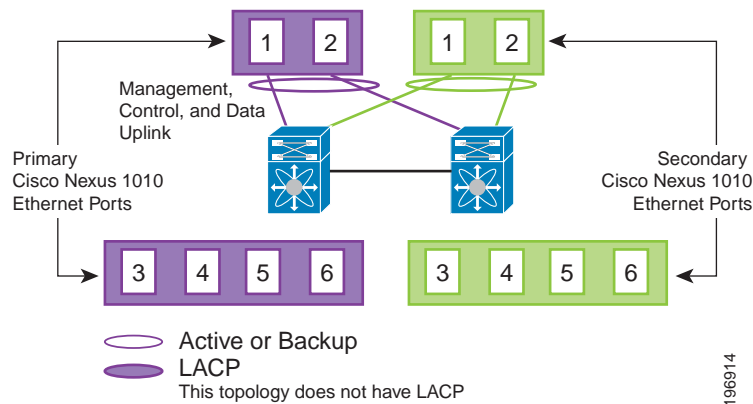
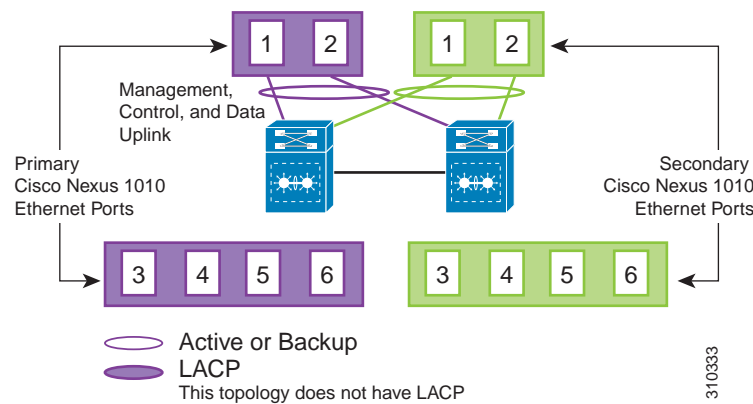


Figure 1-5 Topology 1: Single Uplink With vPC or VSS



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Topology 2: Two Uplinks—1) Management and Control and 2) Data

In topology 2, six Gigabit Ethernet ports on each Cisco Nexus 1010 create two uplinks. The ports in each Cisco Nexus 1010 internally form a port channel and network traffic is load balanced based on the source MAC algorithm.

LACP must be configured on the upstream switches connecting to ports 3, 4, 5, and 6.

In topology 2, your Cisco Nexus 1010 pair connects to your network in two uplinks as shown in the following figures:

- [Figure 1-6](#), without vPC or VSS
- [Figure 1-7](#), with vPC or VSS

For detailed information about connecting uplinks, see the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.

Figure 1-6 *Topology 2: Two Uplinks Without vPC or VSS—
1) Management and Control Uplink, and 2) Data Uplink*

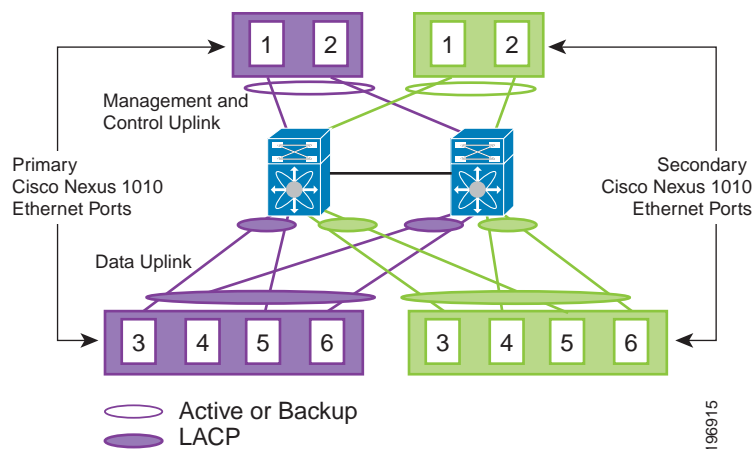
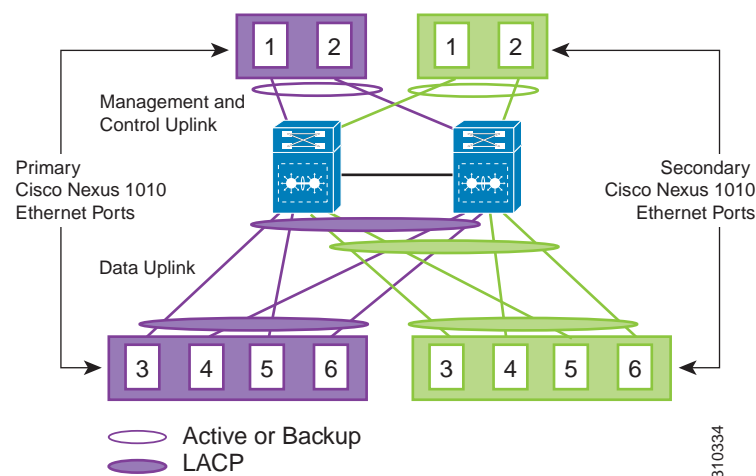


Figure 1-7 *Topology 2: Two Uplinks With vPC or VSS—
1) Management and Control Uplink, and 2) Data Uplink*



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Topology 3: Two Uplinks—1) Management and 2) Control and Data

In topology 3, the ports in each Cisco Nexus 1010 internally form a port channel and network traffic is load balanced based on the source MAC algorithm.

LACP must be configured on the upstream switches connecting to ports 3, 4, 5, and 6.

In topology 3, your Cisco Nexus 1010 pair connects to your network in two uplinks as shown in the following figures:

- [Figure 1-8](#), without vPC or VSS
- [Figure 1-9](#), with vPC or VSS

For detailed information about connecting uplinks, see the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.

Figure 1-8 *Topology 3: Two Uplinks Without vPC or VSS—
1) Management Uplink, and 2) Control and Data Uplink*

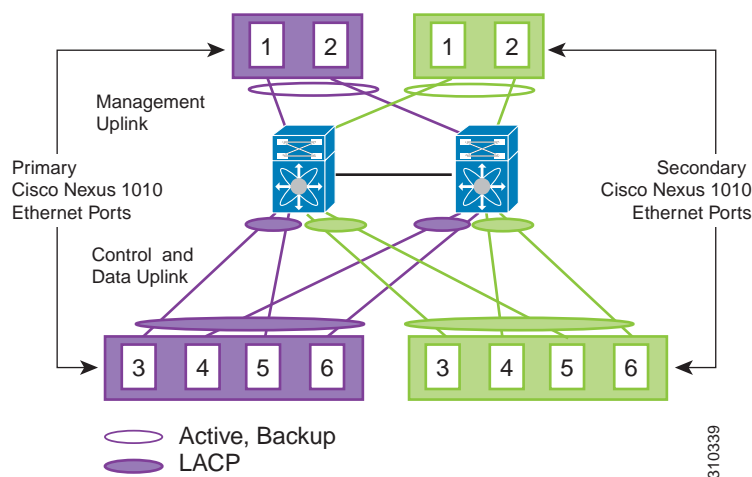
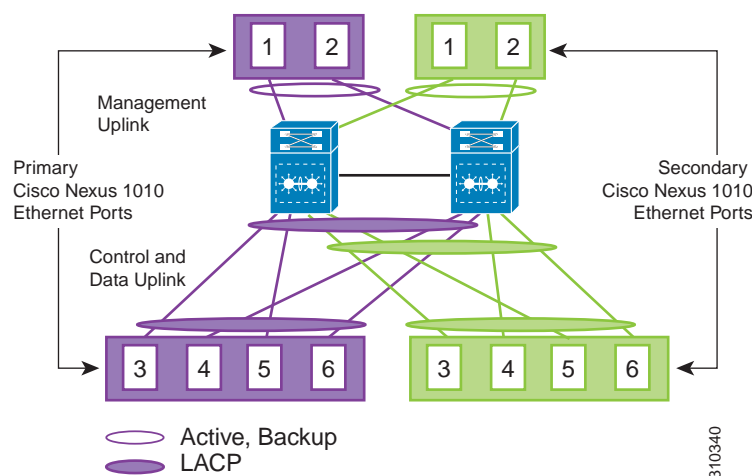


Figure 1-9 *Topology 3: Two Uplinks With vPC or VSS—
1) Management Uplink, and 2) Control and Data Uplink*



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Topology 4: Three Uplinks—1) Management, 2) Control, and 3) Data

In topology 4, six Gigabit Ethernet ports on each Cisco Nexus 1010 create three uplinks as shown in one of the following figures:

- [Figure 1-10](#), without vPC or VSS
- [Figure 1-11](#), with vPC or VSS

For detailed information about connecting uplinks, see the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.

Figure 1-10 *Topology 4: Three Uplinks Without vPC or VSS*
1) Management, 2) Control, and 3) Data

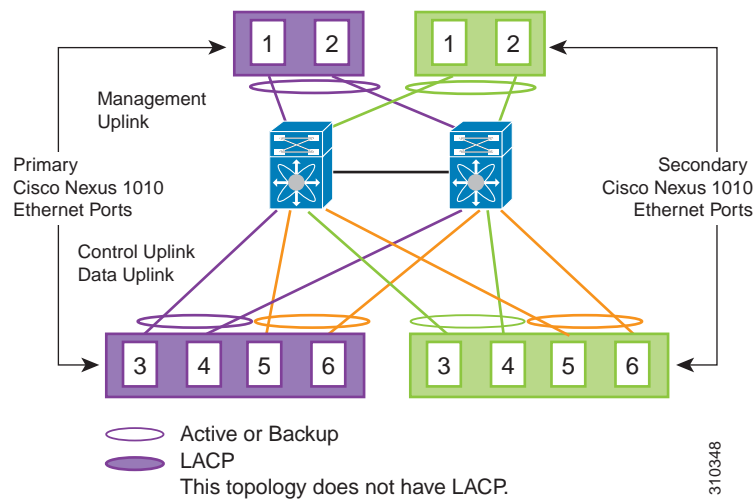
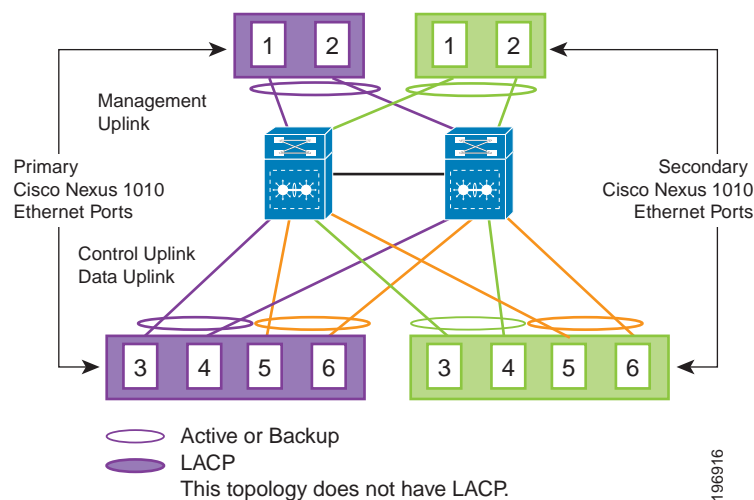


Figure 1-11 *Topology 4: Three Uplinks With vPC or VSS*
1) Management, 2) Control, and 3) Data



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Software Included

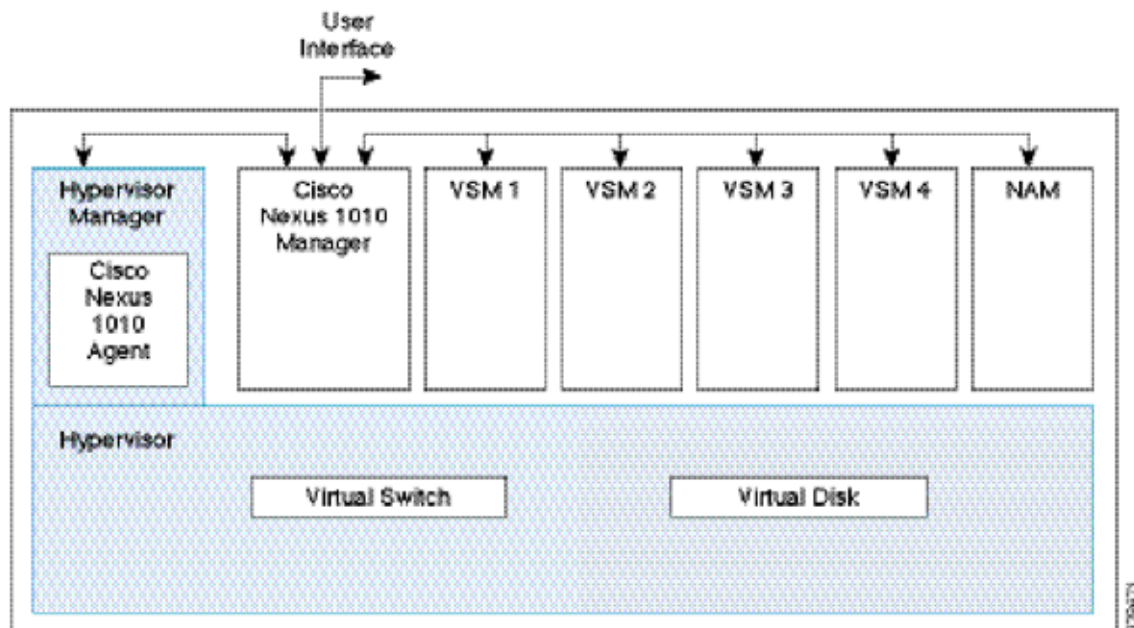
The Cisco Nexus 1010 is shipped with the following software.

