Cisco Nexus Cloud Services Platform Software Installation and Upgrade Guide, Release 5.2(1)SP1(7.1)

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CONTENTS

Preface

This preface contains the following sections:

Audience

This publication is for network administrators who configure and maintain Cisco Nexus devices.

This guide is for network and server administrators with the following experience and knowledge:

- An understanding of virtualization
- Using hypervisor host machine software to create a virtual machine and configure a virtual switch.

Document Conventions

Command descriptions use the following conventions:

Convention	Description
bold	Bold text indicates the commands and keywords that you enter literally as shown.
Italic	Italic text indicates arguments for which the user supplies the values.
[x]	Square brackets enclose an optional element (keyword or argument).
[x | y]	Square brackets enclosing keywords or arguments separated by a vertical bar indicate an optional choice.

Convention	Description
{x | y}	Braces enclosing keywords or arguments separated by a vertical bar indicate a required choice.
[x {y | z}]	Nested set of square brackets or braces indicate optional or required choices within optional or required elements. Braces and a vertical bar within square brackets indicate a required choice within an optional element.
variable	Indicates a variable for which you supply values, in context where italics cannot be used.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Examples use the following conventions:

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

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.

Related Documentation for Cisco Nexus Cloud Services Platform

This section lists the documents used with the Cisco Nexus Cloud Services Platform and available on Cisco.com at the following URL:

http://www.cisco.com/en/US/products/ps12752/tsd_products_support_series_home.html

General Information

Cisco Nexus Cloud Services Platform Release Notes

Install and Upgrade

Cisco Nexus Cloud Services Platform Hardware Installation Guide

Cisco Nexus Cloud Services Platform Software Installation and Upgrade Guide

Regulatory Compliance and Safety Information for the Cisco Nexus Cloud Services Platform

Configuration Guide

Cisco Nexus Cloud Services Platform Software Configuration Guide

Reference Guides

Cisco Nexus Cloud Services Platform Command Reference

Cisco Nexus Cloud Services Platform Compatibility Information

Troubleshooting and Alerts

Cisco Nexus Cloud Services Platform Troubleshooting Guide

Nexus 1000V Documentation

For the Cisco Nexus 1000V for VMware vSphere Documentation:

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

For the Cisco Nexus 1000V for Microsoft Hyper-V Documentation:

http://www.cisco.com/en/US/products/ps13056/tsd_products_support_series_home.html

Virtual Security Gateway Documentation

Cisco Virtual Security Gateway Documentation

Virtual Network Management Center Documentation

Virtual Network Management Center

Virtual Wide Area Application Services (vWAAS) Documentation

Virtual Wide Area Application Services (vWAAS)

ASA 1000V Cloud Firewall Documentation

Cisco ASA 1000V Cloud Firewall

Network Analysis Module Documentation

Network Analysis Module

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to:

- nexus-1k-docfeedback@cisco.com

We appreciate your feedback.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*, at: http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.

New and Changed Information

This chapter contains the following sections.

- New and Changed Information, page 1

New and Changed Information

This section lists the new and changed information in this document by release, and where it is located.

Feature	Description	Release	Where Documented
Enabling 10 Gbps Interface Card	Starting in Release 5.2(1)SP1(7.1), the Cisco Nexus 1110-X has its dual 10 Gbps ports enabled as an uplink in shared mode.	5.2(1)SP1(7.1)	Chapter 1, Overview, on page 5 and Chapter 2, Installing the Cisco Nexus Cloud Services Platform Software, on page 11.
Cisco Nexus 1000V Support for KVM	Starting in Release 5.2(1)SP1(7.1), the Cisco Nexus Cloud Services Platform supports the Cisco Nexus 1000V for Linux Kernel based Virtual Machine (KVM).	5.2(1)SP1(7.1)	Chapter 1, Overview, on page 5 .