Software	Description	ISO filename in bootflash repository
Cisco Nexus 1010 kickstart image	Image for the Cisco Nexus 1010 Manager virtual machine which manages the shelf and redundancy group configuration.	nexus-1010-kickstart-mzg.4.0.4.SP1.1.bin ¹
Cisco Nexus 1000V VSM	Used to create a VSB for the Cisco Nexus 1000V VSM on the Cisco Nexus 1010.	nexus-1000v.4.0.4.SV1.3.iso ²
Cisco NAM VSB	Used to create a VSB for Cisco NAM on the Cisco Nexus 1010.	nam-4-2-1.iso ²
Hypervisor with a Cisco Nexus 1010 agent	The hypervisor consists of a kernel image and RAM disk.	N/A
Cisco Integrated Management Controller (CIMC)	A software interface that allows you to manage the Cisco Nexus 1010 should it become unreachable.	N/A

1. In the event of disk corruption on the Cisco Nexus 1010, the system can be brought up by copying the kickstart image from a CD.
2. If it is necessary to update a VSB ISO file in bootflash, use the scp command to copy the new file version into the repository folder.

Figure 1-12 shows the Cisco Nexus 1010 software components. Each VSM or NAM represents a virtual service blade (VSB) on the Cisco Nexus 1010.

Figure 1-12 Cisco Nexus 1010 Software Components



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Getting Started With Cisco Nexus 1010

To get started with the Cisco Nexus 1010, you first install the hardware appliance and connect it to the network. Procedures for doing this are included in the following document.

Cisco Nexus 1010 Virtual Services Appliance Installation Guide

After you install the hardware appliance and connect it to the network, then you can configure the Cisco Nexus 1010 management software, migrating existing VSMs residing on a VM to the Cisco Nexus 1010 as virtual service blades (VSBs), or creating and configuring new NAM or VSM VSBs. Detailed information about configuring the software is found in this document.

The following are the basic steps in the software configuration process.

Step 1 [Setting Up the Management Software, page 2-1](#)

Use this section to create and save a configuration for redundant primary and secondary Cisco Nexus 1010s.

Step 2 Do one of the following to add VSM or NAM virtual service blades to the new Cisco Nexus 1010:

- Migrate an existing VSM from a VM to the Cisco Nexus 1010 using the [“Migrating a VSM” procedure on page 6-1](#).
 - Create a new VSM or NAM virtual service blade using the [“Configuring Virtual Service Blades” procedure on page 5-1](#).
-

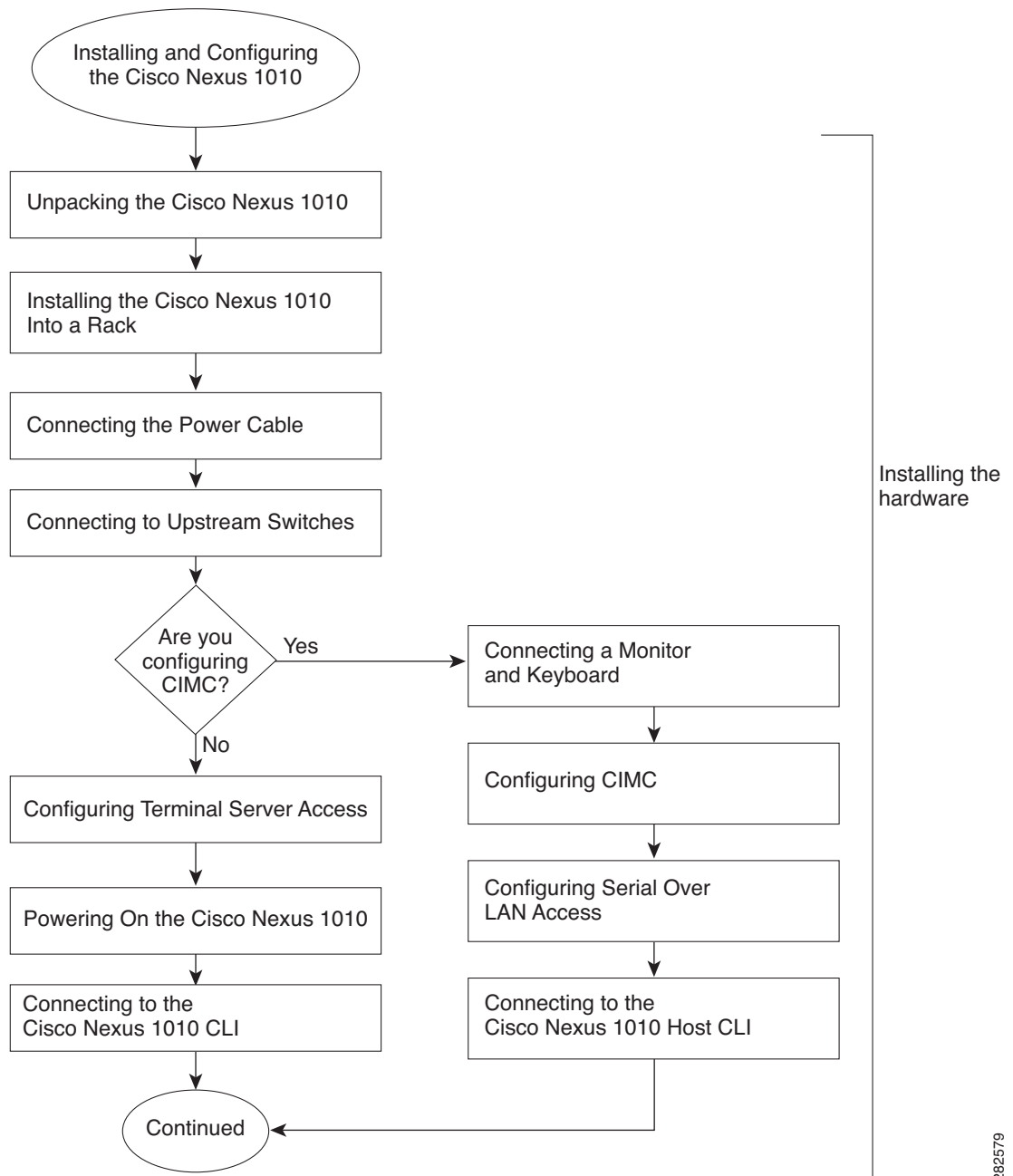
Flow Chart: Installing and Configuring the Cisco Nexus 1010

[Figure 1-13](#) and [Figure 1-14](#) show the basic steps for installing and configuring a Cisco Nexus 1010. To configure the Cisco Nexus 1010 hardware see the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.

Procedures for configuring the software are in this document.

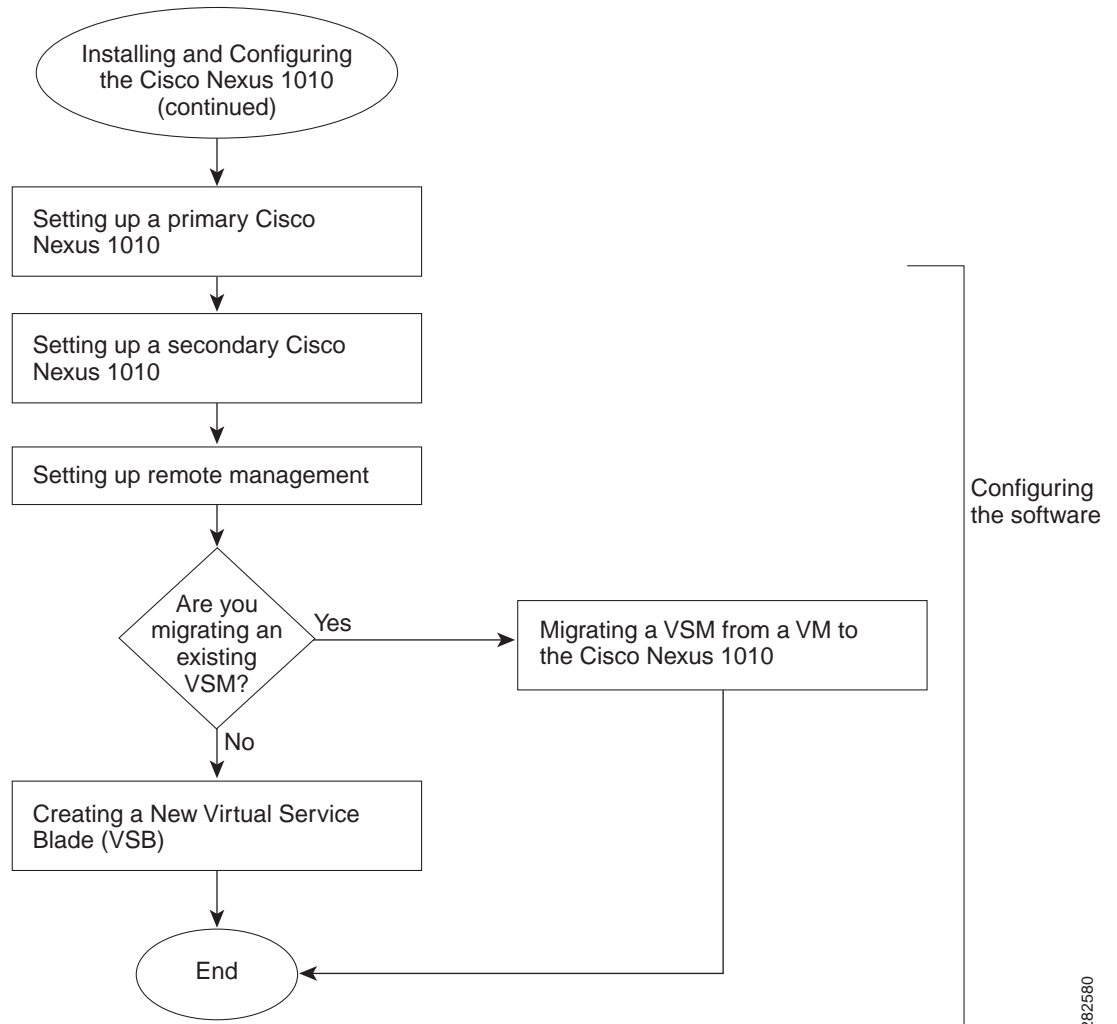
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Figure 1-13 Flow Chart: Installing and Configuring the Cisco Nexus 1010



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Figure 1-14 Flow Chart: Installing and Configuring the Cisco Nexus 1010 (continued)



Replacing a Cisco Nexus 1010

You can replace a redundant Cisco Nexus 1010 if needed after RMA. For more information, see the [“Replacing a Cisco Nexus 1010”](#) section on page 2-10.

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CHAPTER 2

Setting Up the Management Software

This chapter describes how to set up the system management software and includes the following sections:

- [Information About the Management Software, page 2-1](#)
- [Guidelines and Limitations, page 2-5](#)
- [Setting Up the Management Software, page 2-5](#)
- [Verifying the Setup Configuration, page 2-13](#)
- [Example Configurations, page 2-15](#)
- [Additional References, page 2-16](#)
- [Feature History for Management Software Setup, page 2-17](#)

Information About the Management Software

The system setup routine lets you configure the following information for your Cisco Nexus 1010:

- [Administrator Credentials, page 2-2](#)
- [HA Redundancy Role, page 2-2](#)
- [HA Redundancy States, page 2-3](#)
- [Domain ID, page 2-3](#)
- [Uplinks, page 2-3](#)
- [VLANs, page 2-4](#)

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Administrator Credentials

When you set up the system software, you are required to create an administrator password. [Table 2-1](#) lists password strength guidelines:

Table 2-1 Guidelines for strong passwords

Strong passwords have:	Strong passwords do NOT have:
<ul style="list-style-type: none"> • At least eight characters • Uppercase letters • Lowercase letters • Numbers • Special characters 	<ul style="list-style-type: none"> • Consecutive characters, such as “abcd” • Repeating characters, such as “aaabbb” • Dictionary words • Proper names
<p>Note Clear text passwords cannot include the dollar sign (\$) special character.</p>	

HA Redundancy Role

The Cisco Nexus 1010 is provided in redundant pairs for high availability. When setting up the device, you configure a high availability role—primary or secondary. [Table 2-2](#) describes these roles.



Note

The HA standalone role is not supported for the Cisco Nexus 1010.

Table 2-2 HA Redundancy Roles

Role	Description
Primary	<ul style="list-style-type: none"> • The primary role coordinates the active/standby redundancy state with the secondary Cisco Nexus 1010. • The primary role takes precedence during bootup when negotiating active/standby redundancy state. That is, if the secondary Cisco Nexus 1010 is not in the active state at bootup, the primary Cisco Nexus 1010 takes the active redundancy state. • You assign the primary role to the first Cisco Nexus 1010 that you install in a dual system.
Secondary	<ul style="list-style-type: none"> • The secondary role coordinates the active/standby state with the primary Cisco Nexus 1010. • You assign the secondary role to the second Cisco Nexus 1010 that you install in a dual system.

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HA Redundancy States

Table 2-3 describes the HA redundancy states.

Table 2-3 HA Redundancy States

Redundancy State	Description
Active	<p>Controls the system and is visible to the outside world.</p> <p>The active system is remotely accessed through the network after initial setup.</p> <p>The user interface for managing the Cisco Nexus 1010 is only available through the active system.</p>
Standby	<p>Synchronizes its configuration with that of the active Cisco Nexus 1010 so that it is continuously ready to take over in case of a failure or manual switchover.</p> <p>You cannot use Telnet or Secure Shell (SSH) protocols to communicate with the standby Cisco Nexus 1010.</p> <p>The standby Cisco Nexus 1010 is not network addressable and is accessed through the serial port.</p> <p>The user interface for managing the Cisco Nexus 1010 is not available through the standby system.</p>

Domain ID

The primary and secondary Cisco Nexus 1010s use the domain ID to identify each other. The Cisco Nexus 1010s must be in the same switching domain, and share the same management IP address.

Uplinks

You can connect your system to the network using one of the following four supported uplink types.

- One uplink
- Two uplinks with common management and control traffic
- Two uplinks with common control and data traffic
- Three uplinks

For information about connecting uplinks, see the [Cisco Nexus 1010 Virtual Services Appliance Installation Guide](#).



Note Once you configure an uplink type, the only way to modify it is to reload the software.

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Table 2-4 shows the four supported network uplink types and the ports that carry each type of VLAN traffic.

Table 2-4 Network Uplink Types

Uplink type	Management VLAN	Control VLAN	Data VLAN
1	ports 1 and 2	ports 1 and 2	ports 1 and 2
2	ports 1 and 2	ports 1 and 2	ports 3-6
3	ports 1-2	ports 3-6	ports 3-6
4	ports 1-2	ports 3-4	ports 5-6

For more information about uplinks, see the “Uplinks” section on page 1-6.

For more information about connecting uplinks, see the [Cisco Nexus 1010 Virtual Services Appliance Installation Guide](#).

VLANs

Control, and management VLANs are used by the Cisco Nexus 1010 for management and communication with its virtual service blades. These VLANs are added as a part of the initial setup of the management software. Control and packet VLANs are also added to each virtual service blade when it is created. The management VLAN is inherited from the Cisco Nexus 1010 by each virtual service blade.

If you modify a control, packet, or management VLAN on the Cisco Nexus 1010, the change is effective immediately. However, for service continuity, you must configure the same control and packet VLANs on the hosted VSMs. Otherwise the Cisco Nexus 1010 loses communication with its VSMs.

This section includes the following additional topics:

- [Management VLAN, page 2-4](#)
- [Control VLAN, page 2-4](#)

Management VLAN

The management VLAN is the VLAN that forwards traffic for the management port of the Cisco Nexus 1010. If your virtual service blade uses the management class of traffic, it inherits the management VLAN from the Cisco Nexus 1010.

The management VLAN is used by the outside world to reach the Cisco Nexus 1010 management 0 interface. 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 from the Cisco Nexus 1010 by all virtual service blades it hosts.

Control VLAN

The control VLAN is a Layer 2 interface used for communication between the redundant Cisco Nexus 1010s. This interface handles low-level control packets such as heartbeats as well as any configuration data that needs to be exchanged between the Cisco Nexus 1010s.

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Guidelines and Limitations

Follow these guidelines and limitations when setting up the Cisco Nexus 1010:

- The domain ID must be unique within the VLAN.
- If other Cisco Nexus 1010s or Cisco Nexus 1000Vs are in the same VLAN, then the domain ID must also be unique across all of them.
- When setting up the software, you configure the uplink type for your system. Once you configure an uplink type, the only way to modify it is to reload the software.
- The HA standalone role is not supported for the Cisco Nexus 1010.

It is a recommended Cisco best practice to configure a primary Cisco Nexus 1010 with a secondary backup. Although you can configure a primary Cisco Nexus 1010 without a secondary backup, this configuration in a production environment is not recommended.

Setting Up the Management Software

Use the following procedures to setup the management software to properly manage the system.

- [Setting up the Primary Cisco Nexus 1010, page 2-6](#)
- [Setting up the Secondary Cisco Nexus 1010, page 2-9](#)

BEFORE YOU BEGIN

Before beginning the procedures in this section, you must know or do the following:

- You have already installed the Cisco Nexus 1010 hardware. For more information, see the *Cisco Nexus 1010 Virtual Services Appliance Installation Guide*.
- You are connected to the Cisco Nexus 1010 from a terminal server.
- You have the following information available for this Cisco Nexus 1010:
 - Administrator password
 - HA role (primary or secondary)
If you do not specify an HA role, then the role is configured as primary.



Note The HA standalone role is not supported for the Cisco Nexus 1010.

- Network uplink type
- Control VLAN ID
- Domain ID
- Management VLAN ID
- Management 0 IP address
This is the IP address of the management interface that appears as the mgmt0 port on the appliance.
- Default gateway IP address
- SSH service key type and number of key bits

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Setting up the Primary Cisco Nexus 1010

You can use this procedure to set up the management software for either of the following:

- The primary Cisco Nexus 1010 in a redundant HA pair
- A single Cisco Nexus 1010

It is a recommended Cisco best practice to configure a primary Cisco Nexus 1010 with a secondary backup. Although you can configure a primary Cisco Nexus 1010 without a secondary backup, this configuration in a production environment is not recommended.

DETAILED STEPS

Step 1 When asked, enter and confirm the Administrator password.

Example:

```
---- System Admin Account Setup ----
Enter the password for "admin":
Confirm the password for "admin":
```

Step 2 When asked, enter the HA role. If you do not specify a role, then primary is assigned.

Example:

```
Enter HA role[primary/secondary]: primary
```



Note The HA standalone role is not supported for the Cisco Nexus 1010.

Step 3 When asked, enter the uplink type.



Note Once you configure an uplink type, the only way to modify it is to reload the software.

Example:

```
Enter network-uplink type <1-4>:
  1. Ports 1-2 carry all management, control and data vlans
  2. Ports 1-2 management and control, ports 3-6 data
  3. Ports 1-2 management, ports 3-6 control and data
  4. Ports 1-2 management, ports 3-4 control, ports 5-6 data
1
```

Step 4 When asked, enter the VLAN ID for the control VLAN.

Example:

```
Enter control vlan <1-3967, 4048-4093>: 300
```

Step 5 When asked, enter the domain ID.

Example:

```
Enter the domain id<1-4095>: 300
```

Step 6 When asked, enter the VLAN ID for the management VLAN.

The new configuration is saved into nonvolatile storage, after which the running and the startup copies of the configuration are identical.

Example:

```
Enter management vlan <1-3967, 4048-4093>: 233
```

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Saving boot configuration. Please wait...

[#####] 100%

---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of the system. Setup configures only enough connectivity for management of the system.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime to skip the remaining dialogs.

Step 7 When asked if you want to enter the basic configuration dialog, respond **yes**.

Example:

Would you like to enter the basic configuration dialog (yes/no): **yes**

---- Basic System Configuration Dialog ----

This setup utility will guide you through the basic configuration of the system. Setup configures only enough connectivity for management of the system.

*Note: setup is mainly used for configuring the system initially, when no configuration is present. So setup always assumes system defaults and not the current system configuration values.

Press Enter at anytime to skip a dialog. Use ctrl-c at anytime to skip the remaining dialogs.

Step 8 When asked to create another Login account, answer **no**.

Example:

Create another login account (yes/no) [n]: **no**

Step 9 When asked to configure a read-only SNMP community string, answer **no**.

Example:

Configure read-only SNMP community string (yes/no) [n]: **no**

Step 10 When asked to configure a read-write SNMP community string, answer **no**.

Example:

Configure read-write SNMP community string (yes/no) [n]:

Step 11 Enter a name for the appliance.

Example:

Enter the VSA name [Nexus1010]:

Step 12 When asked to configure out-of-band management, answer **yes** and then enter the management 0 IPv4 address.

This is the IP address of the management interface that appears as the mgmt0 port on the appliance.

Example:

Continue with Out-of-band (mgmt0) management configuration? [yes/no] [y]: **yes**
Mgmt0 IPv4 address: **10.78.109.67**

Step 13 When asked to configure the default gateway, answer **yes**.

Example:

Configure the default-gateway: (yes/no) [y]: **yes**
IPv4 address of the default gateway : **10.78.109.65**

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Step 14 When asked to configure advanced IP options, answer **no**.

Example:

```
Configure Advanced IP options (yes/no)? [n]: no
```

Step 15 When asked to enable the Telnet service, answer **yes**.

Example:

```
Enable the telnet service? (yes/no) [y]: yes
```

Step 16 When asked to enable the SSH service, answer **yes** and then enter the key type and number of key bits.

Example:

```
Enable the ssh service? (yes/no) [y]: yes
Type of ssh key you would like to generate (dsa/rsa) : rsa
Number of key bits <768-2048> : 1024
```

Step 17 When asked to configure the NTP server, answer **no**.

The configuration is summarized.

Example:

```
Configure NTP server? (yes/no) [n]: no
```

The following configuration will be applied:

```
Switchname n1010
interface Mgmt0
ip address 172.28.15.152 255.255.255.0
no shutdown
telnet server enable
ssh key rsa 1024 force
ssh server enable
svs-domain
control vlan 260
domain id 152
```

Step 18 Do one of the following:

- If you do not want to edit the configuration answer **no** and continue with the next step.
- If you want to edit the configuration, answer **yes** and return to [Step 8](#) to revisit each command.

Example:

```
Would you like to edit the configuration? (yes/no) [n]:no
```

Step 19 When asked to use and save this configuration, answer **yes**.



Caution If you do not save the configuration now, then none of your changes are part of the configuration the next time the switch is rebooted. Enter **yes** to save the new configuration. This ensures that the kickstart and system images are also automatically configured.

Example:

```
Use this configuration and save it? (yes/no) [y]: yes
[#####] 100%
```

The new configuration is saved into nonvolatile storage, after which the running and the startup copies of the configuration are identical.

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Note You can use the setup routine to update the configuration done in [Step 8](#) through [Step 19](#) at any time by entering the **setup** command in EXEC mode. Once setup begins, press Enter to skip a command. Use ctrl-c to skip the remaining commands.

Step 20 You have completed this procedure.

Setting up the Secondary Cisco Nexus 1010

You can use this procedure to set up the management software for the secondary Cisco Nexus 1010 in a redundant pair.

DETAILED STEPS

Step 1 When asked, enter and confirm the Administrator password.

Example:

```
---- System Admin Account Setup ----
Enter the password for "admin":
Confirm the password for "admin":
```

Step 2 When asked, enter the HA role.

Example:

```
Enter HA role[primary/secondary]: secondary
```

Step 3 When asked, enter the uplink type.



Note Once you configure an uplink type, the only way to modify it is to reload the software.

Example:

```
Enter network-uplink type <1-4>:
  1. Ports 1-2 carry all management, control and data vlans
  2. Ports 1-2 management and control, ports 3-6 data
  3. Ports 1-2 management, ports 3-6 control and data
  4. Ports 1-2 management, ports 3-4 control, ports 5-6 data
1
```

Step 4 When asked, enter the VLAN ID for the control VLAN.

Example:

```
Enter control vlan <1-3967, 4048-4093>: 300
```

Step 5 When asked, enter the domain ID.

Example:

```
Enter the domain id<1-4095>: 300
```

Step 6 When asked, enter the VLAN ID for the management VLAN.