Feature	Description	Release	Where Documented
No support for static topologies	Starting in Release 5.2(1)SP1(7.1), the Cisco Nexus Cloud Services Platform supports only a flexible network topology as the default topology type. All the previously configured static topology settings are automatically converted to a flexible configuration during an upgrade.	5.2(1)SP1(7.1)	Chapter 1, Overview, on page 5.
Support for new hardware on the Cisco Nexus 1110-X	Introduced the Cavium NITROX Security processor card for enabling SSL and crypto acceleration. This card is supported only on the Cisco Nexus 1110-X.	5.2(1)SP1(7.1)	Chapter 1,Overview, on page 5 and Chapter 2, Installing the Cisco Nexus Cloud Services Platform Software, on page 11.
Recommended BIOS Settings for the Cisco Nexus 1110-X.	The recommended BIOS settings for the Cisco Nexus 1110-X are in the Low Latency Optimized (Turbo ON) mode.	5.2(1)SP1(7.1)	Chapter 2, Installing the Cisco Nexus Cloud Services Platform Software, on page 11.
Cisco Nexus 1110-S and Cisco Nexus 1110-X	Introduced the Cisco Nexus 1110-S and the Cisco Nexus 1110-X.	4.2(1)SP1(5.1a)	Chapter 1, Overview, on page 5.
IPv6 capability for management0 IP address	Added the capability that enables you to specify management0 IPv6 address.	4.2(1)SP1(4a)	Chapter 2, Installing the Cisco Nexus Cloud Services Platform Software, on page 11.
Flexible Network Uplink	Added the capability that enables you to specify the flexible network uplink type.	4.2(1)SP1(4)	Chapter 2, Installing the Cisco Nexus Cloud Services Platform Software, on page 11.
Cisco Nexus 1010-X	Introduced the new appliance Cisco Nexus 1010-X.	4.2(1)SP1(3)	Chapter 1, Overview, on page 5.

Feature	Description	Release	Where Documented
Software upgrade	Added the capability that enables you to upgrade Cisco Nexus 1010.	4.2(1)SP1(2)	Chapter 3, Upgrading the Cisco Nexus Cloud Services Platform Software, on page 37.
Software reinstall	Added the capability that enables you to reinstall the Cisco Nexus 1010 software.	4.2(1)SP1(2)	Chapter 4, Reinstalling the Cisco Nexus Cloud Services Platform Software, on page 59.

CHAPTER **2**

Overview

This chapter contains the following sections:

Information about the Cisco Nexus Cloud Services Platform

The Cisco Nexus Cloud Services Platform (CSP) product family includes the Cisco Nexus 1010, Cisco Nexus 1010-X, Cisco Nexus 1110-S, and Cisco Nexus 1110-X. For more information about installing the Cisco Nexus Cloud Services Platform, see the *Cisco Nexus Cloud Services Platform Hardware Installation Guide*.

The Cisco Nexus Cloud Services Platform provides dedicated hardware for the Cisco Nexus 1000V Virtual Supervisor Module (VSM). The VSMs that were hosted on virtual machines can now be hosted on a Cisco Nexus Cloud Services Platform and you can install and manage the VSM like a standard Cisco switch.

The services managed by the Cisco Nexus Cloud Services Platform product family are called virtual service blades (VSBs). The following VSB types are supported by the Cisco Nexus Cloud Services Platform product family:

- Cisco Nexus 1000V Virtual Supervisor Module (VSM) for VMware vSphere, Microsoft Hyper-V, and KVM
- Cisco Network Analysis Module (NAM)
- Cisco Virtual Security Gateway (VSG)
- Cisco Nexus VXLAN Gateway
- Citrix NetScaler 1000V

Starting in Release, the Cisco Nexus 1110-X supports the Cavium NITROX security processor card as a field replaceable unit (FRU) to enable Secure Sockets Layer (SSL) and crypto acceleration. The Cavium NITROX security processor card provides an SSL offload capacity that can be used by the VSBs on the Cisco Nexus

Cloud Services Platform. For detailed information about installing the Cavium NITROX card, see the *Cisco Nexus Cloud Services Platform Hardware Installation Guide*. For information about configuring the Cavium NITROX security processor card, see the *Cisco Nexus Cloud Services Platform Software Configuration Guide*. See the *Cisco Nexus Cloud Services Platform Software Configuration Guide* for details on the number of virtual services blades (VSBs) that the Cisco Nexus Cloud Services Platform product family can host.

Cisco Integrated Management Controller

The Cisco Integrated Management Controller (CIMC) is a software interface included with the Cisco Nexus Cloud Services Platform. CIMC allows you to configure Serial over LAN (SoL) access and set up remote management if the device becomes unreachable. For more information about remote management, see the *Cisco Nexus Cloud Services Platform Software Configuration Guide*.

When you install the Cisco Nexus Cloud Services Platform, you have the option to configure the CIMC interface. To configure the CIMC software while installing the Cisco Nexus Cloud Services Platform, see the *Cisco Nexus Cloud Services Platform Hardware Installation Guide*.