The following things occur on the switch:

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- The new configuration is saved into nonvolatile storage, after which the running and the startup copies of the configuration are identical.
- The system reboots to configure the network uplinks.
- The system restarts and synchronizes its configuration with the primary Cisco Nexus 1000V.

Example:

```
Enter management vlan <1-3967, 4048-4093>: 233
Saving boot configuration. Please wait...

[#####] 100%

System is going to reboot to configure network uplinks
HA mode set to secondary. Rebooting now...
```

Step 7 You have completed this procedure.

Replacing a Cisco Nexus 1010

You can replace one Cisco Nexus 1010 in a redundant pair using the process described in [Figure 2-1 on the next page](#).

BEFORE YOU BEGIN

Before setting up the software for a replacement Cisco Nexus 1010, you must know or do the following:

- The HA role of the functioning Cisco Nexus 1010 determines the role assigned to the replacement Cisco Nexus 1010.
 - If the functioning Cisco Nexus 1010 is in the primary HA role, the software for the replacement Cisco Nexus 1010 must be set up in the secondary HA role.
 - If the functioning Cisco Nexus 1010 is in the secondary HA role, the software for the replacement Cisco Nexus 1010 must be set up in the primary HA role.
- When setting up the software for the replacement Cisco Nexus 1010, you must use the same IDs used on the functioning Cisco Nexus 1010 for the following:
 - Domain
 - Control VLAN
 - Management VLAN
- The software versions running on the functioning Cisco Nexus 1010 and the replacement Cisco Nexus 1010 must match. The replacement Cisco Nexus 1010 ships with the latest software version installed.
 - If you want to downgrade the software version on the replacement Cisco Nexus 1010, use the reinstall procedure in the *Cisco Nexus 1010 Software Installation and Upgrade Guide, Release 4.2(1)SP1(2)*.
 - If you want to upgrade the software on one of the Cisco Nexus 1010s, use the upgrade procedure in the *Cisco Nexus 1010 Software Installation and Upgrade Guide, Release 4.2(1)SP1(2)*.
- After you set up the software for the replacement Cisco Nexus 1010, you must manually enable the HA peer for each redundant virtual service blade (VSB).

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- If the functioning Cisco Nexus 1010 is in the primary HA role, enable the secondary HA peer for each redundant VSB.

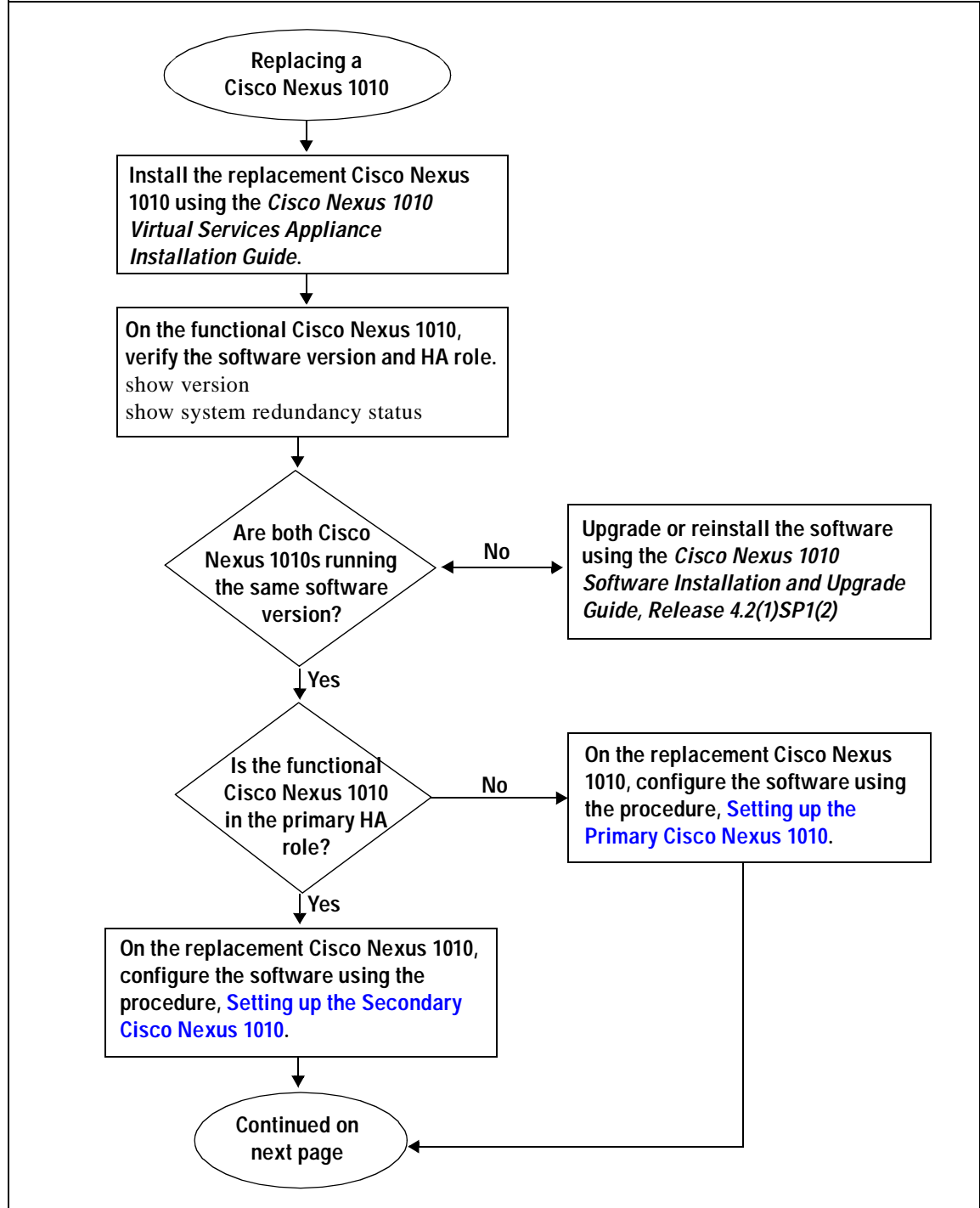
```
Config t
virtual-service-blade name
enable secondary
```

- If the functioning Cisco Nexus 1010 is in the secondary HA role, enable the primary HA peer for each redundant VSB.

```
Config t
virtual-service-blade name
enable primary
```

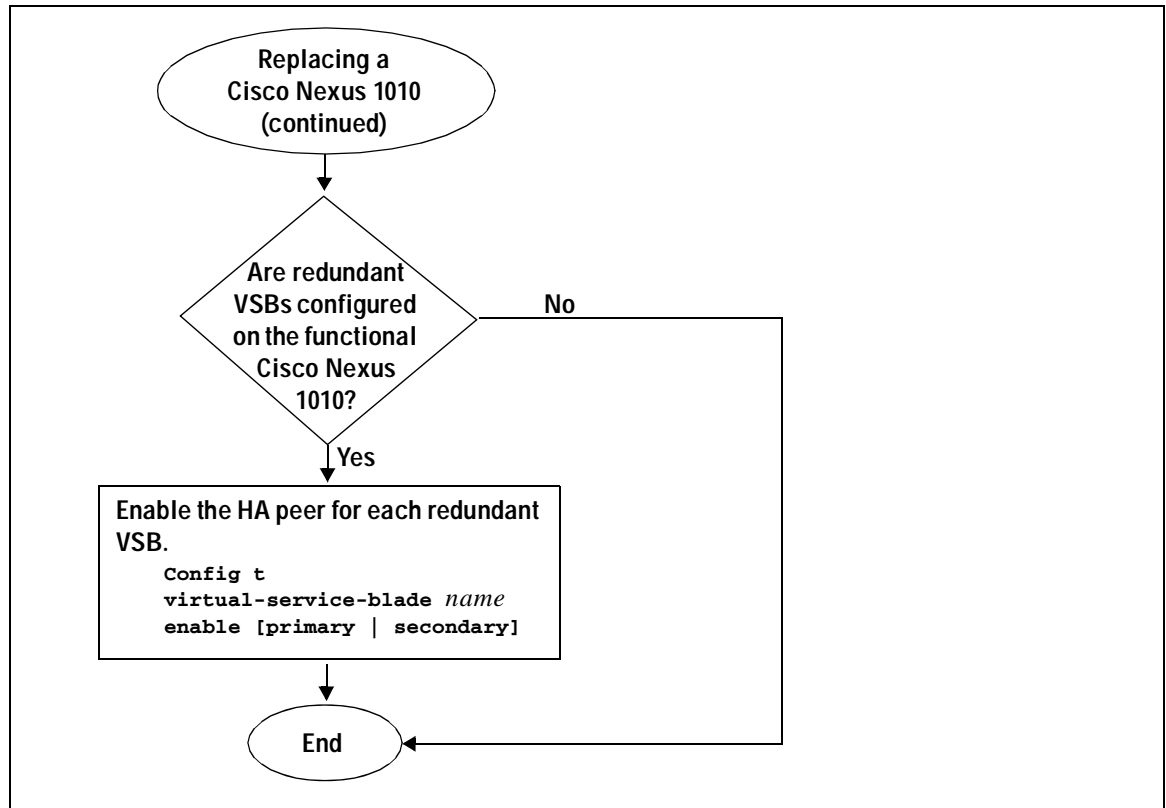
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Figure 2-1 Flow Chart: Replacing a Cisco Nexus 1010



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Figure 2-2 Flow Chart: Replacing a Cisco Nexus 1010 (continued)



Verifying the Setup Configuration

To verify the Cisco Nexus 1010 setup configuration, use the following commands:

Command	Purpose
show running-configuration	Displays the Cisco Nexus 1010 running configuration. See Example 2-1 on page 2-14 .
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 2-2 on page 2-14 .
show svcs domain	Displays the following domain information for the Cisco Nexus 1010: <ul style="list-style-type: none"> • Domain ID • Control VLAN ID • Management VLAN ID See Example 2-3 on page 2-15 .

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Example 2-1 Setup Configuration

This example shows how to display and verify the Cisco Nexus 1010 setup configuration:

```
Nexus1010# show running-config
version 4.0(4)SV1(3)
username adminbackup password 5 $1$Oip/C5Ci$oOdx7oJS1BCFpNRmQK4na. role network-operato
r
username admin password 5 $1$ZMouammW$56jYJfpQuDJjDen5MABcW/ role network-admin
telnet server enable
ip domain-lookup
ip host Nexus1010 172.23.231.113
kernel core target 0.0.0.0
kernel core limit 1
system default switchport
snmp-server user admin network-admin auth md5 0xb64ad6879970f0e57600c443287a79f0 priv 0x
b64ad6879970f0e57600c443287a79f0 localizedkey
snmp-server enable traps license
vrf context management
    ip route 0.0.0.0/0 172.23.231.1
switchname Nexus1010
vlan 1,231,233,280,300
vdc Nexus1010 id 1
    limit-resource vlan minimum 16 maximum 513
    limit-resource monitor-session minimum 0 maximum 64
    limit-resource vrf minimum 16 maximum 8192
    limit-resource port-channel minimum 0 maximum 256
    limit-resource u4route-mem minimum 32 maximum 80
    limit-resource u6route-mem minimum 16 maximum 48
network-uplink type 1

interface mgmt0
    ip address 172.23.231.113/24

interface control0
boot kickstart bootflash:/nexus-1010-kickstart-mzg.4.0.4.SP1.0.171.bin
boot system bootflash:/nexus-1010-mzg.4.0.4.SP1.0.171.bin
boot kickstart bootflash:/nexus-1010-kickstart-mzg.4.0.4.SP1.0.171.bin
boot system bootflash:/nexus-1010-mzg.4.0.4.SP1.0.171.bin
svs-domain
    domain id 2801
    control vlan 300
    management vlan 233
    svcs mode L2
```

Example 2-2 Redundancy Status

```
switch# show system redundancy status
Redundancy role
-----
    administrative: primary
    operational: primary
Redundancy mode
-----
    administrative: HA
    operational: None
This supervisor (sup-1)
-----
    Redundancy state: Active
    Supervisor state: Active
    Internal state: Active with no standby
Other supervisor (sup-2)
```

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```
-----
      Redundancy state:   Not present
switch#
-----
```

Example 2-3 Domain

```
switch# show svcs domain
SVS domain config:
  Domain id:      3555
  Control vlan:  305
  Management vlan: 233
  L2/L3 Control mode: L2
  L3 control interface: NA
  Status: Config not pushed to VC.
switch#
```

Example Configurations

The following is an example of a complete setup configuration for a primary in a pair of redundant pair or a single Cisco Nexus 1000V.

```
---- System Admin Account Setup ----
Enter the password for "admin":
Confirm the password for "admin":

Enter HA role[primary/secondary]: primary

Enter network-uplink type <1-4>:
  1. Ports 1-2 carry all management, control and data vlans
  2. Ports 1-2 management and control, ports 3-6 data
  3. Ports 1-2 management, ports 3-6 control and data
  4. Ports 1-2 management, ports 3-4 control, ports 5-6 data
1
Enter control vlan <1-3967, 4048-4093>: 300
Enter the domain id<1-4095>: 300
Enter management vlan <1-3967, 4048-4093>: 233
Saving boot configuration. Please wait...

[#####] 100%

---- Basic System Configuration Dialog ----
This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.
Press Enter at anytime to skip a dialog. Use ctrl-c at anytime
to skip the remaining dialogs.
Would you like to enter the basic configuration dialog (yes/no): yes
Create another login account (yes/no) [n]:
Configure read-only SNMP community string (yes/no) [n]:
Configure read-write SNMP community string (yes/no) [n]:
Enter the VSA name : CPPAPrimary
Continue with Out-of-band (mgmt0) management configuration? (yes/no) [y]:
Mgmt0 IPv4 address : 10.78.110.111
Mgmt0 IPv4 netmask : 255.255.255.128
Configure the default gateway? (yes/no) [y]:
IPv4 address of the default gateway : 10.78.110.17
Configure advanced IP options? (yes/no) [n]:
Enable the telnet service? (yes/no) [y]:
```

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```

Enable the ssh service? (yes/no) [n]: yes
Type of ssh key you would like to generate (dsa/rsa) : rsa
Number of key bits <768-2048> : 1024
Configure the ntp server? (yes/no) [n]:
The following configuration will be applied:
switchname CPPAPrimary
interface mgmt0
ip address 10.78.110.111 255.255.255.128
no shutdown
vrf context management
ip route 0.0.0.0/0 10.78.110.17
telnet server enable
ssh key rsa 1024 force
ssh server enable
Would you like to edit the configuration? (yes/no) [n]:
Use this configuration and save it? (yes/no) [y]:
[#####] 100%
System is going to reboot to configure network uplinks

```

The following is an example of a complete setup configuration for the secondary in a pair of redundant of Cisco Nexus 1000Vs.

```

---- System Admin Account Setup ----
Enter the password for "admin":
Confirm the password for "admin":

Enter HA role[primary/secondary]: primary

Enter HA role[primary/secondary]: primary

Enter network-uplink type <1-4>:
  1. Ports 1-2 carry all management, control and data vlans
  2. Ports 1-2 management and control, ports 3-6 data
  3. Ports 1-2 management, ports 3-6 control and data
  4. Ports 1-2 management, ports 3-4 control, ports 5-6 data
1
Enter control vlan <1-3967, 4048-4093>: 459
Enter the domain id<1-4095>: 459
Enter management vlan <1-3967, 4048-4093>: 460
Saving boot configuration. Please wait...
[#####] 100%
System is going to reboot to configure network uplinks
HA mode set to secondary. Rebooting now...

```

Additional References

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

- [Related Documents, page 2-17](#)
- [Standards, page 2-17](#)
- [RFCs, page 2-17](#)
- [RFCs, page 2-17](#)

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Related Documents

Related Topic	Document Title
virtual service blade configuration	Configuring Virtual Service Blades, page 5-1
Cisco Nexus 1010 configuration	Configuring the Uplinks, page 4-1
Connecting uplinks	Cisco Nexus 1010 Virtual Services Appliance Installation Guide
Cisco Nexus 1010 installation	Cisco Nexus 1010 Virtual Services Appliance Installation Guide
Cisco Nexus 1010 commands	Cisco Nexus 1010 Command Reference, Release 4.0(4)SP1(1)

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.	—

RFCs

RFCs	Title
No RFCs are supported by this feature	—

Feature History for Management Software Setup

This section provides the management software setup release history.

Feature Name	Releases	Feature Information
software setup	4.0(4)SP1(1)	This feature was introduced.

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CHAPTER 3

Setting Up Remote Management

This chapter describes how to set up remote management in your startup configuration for use in recovering an unreachable Cisco Nexus 1010, and includes the following sections:

- [Information About Remote Management, page 3-1](#)
- [Configuring Remote Management, page 3-2](#)
- [Additional References, page 3-3](#)
- [Feature History for Remote Management, page 3-4](#)

Information About Remote Management

You can add remote management to your redundant Cisco Nexus 1010 startup configuration so that in the event one of the pair becomes unreachable, the other can automatically attempt to recover it.

If redundant Cisco Nexus 1010s cannot communicate with each other over the management and control interfaces, they can both become active simultaneously. This is known as a split-brain conflict. A Cisco Nexus 1010 cannot be rebooted from its peer switch using high availability.

If one of the Cisco Nexus 1010s becomes unreachable, its peer becomes active if it was standby. If you have configured remote management, the newly-active Cisco Nexus 1010 can attempt to power cycle its unreachable peer switch through the mgmt0 port of its CIMC interface if CIMC is reachable on the peer. The active Cisco Nexus 1010 starts the reboot code immediately when the standby is lost. The standby Cisco Nexus 1010 waits 60 seconds before starting the reboot code.

For more information about loss of communication between redundant Cisco Nexus 1010s, see the *Cisco Nexus 1000V High Availability and Redundancy Configuration Guide, Release 4.0(4)SV1(3)*.

For more information about CIMC, see the [“Cisco Integrated Management Controller” section on page 1-3](#).

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Configuring Remote Management

You can use this procedure to set up remote management in the startup configuration to be used in recovering an unreachable Cisco Nexus 1010 peer switch through the mgmt0 port of its CIMC software.

BEFORE YOU BEGIN

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

- You previously configured the Cisco Integrated Management Controller (CIMC) when installing the Cisco Nexus 1010. For more information, see the *Cisco Nexus 1010 Virtual Services Appliance Hardware Installation Guide*.
- You have the following information for the Cisco Nexus 1010:
 - CIMC management port IP address
 - CIMC administrator login and password
- This procedure has steps for setting up remote management for both the primary and secondary Cisco Nexus 1010.
- You are logged in to the active Cisco Nexus 1010 in EXEC mode.

SUMMARY STEPS

1. **config t**
2. **nexus1010-system remote-mgmt primary ip *ipaddr* username *username* password *password***
3. **nexus1010-system remote-mgmt secondary ip *ipaddr* username *username* password *password***
4. **show running-config**
5. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	config t Example: switch# config t switch(config)#	Enters CLI global configuration mode.
Step 2	nexus1010-system remote-mgmt primary ip <i>ipaddr</i> username <i>username</i> password <i>password</i> Example: switch(config)# nexus1010-system remote-mgmt primary ip 172.23.231.51 username admin password ***** switch(config)#	Sets up remote management in the running configuration of the primary Cisco Nexus 1010. <i>ipaddress</i> : the IP address of the CIMC management port <i>username</i> : the admin username for the CIMC management software <i>password</i> : the admin password for the CIMC management software

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	Command	Purpose
Step 3	<p>nexus1010-system remote-mgmt secondary ip ipaddr username username password password</p> <p>Example: <pre>switch(config)# nexus1010-system remote-mgmt secondary ip 172.23.231.52 username admin password ***** switch(config)#</pre></p>	<p>Sets up remote management in the running configuration of the secondary Cisco Nexus 1010.</p> <p><i>ipaddress:</i> the IP address of the CIMC management port</p> <p><i>username:</i> the admin username for the CIMC management software</p> <p><i>password:</i> the admin password for the CIMC management software</p>
Step 4	<p>show running-config</p> <p>Example: <pre>switch(config)# show running-config !Command: show running-config !Time: Sat Jun 25 03:01:55 2011 version 4.2(1)SP1(2) no feature telnet username adminbackup password 5 \$1\$Oip/C5Ci\$oOdx7oJS1BCFpNRmQK4na. role network -operator network-uplink type 1 nexus1010-system remote-mgmt primary ip 172.23.231.51 username admin password ** ***** nexus1010-system remote-mgmt secondary ip 172.23.231.52 username admin password ***** interface mgmt0 ... switch(config)#</pre></p>	<p>Displays the running configuration including the remote management configuration for verification.</p>
Step 5	<p>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>

Additional References

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

- [Related Documents, page 3-4](#)
- [Standards, page 3-4](#)
- [RFCs, page 3-4](#)

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Related Documents

Related Topic	Document Title
CIMC	Cisco Integrated Management Controller, page 1-3
CIMC configuration	<i>Cisco Nexus 1010 Virtual Services Appliance Hardware Installation Guide</i>
virtual service blade configuration	Configuring Virtual Service Blades, page 5-1
Uplink configuration	Configuring the Uplinks, page 4-1
Hardware installation and uplink connection	<i>Cisco Nexus 1010 Virtual Services Appliance Hardware Installation Guide</i>
Software installation and upgrade	<i>Cisco Nexus 1010 Software Installation and Upgrade Guide, Release 4.2(1)SP1(2)</i>
Split-brain and loss of communication	<i>Cisco Nexus 1000V High Availability and Redundancy Configuration Guide, Release 4.0(4)SV1(3)</i>
Complete command syntax, command modes, command history, defaults, usage guidelines, and examples for all Cisco Nexus 1010 commands.	<i>Cisco Nexus 1010 Command Reference, Release 4.0(4)SP1(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.	—

RFCs

RFCs	Title
No RFCs are supported by this feature	—

Feature History for Remote Management

This section provides the remote management release history.

Feature Name	Releases	Feature Information
remote management	4.0(4)SP1(1)	This feature was introduced.



CHAPTER 4

Configuring the Uplinks

This chapter describes how to configure the uplink type in the Cisco Nexus 1010 software and includes the following sections:

- [Guidelines and Limitations, page 4-1](#)
- [Modifying the Uplink Type, page 4-2](#)
- [Verifying the Uplink Configuration, page 4-3](#)
- [Additional References, page 4-3](#)
- [Feature History for Uplink, page 4-4](#)

Guidelines and Limitations

Follow these guidelines and limitations when configuring uplinks in the Cisco Nexus 1010 software:

- A change to the uplink type does not take effect until you reload the software.
- Use [Table 4-1](#) when modifying the uplink type.

Table 4-1 *Uplink Usage*

Uplink Type	Usage
1	When only the Cisco Nexus 1000V VSM is installed.
2	When both VSMS and network bandwidth intensive VSBs are deployed.
3	When the management and data traffic upstream must be separated.
4	When the management and data traffic upstream must be separated and control and data traffic must also be separated.

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Modifying the Uplink Type

Use this procedure to modify the uplink type on an operational Cisco Nexus 1010.

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 must reload the Cisco Nexus 1010 pair in order to activate the changes made in this procedure.



Caution To prevent loss of connectivity, you must reconfigure the uplink switches to correspond with the change made in this procedure.

- The following are supported uplink types and the ports that carry each type of VLAN traffic.

Table 4-2 Uplink Types and VLAN Ports

Uplink type	Management VLAN	Control VLAN	Data VLAN
1	ports 1 and 2	ports 1 and 2	ports 1 and 2
2	ports 1 and 2	ports 1 and 2	ports 3-6
3	ports 1-2	ports 3-6	ports 3-6
4	ports 1-2	ports 3-4	ports 5-6

SUMMARY STEPS

1. **config t**
2. **network uplink type** *number*
3. **show network-uplink type**
4. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	config t Example: switch# config t switch(config)#	Places you in the CLI Global Configuration mode.
Step 2	network uplink type <i>number</i> Example: switch(config)# network uplink type 2 switch(config)#	Changes the uplink type for the Cisco Nexus 1010. <i>number</i> : 1, 2, 3, or 4

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	Command	Purpose
Step 3	show network-uplink type Example: switch(config)# show network uplink type Administrative topology id: 2 Operational topology id: 1 switch(config)#	Displays the uplink configuration for verification.
Step 4	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.
Step 5	reload Example: switch(config)# reload This command will reboot the system. (y/n)? [n] y 2009 Oct 30 21:51:34 s1 %\$ VDC-1 %\$ %PLATFORM-2-PFM_SYSTEM_RESET: Manual system restart from Command Line Interface switch(config)#	

Verifying the Uplink Configuration

To verify the uplink configuration, use the following commands:

Command	Purpose
show network-uplink type	Displays the uplink configuration for verification. See Example 4-1 on page 4-3

Example 4-1 Network Uplink Type

This example shows how to display the uplink configuration:

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

Additional References

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

- [Related Documents, page 4-4](#)
- [Standards, page 4-4](#)
- [MIBs, page 4-4](#)

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- [RFCs, page 4-4](#)

Related Documents

Related Topic	Document Title
Software setup configuration	Setting Up the Management Software, page 2-1
virtual service blade configuration	Configuring Virtual Service Blades, page 5-1
Cisco Nexus 1010 installation	<i>Cisco Nexus 1010 Virtual Services Appliance Installation Guide</i>
Connecting uplinks	Cisco Nexus 1010 Virtual Services Appliance Installation Guide
Cisco Nexus 1010 commands	<i>Cisco Nexus 1010 Command Reference, Release 4.0(4)SP1(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 Uplink

This section provides the uplink feature release history.