Supported PIDs for the Cisco Nexus Cloud Services Platform

This release supports the following hardware product IDs (PIDs) for the Cisco Nexus Cloud Services Platform product family:

Cisco Nexus Cloud Services Platform	Hardware PID
Cisco Nexus 1010	N1K-C1010
Cisco Nexus 1010-X	N1K-C1010-X
Cisco Nexus 1110-S	N1K-1110-S
Cisco Nexus 1110-X	N1K-1110-X

Software Included with the Cisco Nexus Cloud Services Platform

The Cisco Nexus Cloud Services Platform product family is shipped with the following software:

Software	Description	ISO filename in bootflash repository
Cisco Nexus 1000V for VMware vSphere VSM	Creates a VSB for the Cisco Nexus 1000V VSM on the Cisco Nexus Cloud Services Platform product family.	nexus-1000v.4.2.1.SV2.2.2.1010.ova[2]

Software	Description	ISO filename in bootflash repository
Cisco Nexus 1000V for Microsoft Hyper-V VSM	Creates a VSB for the Cisco Nexus 1000V for Microsoft Hyper-V VSM on the Cisco Nexus Cloud Services Platform product family.	Nexus-1000V.5.2.1.SM1.5.2b.iso[2]
Cisco NAM VSB	Creates a VSB for the Cisco NAM on the Cisco Nexus Cloud Services Platform product family.	nam-app-x86_64.6-0-2.iso[2]
Cisco VSG for VMware vSphere	Creates a VSB for Cisco VSG (for VMware vSphere) on the Cisco Nexus Cloud Services Platform product family.	nexus-1000v.VSG2.1.1010.ova
Cisco VSG for Microsoft Hyper-V	Creates a VSB for Cisco VSG (for Microsoft Hyper-V) on the Cisco Nexus Cloud Services Platform product family.	nexus-1000v.5.2.1.VSG-M.2.1.1b.1010.ova
Cisco Nexus VXLAN Gateway VSB	Creates a VXLAN Gateway VSB on the Cisco Nexus Cloud Services Platform product family.	vxgw.4.2.1.SV2.2.2.iso

[1]If a disk gets corrupted on the Cisco Nexus Cloud Services Platform, you can bring the system up by copying the ISO 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.

You can download the Citrix NetScaler 1000V from www.cisco.com/go/ns1000V

Flowchart: Installing and Configuring the Cisco Nexus Cloud Services Platform

The following figures show the basic steps for installing and configuring a Cisco Nexus Cloud Services Platform. To install the Cisco Nexus Cloud Services Platform hardware, see the *Cisco Nexus Cloud Services*

Platform Hardware Installation Guide. To configure the Cisco Nexus Cloud Services Platform, see the *Cisco Nexus Cloud Services Platform Software Configuration Guide.*