Feature Name	Releases	Feature Information
Uplink	4.0(4)SP1(1)	This feature was introduced.



CHAPTER 5

Configuring Virtual Service Blades

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

- [Guidelines and Limitations, page 5-1](#)
- [Creating a Virtual Service Blade, page 5-1](#)
- [Deleting a Virtual Service Blade, page 5-6](#)
- [Modifying a Virtual Service Blade, page 5-8](#)
- [Verifying the Virtual Service Blade Configuration, page 5-14](#)
- [Additional References, page 5-16](#)
- [Feature History for Virtual Service Blade, page 5-17](#)

Guidelines and Limitations

Follow these guidelines and limitations when configuring virtual service blades:

- The Cisco Nexus 1010 and its hosted Cisco Nexus 1000V VSMs must share the same management VLAN.
- Unlike the control and packet VLANs which are set when a virtual service blade is created, a virtual service blade inherits its management VLAN from the Cisco Nexus 1010.



Caution

Do not change the management VLAN on a virtual service blade. Since the management VLAN is inherited from the Cisco Nexus 1010, if you change it, then the change is applied to both the Cisco Nexus 1010 and all of its hosted Cisco Nexus 1000V VSMs.

Creating a Virtual Service Blade

Use this procedure to create a virtual service blade (VSB), such as a VSM, by installing and configuring the Cisco Nexus 1000V software.



Note

For information about upgrading Cisco Nexus 1000V software on an existing VSB, see the *Cisco Nexus 1000V Software Upgrade Guide, Release 4.0(4)SV1(3)*.

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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 that you want to create.
- You know whether you are using a new ISO file from the bootflash repository folder or from an existing virtual service blade.
 - If you are using a new ISO file in the bootflash repository, you know the filename.
Cisco Nexus 1000V: `nexus-1000v.4.0.4.SV1.3.iso`
Cisco NAM: `nam-4-2-1.iso`
 - If you are using an ISO file from an existing virtual service blade, you must know the name of the virtual service blade type. This procedure includes information about identifying this name.
- You know the following properties for the virtual service blade:
 - Domain ID
 - Management IP address
 - Management subnet mask length
 - Default gateway IPV4 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 1010.

SUMMARY STEPS



1. **config t**
2. **virtual-service-blade** *name*
3. **show virtual-service-blade summary**
4. **virtual-service-blade-type** [*name* | **new iso_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**

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DETAILED STEPS

	Command	Purpose
Step 1	config t Example: switch# config t switch(config)#	Places you in the CLI Global Configuration mode.
Step 2	virtual-service-blade name Example: switch(config)# virtual-service-blade vsm-1 switch(config-vsrb-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 summary	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.
Step 4	virtual-service-blade-type [name new iso file name] Example: switch(config-vsrb-config)# virtual-service-blade-type new nexus-1000v.4.0.4.SV1.3.iso switch(config-vsrb-config)# Example: switch(config-vsrb-config)# virtual-service-blade-type vsm-2 switch(config-vsrb-config)#	Specifies the type and name of the software image file to add to this virtual service blade. <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 3 command output. • new: the name of the new ISO software image file in bootflash repository folder.
Step 5	description description Example: switch(config-vsrb-config)# description vsm_hamilton_storage switch(config-vsrb-config)#	(Optional) Adds a description to the virtual service blade. <i>description:</i> an alphanumeric string of up to 80 characters without spaces

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Command	Purpose
<p>Step 6 <code>show virtual-service-blade name name</code></p> <p>Example:</p> <pre>switch(config-vs-b-config)# show virtual-service-blade name vsm-2 virtual-service-blade vsm-2 Description: Slot id: 2 Host Name: Management IP: VSB Type Name : VSM-1.0 Interface: control vlan: 0 Interface: management vlan: 231 Interface: packet 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: switch(config-vs-b-config)#</pre>	<p>Displays the virtual service blade you have just created including the interface names that you configure in the next step.</p>
<p>Step 7 <code>interface name vlan vlanid</code></p> <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 virtual service blade. Use the interface names from Step 6 command output.</p> <p>Note If you attempt 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</p> <p> Caution Do not assign a management VLAN. Unlike control and packet VLANs, the management VLAN is inherited from the Cisco Nexus 1010.</p> <p> Caution To prevent loss of connectivity, you must configure the same control and packet VLANs on the hosted VSMs.</p>
<p>Step 8 Repeat Step 7 to apply additional interfaces.</p>	

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	Command	Purpose
Step 9	<p>enable [primary secondary]</p> <p>Example: <pre>switch(config-vsbs-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': Sfish123 switch(config-vsbs-config)#</pre></p>	<p>Initiates the configuration of the virtual service blade and then enables it.</p> <p>If you are enabling a non-redundant virtual service blade, you can specify its HA role as follows:</p> <ul style="list-style-type: none"> • primary: designates the virtual service blade in a primary role. • secondary: designates the virtual service blade in a secondary role. <p>The Cisco Nexus 1010 prompts you for the following:</p> <ul style="list-style-type: none"> • Domain ID This must be a different domain ID than the one you used for the Cisco Nexus 1010. • Management IP address • Management subnet mask length • Default gateway IPV4 address • Switchname • Administrator password
Step 10	<p>show virtual-service-blade <i>name</i></p> <p>Example: <pre>switch(config-vsbs-config)# show virtual-service-blade name vsm-1 virtual-service-blade vsm-1 Description: Slot id: 1 SW version: 4.0(4)SV1(3) Host Name: vsm-1 Management IP: 10.78.108.40 VB Type Name : VSM_SV1_3 Interface: control vlan: 1044 Interface: management vlan: 1032 Interface: packet 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 switch(config-vsbs-config)#</pre></p>	<p>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>
Step 11	<p>copy running-config startup-config</p> <p>Example: <pre>switch(config-vsbs-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>

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Deleting a Virtual Service Blade

Use this procedure to delete a virtual service blade, 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.
- You must shut down the virtual service blade before it can be deleted. This procedure includes instructions for shutting down the virtual service blade.
- A virtual service blade can be removed completely from both redundant Cisco Nexus 1010s, or from only one. If one of a redundant pair of virtual service blade blades becomes unusable, it can be removed from only the Cisco Nexus 1010 where it resides. This mitigates the recovery by preserving the remaining virtual service blade in the pair. This may become necessary if a new instance of the service must be provisioned.

SUMMARY STEPS

1. **config t**
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	config t 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-vsbl-config)#	Places you into configuration mode for the named virtual service blade.

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	Command	Purpose
Step 3	<p>shutdown</p> <p>Example: switch(config-vsb-config)# shutdown switch(config-vsb-config)#</p>	Shuts down the virtual service blade.
Step 4	<p>show virtual-service-blade summary</p> <p>Example: switch(config-vsb-config)# show virtual-service-blade summary</p> <pre>----- Name Role State Nexus1010-Module ----- vsm-1 PRIMARY VSB POWERED ON Nexus1010-PRIMARY vsm-1 SECONDARY VSB POWERED ON Nexus1010-SECONDARY vsm-2 PRIMARY VSB NOT PRESENT Nexus1010-PRIMARY vsm-2 SECONDARY VSB POWERED ON Nexus1010-SECONDARY vsm-3 PRIMARY VSB NOT PRESENT Nexus1010-PRIMARY vsm-3 SECONDARY VSB POWERED ON Nexus1010-SECONDARY vsm-4 PRIMARY VSB POWERED ON Nexus1010-PRIMARY vsm-4 SECONDARY VSB POWERED ON Nexus1010-SECONDARY vsm-5 PRIMARY VSB POWERED OFF Nexus1010-PRIMARY vsm-5 SECONDARY VSB POWERED OFF Nexus1010-SECONDARY switch(config-vsb-config)#</pre>	Displays a summary of services for verification of the shutdown.
Step 5	<p>One of the following:</p> <ul style="list-style-type: none"> no virtual-service-blade <i>name</i> no enable [primary secondary] <p>Example: switch(config-vsb-config)# no virtual-service-blade vsm-5 switch(config-vsb-config)#</p> <p>Example: switch(config-vsb-config)# no enable switch(config-vsb-config)#</p>	<p>Deletes the specified virtual service blade.</p> <ul style="list-style-type: none"> no virtual-service-blade: Removes the virtual service blade in its entirety from the Cisco Nexus 1010. no enable: Removes the specified virtual service blade from the system but retains the infrastructure configuration (interface VLANs, RAM size, disk size overrides) in Cisco Nexus 1010. Use this command to delete only one virtual service blade in a pair (primary or secondary).
Step 6	<p>show virtual-service-blade summary</p>	Displays a summary of services for verification of the removal.

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Command	Purpose
Example: (no virtual-service-blade)	
switch(config-vs-b-config)# show virtual-service-blade summary	

Name	Role State Nexus1010-Module
-----	-----
vsm-1	PRIMARY VSB POWERED ON Nexus1010-PRIMARY
vsm-1	SECONDARY VSB POWERED ON Nexus1010-SECONDARY
vsm-2	PRIMARY VSB NOT PRESENT Nexus1010-PRIMARY
vsm-2	SECONDARY VSB POWERED ON Nexus1010-SECONDARY
vsm-3	PRIMARY VSB NOT PRESENT Nexus1010-PRIMARY
vsm-3	SECONDARY VSB POWERED ON Nexus1010-SECONDARY
vsm-4	PRIMARY VSB POWERED ON Nexus1010-PRIMARY
vsm-4	SECONDARY VSB POWERED ON Nexus1010-SECONDARY
switch(config-vs-b-config)#	
Example: (no enable)	
switch(config-vs-b-config)# show virtual-service-blade summary	

Name	Role State Nexus1010-Module
-----	-----
vsm-1	PRIMARY VSB POWERED ON Nexus1010-PRIMARY
vsm-1	SECONDARY VSB POWERED ON Nexus1010-SECONDARY
vsm-2	PRIMARY VSB NOT PRESENT Nexus1010-PRIMARY
vsm-2	SECONDARY VSB POWERED ON Nexus1010-SECONDARY
vsm-3	PRIMARY VSB NOT PRESENT Nexus1010-PRIMARY
vsm-3	SECONDARY VSB POWERED ON Nexus1010-SECONDARY
vsm-4	PRIMARY VSB POWERED ON Nexus1010-PRIMARY
vsm-4	SECONDARY VSB POWERED ON Nexus1010-SECONDARY
vsm-5	PRIMARY VSB POWERED OFF Nexus1010-PRIMARY
vsm-5	SECONDARY VSB POWERED OFF Nexus1010-SECONDARY
switch(config-vs-b-config)#	
Step 7	copy running-config startup-config
Example:	Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.
switch(config)# copy running-config startup-config	

Modifying a Virtual Service Blade

Use this section to modify the control VLAN, packet VLAN, or the RAM size of a virtual service blade and then make the corresponding changes to the VSM.

This section includes the following topics:

- [Modifying a Virtual Service Blade on the Cisco Nexus 1010, page 5-9](#)
- [Modifying a VSM on the Cisco Nexus 1000V, page 5-12](#)

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Modifying a Virtual Service Blade on the Cisco Nexus 1010

Use this procedure to modify the control VLAN, packet VLAN, or the RAM size of a virtual service blade.

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 modifying.
- You must shut down the virtual service blade before modifying the RAM size. This procedure includes instructions for shutting down the virtual service blade.
- You must shut down the virtual service blade before modifying the control VLAN. This procedure includes instructions for shutting down the virtual service blade.



Caution

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

- You change the configuration first in the virtual service blade configuration and, then, in the Cisco Nexus 1000V VSM configuration. This procedure changes the virtual service blade configuration. To change the Cisco Nexus 1000V configuration, see the [“Modifying a VSM on the Cisco Nexus 1000V” procedure on page 5-12](#).



Caution

Do not modify the management VLAN. If you change the management VLAN, the change is applied to both the Cisco Nexus 1010 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. **config t**
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**

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8. **show virtual-service-blade name** *name*
9. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	config t Example: switch# config t switch(config)#	Places you in the CLI Global Configuration mode.
Step 2	virtual-service-blade name Example: switch(config)# virtual-service-blade vsm-5 switch(config-vs-b-config)#	Places you into configuration mode for the named virtual service blade.
Step 3	Do one of the following: <ul style="list-style-type: none"> • If you are modifying the RAM size or the control VLAN, then 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 virtual service blade.
Step 5	show virtual-service-blade summary Example: switch(config-vs-b-config)# show virtual-service-blade summary ----- <pre> Name Role State Nexus1010-Module ----- vsm-1 PRIMARY VSB POWERED ON Nexus1010-PRIMARY vsm-1 SECONDARY VSB POWERED ON Nexus1010-SECONDARY vsm-2 PRIMARY VSB NOT PRESENT Nexus1010-PRIMARY vsm-2 SECONDARY VSB POWERED ON Nexus1010-SECONDARY vsm-3 PRIMARY VSB NOT PRESENT Nexus1010-PRIMARY vsm-3 SECONDARY VSB POWERED ON Nexus1010-SECONDARY vsm-4 PRIMARY VSB POWERED ON Nexus1010-PRIMARY vsm-4 SECONDARY VSB POWERED ON Nexus1010-SECONDARY vsm-5 PRIMARY VSB POWERED OFF Nexus1010-PRIMARY vsm-5 SECONDARY VSB POWERED OFF Nexus1010-SECONDARY switch(config-vs-b-config)# </pre>	Displays a summary of services for verification of the shutdown.

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	Command	Purpose
Step 6	<p>One of the following:</p> <ul style="list-style-type: none"> • ramsize <i>size</i> • interface control vlan <i>vlanid</i> • interface packet vlan <i>vlanid</i> <p>Example: <pre>switch(config-vs-b-config)# ramsize 1024 switch(config-vs-b-config)#</pre> </p> <p>Example: <pre>switch(config-vs-b-config)# interface control vlan 1116 switch(config-vs-b-config)#</pre> </p> <p>Example: <pre>switch(config-vs-b-config)# interface packet vlan 1117 switch(config-vs-b-config)#</pre> </p>	<p>Modifies the virtual service blade. You can modify any of the following virtual service blade parameters:</p> <ul style="list-style-type: none"> • memory allocated for RAM (1024-4096 MB). • control VLAN ID • packet VLAN ID
Step 7	<p>no shutdown</p> <p>Example: <pre>switch(config-vs-b-config)# no shutdown switch(config-vs-b-config)#</pre> </p>	<p>Returns the virtual service blade status to powered on.</p>
Step 8	<p>show virtual-service-blade name <i>name</i></p> <p>Example: <pre>switch(config-vs-b-config)# show virtual-service-blade name vsm-5 virtual-service-blade vsm-5 Description: Slot id: 1 SW version: 4.0(4)SV1(3) Host Name: vsm-5 Management IP: 10.78.108.40 VB Type Name : VSM_SV1_3 Interface: control vlan: 1116 Interface: management vlan: 1032 Interface: packet vlan: 1117 Interface: internal vlan: NA Ramsize: 1024 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 switch(config-vs-b-config)#</pre> </p>	<p>Displays the virtual service blade information for verification of the changes.</p>

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	Command	Purpose
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.
Step 10	You have completed this procedure. You must now update the VSM configuration using the “Modifying a VSM on the Cisco Nexus 1000V” procedure on page 5-12 .	

Modifying a VSM on the Cisco Nexus 1000V

Use this procedure to modify the control VLAN ID, packet VLAN ID, or RAM size in the VSM configuration on the Cisco Nexus 1000V.

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 VSM you are modifying.
- You change the configuration first in the Cisco Nexus 1010 virtual service blade configuration and, then, in the Cisco Nexus 1000V VSM configuration. This procedure changes the Cisco Nexus 1000V VSM configuration. To change the Cisco Nexus 1010 virtual service blade configuration, see the [“Modifying a Virtual Service Blade on the Cisco Nexus 1010” procedure on page 5-9](#).



Caution Do not modify the management VLAN. If you change the management VLAN, the change is applied to both the Cisco Nexus 1010 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. **\$**
12. **close**

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DETAILED STEPS

	Command	Purpose
Step 1	login virtual-service-blade vb6	Logs you into the Cisco Nexus 1000V CLI for the VSM you are modifying.
Step 2	<i>login</i>	Authenticates your user ID.
Step 3	<i>password</i>	Authenticates your password.
	<p>Example: N1010-1# login virtual-service-blade 1 Telnet escape character is '\$'. Trying 192.168.0.18... Connected to 192.168.0.18. Escape character is '\$'.</p> <p>User Access Verification n1010-vsml login: password:</p>	
Step 4	show svcs domain	Displays the domain configuration for the VSM.
	<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>	
Step 5	config t	Places you in the CLI Global Configuration mode.
	<p>Example: n1000v# config t n1000v(config)#</p>	
Step 6	svcs-domain	Places you into SVS Domain Configuration mode.
	<p>Example: n1000v(config)# svcs domain n1000v(config-svcs-domain)#</p>	
Step 7	control vlan <i>vlanid</i>	Modifies the VLAN ID of the VSM domain control VLAN.
	<p>Example: n1000v(config-svcs-domain)# control vlan 1116 n1000v(config-svcs-domain)#</p>	
Step 8	packet vlan <i>vlanid</i>	Modifies the VLAN ID of the VSM domain packet VLAN.
	<p>Example: n1000v(config-svcs-domain)# packet vlan 1117 n1000v(config-svcs-domain)#</p>	

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	Command	Purpose
Step 9	<pre>show svcs domain</pre> <p>Example:</p> <pre>n1000v(config-svs-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-svs-domain)#</pre>	Displays the domain configuration for verification of the changes.
Step 10	<pre>copy running-config startup-config</pre> <p>Example:</p> <pre>n1000v(config-svs-domain)# copy running-config startup-config n1000v(config-svs-domain)#</pre>	Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.
Step 11	<pre>\$</pre> <p>Example:</p> <pre>n1000v(config-svs-domain)# \$ Telnet></pre>	Exits from the SVS Domain Configuration mode and returns you to a Telnet prompt.
Step 12	<pre>close</pre> <p>Example:</p> <pre>Telnet> close switch#</pre>	Closes the Telnet session and returns you to EXEC mode on the Cisco Nexus 1010.
Step 13	You have completed this procedure.	

Verifying the Virtual Service Blade Configuration

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

Command	Purpose
show virtual-service-blade [name name]	Displays the configuration for a specific virtual service blade. See Example 5-1 on page 5-15
show virtual-service-blade summary	Displays a summary of all virtual service blade configurations. Note This command is only recognized by the primary Cisco Nexus 1010. See Example 5-2 on page 5-16

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Command	Purpose
show virtual-service-blade-type summary	Displays a summary of all virtual service blade configurations by type, such as VSM or NAM. See Example 5-3 on page 5-16
show network-uplink type	Displays the uplink configuration for verification. See Example 5-3 on page 5-16

Example 5-1 Virtual Service Blade

This example shows how to display the configuration for a specific virtual service blade:

```
switch# show virtual-service-blade name vsm-5
virtual-service-blade vsm-5
  Description:
  Slot id:      1
  SW version:   4.0(4)SV1(3)
  Host Name:    vsm-5
  Management IP: 10.78.108.40
  VB Type Name : VSM_SV1_3
  Interface: control   vlan: 1116
  Interface: management  vlan: 1032
  Interface: packet   vlan: 1117
  Interface: internal  vlan: NA
  Ramsize:         1024
  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
switch#
```

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Example 5-2 Virtual Service Blade Summary

This example shows how to display a summary of all virtual service blade configurations:

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

```
-----
Name                Role        State                Nexus1010-Module
-----
vsm-1               PRIMARY    VSB POWERED ON      Nexus1010-PRIMARY
vsm-1               SECONDARY  VSB POWERED ON      Nexus1010-SECONDARY
vsm-2               PRIMARY    VSB NOT PRESENT     Nexus1010-PRIMARY
vsm-2               SECONDARY  VSB POWERED ON      Nexus1010-SECONDARY
vsm-3               PRIMARY    VSB NOT PRESENT     Nexus1010-PRIMARY
vsm-3               SECONDARY  VSB POWERED ON      Nexus1010-SECONDARY
vsm-4               PRIMARY    VSB POWERED ON      Nexus1010-PRIMARY
vsm-4               SECONDARY  VSB POWERED ON      Nexus1010-SECONDARY
vsm-5               PRIMARY    VSB POWERED OFF     Nexus1010-PRIMARY
vsm-5               SECONDARY  VSB POWERED OFF     Nexus1010-SECONDARY
switch#
```

Example 5-3 Virtual Service Blade Type

This example shows how to display a summary of all virtual service blade configurations by type, such as VSM or NAM:

```
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
```

Example 5-4 Network Uplink Type

This example shows how to display the uplink configuration:

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

Additional References

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

- [Related Documents, page 5-17](#)
- [Standards, page 5-17](#)
- [MIBs, page 5-17](#)
- [RFCs, page 5-17](#)

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Related Documents

Related Topic	Document Title
Cisco Nexus 1010 software setup configuration	Setting Up the Management Software, page 2-1
Cisco Nexus 1010 virtual service blade configuration	Configuring Virtual Service Blades, page 5-1
Cisco Nexus 1010 commands	<i>Cisco Nexus 1010 Command Reference, Release 4.0(4)SP1(1)</i>
Cisco Nexus 1000V commands	<i>Cisco Nexus 1000V Command Reference, Release 4.0(4)SV1(3)</i>
Configuring the Cisco Nexus 1000V domain	<i>Cisco Nexus 1000V System Management Configuration Guide, Release 4.0(4)SV1(3)</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
<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

RFCs

RFCs	Title
No RFCs are supported by this feature	—

Feature History for Virtual Service Blade

This section provides the virtual service blade blades release history.

Feature Name	Releases	Feature Information
Virtual Service Blades	4.0(4)SP1(1)	This feature was introduced.

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CHAPTER 6

Migrating a VSM

This chapter describes how to move or migrate a VSM to the Cisco Nexus 1010, and includes the following sections:

- [Information About Migrating a VSM, page 6-1](#)
- [Guidelines and Limitations, page 6-3](#)
- [Migrating a VSM to the Cisco Nexus 1010, page 6-3](#)
- [Verifying the Migration, page 6-7](#)
- [Additional References, page 6-8](#)
- [Feature History for Migration, page 6-9](#)

Information About Migrating a VSM

After you have installed the Cisco Nexus 1010, you can move, or migrate, your VSMs from virtual machines to the Cisco Nexus 1010.

[Figure 6-1](#) shows the process for migrating a VSM to the Cisco Nexus 1010.

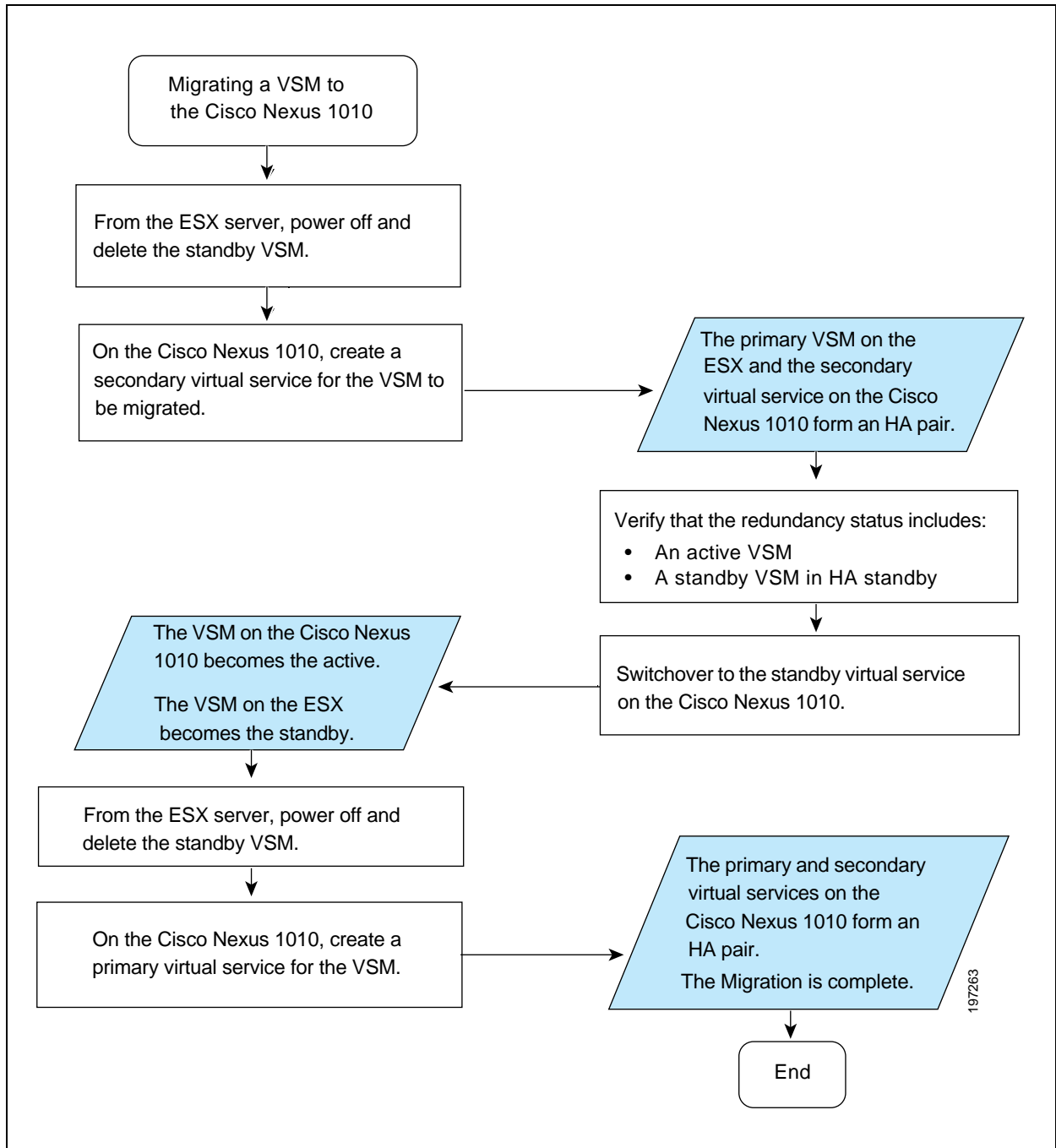


Note

[Figure 6-1](#) assumes that the standby state VSM on the ESX is also assigned the secondary HA role. If your standby state VSM is assigned the primary role, then reverse the roles in the flow chart.