Figure 1: Installing the Cisco Nexus Cloud Services Platform
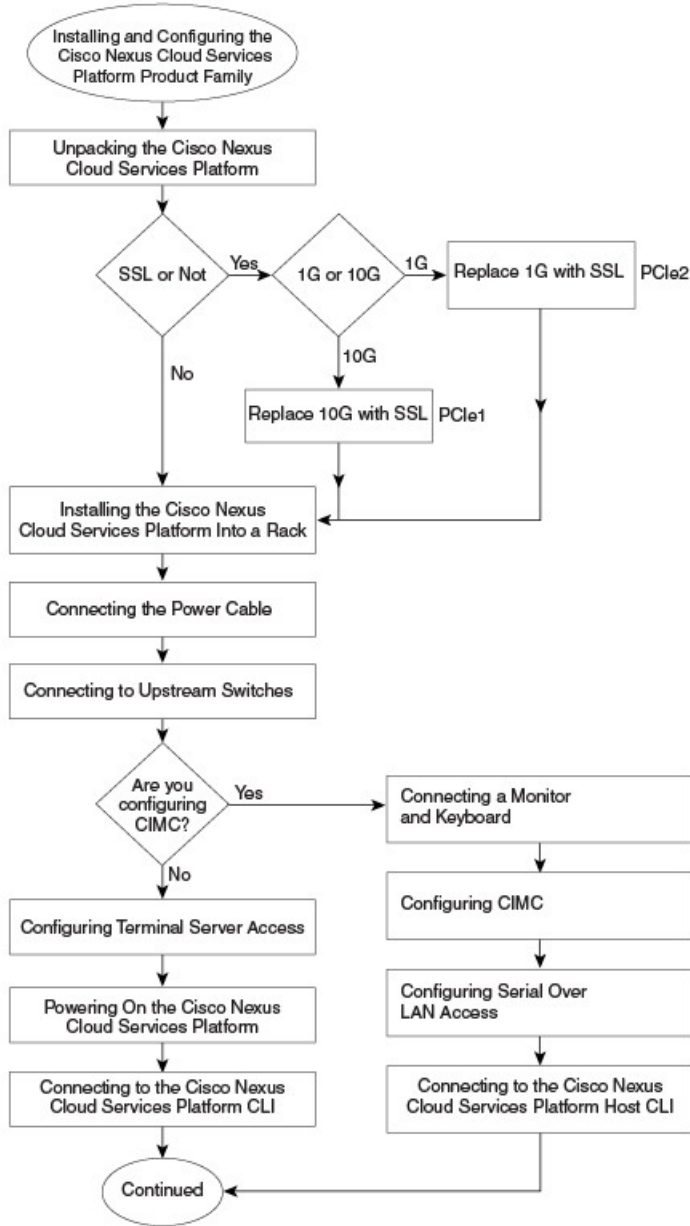
Figure 2: Installing the Cisco Nexus Cloud Services Platform (continued)

```
          ┌─────────────────────┐
          │  Cisco Nexus Cloud  │
          │ Services Platform   │
          │   Product family    │
          │    (continued)      │
          └─────────────────────┘
                    │
          ┌─────────────────────┐
          │ Information gathering│
          │ for software        │
          │ installation        │
          └─────────────────────┘
                    │
          ┌─────────────────────┐
          │ Setting up a primary│
          │ Cisco Nexus Cloud   │
          │ Services Platform   │
          └─────────────────────┘
                    │
          ┌─────────────────────┐
          │ Setting up a        │
          │ secondary Cisco     │
          │ Nexus Cloud Services│
          │ Platform            │
          └─────────────────────┘
                    │
          ┌─────────────────────┐
          │ Setting up remote   │
          │ management          │
          └─────────────────────┘
                    │
                  ╱─────╲                         ┌──────────────────────┐
                 ╱ Are you ╲    Yes               │ Migrating a VSM from  │
                ╱ migrating an ╲──────────────────▶│ a VM to the Cisco     │
                ╲ existing VSM? ╱                  │ Nexus Cloud Services  │
                 ╲           ╱                     │ Platform              │
                  ╲─────────╱                      └──────────────────────┘
                    │ No                                      │
          ┌─────────────────────┐                            │
          │ Creating a New      │                            │
          │ Virtual Service     │                            │
          │ Blade (VSB)         │                            │
          └─────────────────────┘                            │
                    │                                         │
                ╱───────╲                                     │
               │  End    │◀────────────────────────────────────
                ╲───────╱
```

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Installing the Cisco Nexus Cloud Services Platform Software

This chapter contains the following sections:

Information About the Software Installation

The Cisco Nexus Cloud Services Platform software is preinstalled as an ISO image.

- Verify that you have the correct Cisco Integrated Management Controller (CIMC) software installed. For more information, see Verifying the CIMC Software Version, on page 14 .

- Gather information about the management software. For more information, see Gathering Information About the Management Software, on page 20.

- Set up the primary Cisco Nexus Cloud Services Platform. For more information, see Setting up the Primary Cisco Nexus Cloud Services Platform, on page 24.

- Set up the secondary Cisco Nexus Cloud Services Platform. For more information, see Setting up the Secondary Cisco Nexus Cloud Services Platform, on page 30.

Prerequisites

Before you install the Cisco Nexus Cloud Services Platform Release 5.2(1)SP1(7.1), you must know or do the following:

- Have the latest firmware release ready.

- Ensure that the appropriate version of the CIMC software is installed before installing the Cavium NITROX card. Select a CIMC software version from the following options:

    - Version 1.5(4e) for the Cisco Nexus 1110 product family.

    - Version 1.4(3s) for the Cisco Nexus 1010 product family.
      To verify that you have the appropriate CIMC version installed, see the Verifying the CIMC Software Version, on page 14.

> ⚠️ **Caution**
> We recommend that you upgrade the firmware using the Cisco Host Upgrade Utility (HUU). Failing to do so might result in a network setup failure and/or system reboots. When you use the HUU upgrade menu, choose the option to upgrade the CIMC, BIOS, and all other components of the hardware. For information about the Cisco HUU, see the Cisco Host Upgrade Utility Information, on page 14.

- For firmware releases prior to 1.4(3), the Cisco HUU does not support the Cisco Nexus 1010 and Cisco Nexus 1010-X. In such cases, use the Cisco Nexus Virtual Services Appliance CIMC GUI to manually update to CIMC version 1.4(3), and then use the Cisco Host Upgrade Utility to upgrade to firmware 1.5(4e).

    ◦ Upgrade to the latest CIMC version using the manual procedure in the Cisco UCS C-Series Servers Integrated Management Controller CLI Configuration Guide.

    ◦ Upgrade the BIOS firmware version using the manual procedure in the Cisco UCS C-Series Rack-Mount Server BIOS Upgrade Guide.

- For firmware release 1.5(4e) or later releases, the Cisco UCS Host Upgrade Utility tool supports the Cisco Nexus Virtual Services Appliance. For more information. see the Cisco Host Upgrade Utility tool documentation.

- Starting this release, the recommended BIOS settings for process and memory configuration on a Cisco Nexus 1110-X are in the Low Latency Optimized (Turbo ON) mode. See the Recommended BIOS Settings for the Cisco Nexus 1110-X, on page 17 section for the recommended BIOS configuration settings on the Cisco Nexus 1110-X .

Guidelines and Limitations

The Cisco Nexus Cloud Services Platform product family guidelines and limitations are as follows:

- The domain ID must be unique within the control VLAN.

- If other Cisco Nexus Cloud Services Platforms or Cisco Nexus 1000Vs are in the same control VLAN, the domain ID must also be unique across all of them.

- The Cisco Nexus Cloud Services Platform is not supported in the non-HA mode.

- We recommend that you configure a primary Cisco Nexus Cloud Services Platform with a secondary backup. Although you can configure a primary Cisco Nexus Cloud Services Platform without a secondary backup, this configuration in a production environment is not supported.

- You must configure the same domain ID, control VLAN, management VLAN, control uplink, and management uplink for both the primary and secondary Cisco Nexus Cloud Services Platforms.

- The pairing of the Cisco Nexus Cloud Services Platform must match the hardware platform. For example, a Cisco Nexus 1010-X will only pair with another Cisco Nexus 1010-X and a Cisco Nexus 1110-X will only pair with a Cisco Nexus 1110-X. You cannot pair a Cisco Nexus 1010 with a Cisco Nexus 1010-X or pair a Cisco Nexus 1110-S with a Cisco Nexus 1110-X or any other model. Asymmetric pairing is allowed when a Cisco Nexus 1010 is paired with a Cisco Nexus 1110-S, and a Cisco Nexus 1010-X is paired with a Cisco Nexus 1110-X, but in such cases, only the minimum possible configuration will be available.

Note   We recommend that you always use symmetric pairing.

- Release doe not support asymmetric hardware configurations of the 10 Gbps interface, the Cavium NITROX Security processor card, and the 1 Gbps NICs.

- The 10 Gbps interface is not enabled in the following hardware configurations in this release:

    - Asymmetric pairing of a Cisco Nexus 1010-X and Cisco Nexus 1110-X.

    - When a 10 Gigabit interface is present in one and not on the other, in a high availabiity (HA) pair.

Note
- If you want to install the Cavium NITROX Security Processor card or switch it with the Cisco UCS VIC 1225 card or the Intel quad port cards, you must do so and power the appliance on before you enable or configure them using the Cisco Nexus Cloud Services Platform software CLI.

- If you want to use the Cavium NITROX Security processor card on the Cisco Nexus 1110-X, you must have the CIMC software version 1.5(4) installed.

Cisco Host Upgrade Utility Information

The Cisco Host Upgrade Utility (HUU) is a tool that you can use to upgrade the firmware on one or multiple Cisco UCS C-Series servers. The HUU detects the current version of the following components that you have already installed and guides you to upgrade them to the latest version.

- Cisco Integrated Management Controller (CIMC)

- System BIOS

- LAN on Motherboard (LOM)

- RAID controllers

- Cisco UCS VIC 1225

- Network adapters

- Cavium NITROX CNN3550-C20-NHB-2.0-G security processor card

You can obtain information about the minimum required version of the Cisco HUU and how to download the HUU ISO from the following sources:

- For the Cisco Nexus 1010 product family, see the Cisco Host Upgrade Utility Release 1.4(3) Quick Start Guide.

- For the Cisco Nexus 1110 product family, see the Cisco Host Upgrade Utility 1.5(1) User Guide.

You must use the instructions provided in the HUU documentation to upgrade the firmware before you install the current release of the Cisco Nexus Cloud Services Platform.