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Figure 6-1 Migrating a VSM to the Cisco Nexus 1010



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Guidelines and Limitations

Follow these guidelines and limitations when moving or migrating a VSM from a virtual machine to the Cisco Nexus 1010:

- You must use the same management VLAN for both the VSM that you are migrating and the Cisco Nexus 1010.
- You must use the same RAM size and disk size for the virtual service as those used for the VSM virtual machine.

Migrating a VSM to the Cisco Nexus 1010

Use this procedure to move, or migrate, a VSM to the Cisco Nexus 1010 without service interruption.

BEFORE YOU BEGIN

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

- You have installed a primary and secondary Cisco Nexus 1010 in HA mode.
- You are logged in to the CLI of the Cisco Nexus 1010 in EXEC mode.
- You know the name of the VSM that you want to move or migrate from the ESX.
- The Cisco Nexus 1000V software must already be installed and upgraded to Release 4.0(4)SV1(3) on the ESX server.
 - For information about installing the software, see the *Cisco Nexus 1000V Software Installation Guide, Release 4.0(4)SV1(3)*.
 - For information about upgrading see the *Cisco Nexus 1000V Software Upgrade Guide, Release 4.0(4)SV1(3)*
- When creating the secondary virtual service, use the same information that you used for the primary VSM 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 ESX, then the synchronization between the ESX 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 VSM VM for the following:
 - RAM size
 - Disk size

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DETAILED STEPS

Step 1 From the ESX vSphere client, right-click the standby VSM and choose **power off** from the popup menu. The standby VSM is powered off.

Step 2 From the ESX vSphere client, right-click the standby VSM and choose **delete from disk** from the popup menu. The standby VSM is removed from the ESX server. Only the primary VSM is active on the ESX server with modules attached.

Step 3 From the CLI of the active Cisco Nexus 1010, use the following commands to create a secondary virtual service for the VSM that you want to migrate. Use the same information that you used to create the primary VSM.

config t

virtual service blade *name*

ram

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

enable secondary

Example:

```
switch# config t
switch(config)# virtual-service-blade VB-1
switch(config-vs-b-config)# virtual-service-blade-type new new dcos_vsm.iso
switch(config-vs-b-config)# ramsize 2048
switch(config-vs-b-config)# disksize 4
switch(config-vs-b-config)# interface control vlan 1322
switch(config-vs-b-config)# interface packet vlan 1323
switch(config-vs-b-config)# enable secondary
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 4 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 NOT PRESENT     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 NOT PRESENT     Nexus1010-PRIMARY
```

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VB-1 SECONDARY VSB POWERED ON Nexus1010-SECONDARY

Once you have created the virtual service on the secondary Cisco Nexus 1010, an HA pair forms between the primary VSM on the ESX and the secondary virtual service on the Cisco Nexus 1010.

- Step 5** From the CLI of the primary VSM on the ESX, use the following command to verify the redundancy status of the VSMs.

show system redundancy status

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

- The presence of an active VSM
- The presence of a standby VSM 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: Active
Supervisor state: Active
Internal state: Active with HA standby
Other supervisor (sup-2)
-----
Redundancy state: Standby
Supervisor state: HA standby
Internal state: HA standby
```

- Step 6** From the CLI of the primary VSM on the ESX server, use the following command to initiate a manual switchover to the standby virtual service on the Cisco Nexus 1010.

system switchover

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.
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 VSM on the ESX reboots.
- The virtual service configuration on the Cisco Nexus 1010 is overwritten to match what is on the VSM on the ESX.

The secondary virtual service on the Cisco Nexus 1010 is now the active VSM.

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Step 7 From the ESX vCenter client, right-click the standby VSM and choose **power off** from the popup menu. The standby VSM is powered off.

Step 8 From the ESX vCenter client, right-click the standby VSM and choose **delete from disk** from the popup menu.

The standby VSM is removed from the ESX server.

Step 9 From the CLI of the active Cisco Nexus 1010, use the following commands to create a new primary virtual service. Use the same information that you used to create the secondary virtual service.

config t

virtual service blade *name*

enable primary

After you enter these commands, the Cisco Nexus 1010 prompts you for additional information.

Once you have created the primary virtual service on the active Cisco Nexus 1010, an HA pair is formed between the primary virtual service and the secondary virtual service on the Cisco Nexus 1010.

Example:

```
switch# config t
switch(config)# virtual-service-blade VB-1
switch(config-vs-b-config)# enable primary
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 10 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 POWERED ON         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 11 You have completed this procedure.

The VSM is migrated from the ESX host to the Cisco Nexus 1010.

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Verifying the Migration

To verify the migration, use the following commands:

Command	Purpose
<code>show virtual-service-blade summary</code>	Displays the redundancy state (active or standby) and the redundancy role (primary or secondary) for each virtual service.
<code>show system redundancy status</code>	Displays the redundancy state (active or standby) and the redundancy role (primary or secondary) for the Cisco Nexus 1010s. See Example 6-2 on page 6-7 .

Example 6-1 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
```

```
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 6-2 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: Active
Supervisor state: Active
Internal state: Active with HA standby
Other supervisor (sup-2)
```

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```

-----
Redundancy state: Standby
Supervisor state: HA standby
Internal state: HA standby

```

Additional References

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

- [Related Documents, page 6-8](#)
- [Standards, page 6-8](#)
- [MIBs, page 6-8](#)
- [RFCs, page 6-8](#)

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 5-1
Cisco Nexus 1010 installation	<i>Cisco Nexus 1010 Virtual Services Appliance Installation Guide</i>
Cisco Nexus 1010 commands	<i>Cisco Nexus 1010 Command Reference, Release 4.0(4)SP1(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	—

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Feature History for Migration

This section provides the migration feature release history.

Feature Name	Releases	Feature Information
VSM migration	4.0(4)SP1(1)	This feature was introduced.

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CHAPTER 7

Reinstalling or Upgrading the Software

This chapter describes how to reinstall or upgrade the Cisco Nexus 1010 software, and includes the following sections:

- [Information About Software, page 7-1](#)
- [Guidelines and Limitations, page 7-1](#)
- [Reinstalling the Software, page 7-2](#)
- [Upgrading the Software, page 7-2](#)
- [Additional References, page 7-4](#)



Note

For information about upgrading Cisco Nexus 1000V software on a VSB, see the *Cisco Nexus 1000V Software Upgrade Guide, Release 4.0(4)SV1(3)*.

Information About Software

Cisco Nexus 1010 software is pre installed as an ISO image that includes the following components:

- Cisco Nexus 1010 kickstart image
This is the image for the Cisco Nexus 1010 Manager virtual machine which manages shelf and redundancy group configuration.
- Hypervisor with a Cisco Nexus 1010 agent

In the event of disk corruption on the Cisco Nexus 1010, the system can be brought up by copying the image from a CD.

When you upgrade the software, the operational data is retained without loss of persistent information.

Guidelines and Limitations

Use the following guidelines and limitations when reinstalling or upgrading software:



Caution

When you reinstall the software, all previous configuration is overwritten and lost.

- The only way to upgrade the software is through “install nexus1010” command

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- The upgrade does not take effect until you save configuration and reload the software.
- Boot variables must be set by the system when you use the install command. Never attempt to set the boot variables manually.

Reinstalling the Software

You can use this procedure to reinstall the software from your software CD in the event that the system disk becomes corrupted.

BEFORE YOU BEGIN

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



Caution

Potential Loss of Data

When you reinstall the software, all previous configuration is overwritten and lost.

DETAILED STEPS

Step 1 From a terminal server, connect to the serial port of the Cisco Nexus 1010.

Step 2 Insert the installation CD in the DVD-RW drive.

Step 3 On the Cisco Nexus 1010, press the Power button.

The Cisco Nexus 1010 reboots and the management software setup process begins. To continue see the [“Setting Up the Management Software” procedure on page 2-5](#).

Upgrading the Software

You can use this procedure to upgrade the Cisco Nexus 1010 software while retaining operational data and persistent information.



Note

For information about upgrading Cisco Nexus 1000V software on a VSB, see the *Cisco Nexus 1000V Software Upgrade Guide, Release 4.0(4)SV1(3)*.

BEFORE YOU BEGIN

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

- If you upgrade the active switch in a pair of redundant Cisco Nexus 1010s, then the standby switch is upgraded automatically.
- You have already saved a backup copy of your running configuration on an external server.
- You have saved a copy of the new Cisco Nexus 1010 software file from the following Cisco Nexus 1010 software download site to an external server:

www.cisco.com/go/1010download

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- Step 1** On the Cisco Nexus 1010, copy any unsaved configuration from the running configuration to startup so that it is preserved after the reload.

copy running-config startup-config

Example:

```
switch# copy running-config startup-config
[#####] 100%
switch#
```

- Step 2** Copy the new software image from the external server to the following directory.

bootflash: \repository

copy scp://user@path/filename bootflash:filename

Example:

```
n1010# copy scp://user@linux-box.cisco.com/home/user/nexus-1010.4.0.4.SP1.1.1.iso
bootflash:
Enter vrf (If no input, current vrf 'default' is considered):
user@linux-box.cisco.com's password:
n1kv_license.lic          100% 252      0.3KB/s   00:00

n1010#
```

- Step 3** Install the new image.

install nexus1010 full_path_to_filename

The following things occur on the switch:

- The new software image is copied to bootflash.
- Bootflash variables are updated with the names of the new system and kickstart images.
- The new image and bootflash variable information is saved in the running configuration.

Example:

```
switch# install nexus1010 bootflash:repository/nexus-1010.4.0.4.SP1.1.1.iso
```

- Step 4** Save the new boot parameters in the startup configuration.

```
switch# copy running-config startup-config
[#####] 100%
```



Caution If you do not copy the running configuration to the startup configuration, the new boot parameters are not saved when you reload the software in [Step 5](#).

- Step 5** Reload the software to refresh the Cisco Nexus 1010 software image with the new image file.

reload

The software image is replaced with the version named in the bootflash variables. Any unsaved configuration is lost.

Example:

```
switch# reload
This command will reboot the system. (y/n)? [n] y
2009 Oct 30 21:51:34 s1 %$ VDC-1 %$ %PLATFORM-2-PFM_SYSTEM_RESET: Manual system restart
from Command Line Interface
switch#
```

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Additional References

Related Topic	Document Title
Hardware installation	<i>Cisco Nexus 1010 Virtual Services Appliance Installation Guide</i>
Cisco Nexus 1010 commands	<i>Cisco Nexus 1010 Command Reference, Release 4.0(4)SP1(1)</i>

Feature History for Software Installation and Upgrade

This section provides the software installation and upgrade release history.

Feature Name	Releases	Feature Information
software reinstall or upgrade	4.0(4)SP1(1)	This feature was introduced.



APPENDIX A

Cisco Nexus 1010 Configuration Limits

Use the following configuration limits for the Cisco Nexus 1010 management software:

Component	Supported Limit	
VSM	4 Cisco Nexus 1000V VSM (2 GB RAM each) ¹	
NAM	1 Cisco Network Analysis Module (2 GB RAM) ¹	
Hosts (ESX or ESXi)	256 (4 VSMS with up to 64 hosts each)	
Data Center per Cisco Nexus 1010 HA pair	1	
	Per VSB	Per Appliance
RAM	12 GB	400+ GB

1. Limited by available RAM on the Cisco Nexus 1010.

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