Caution
You must ensure that you are using the appropriate HUU versions to upgrade your firmware. You cannot use the HUU versions for the Cisco Nexus 1010 and Cisco Nexus 1110 product families interchangeably.

Verifying the CIMC Software Version

You can verify the CIMC software version installed on your Cisco Nexus Cloud Services Platform.

Before You Begin

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

• Log in to the Cisco Nexus Cloud Services Platform from the command-line interface (CLI) or a web browser.

• If CIMC software 1.4(3s) or later versions is installed, you will see the product ID N1K-C1010 on the Cisco Nexus 1010 or the product ID N1K-C1010X on the Cisco Nexus 1010-X in the output of the **show hardware** command.

• If CIMC software version 1.5(4e) or higher is installed, you will see the product ID N1K-1110-S on the Cisco Nexus 1110-S or the product ID N1K-1110-X on the Cisco Nexus 1110-S in the output of the **show hardware** command.

Procedure

Step 1 From the Cisco Nexus Cloud Services Platform, do one of the following to display the product ID (PID):

• From the command-line interface (CLI), enter the **show hardware** command. In the output, look in the Switch Hardware ID section for the PID.

• From a web browser, open the **Server Summary** window and view the server properties. See the following figure for an example.

Figure 3: CIMC Window with Product ID (PID)
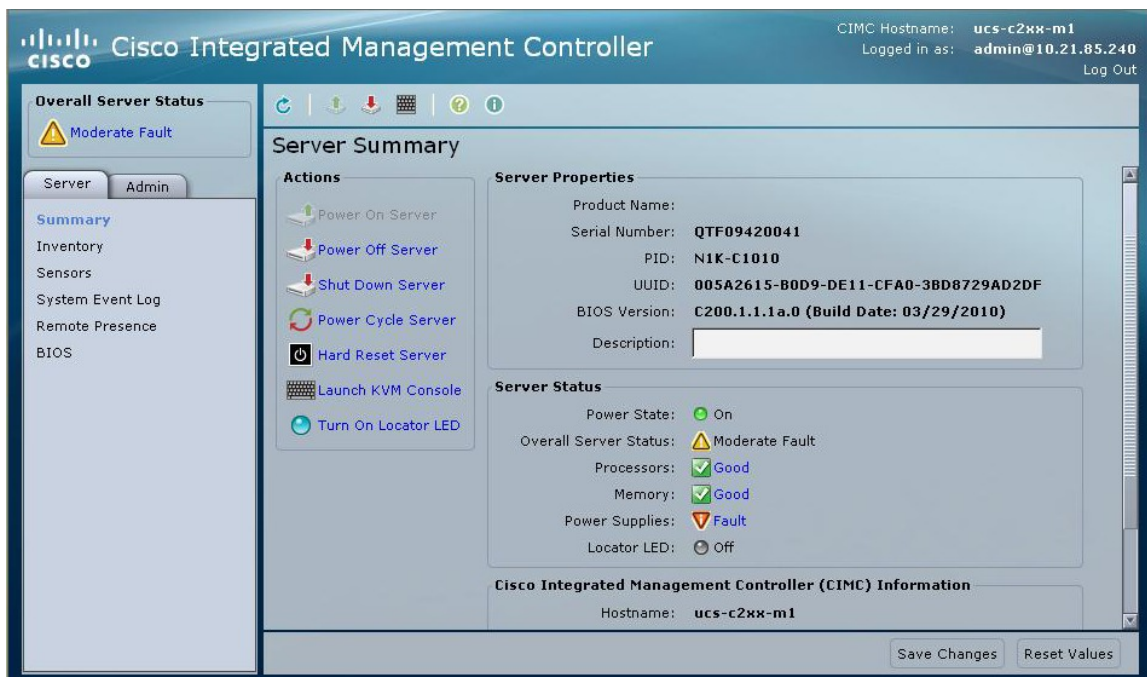
Step 2 Do one of the following:

• If the PID displayed is N1K-1110-S on the Cisco Nexus 1110-S, N1K-1110-X on the Cisco Nexus 1110-X, N1K-C1010 on the Cisco Nexus 1010, or N1K-C1010-X on the Cisco Nexus 1010-X, you can proceed with the installation or upgrade to the Cisco Nexus Cloud Services Platform Release 5.2(1)SP1(7.1).

- If the PIDs displayed are not as mentioned above, do not install or upgrade to Release 5.2(1)SP1(7.1). Instead, you must replace the Cisco Nexus Cloud Services Platform using the RMA process. For more information, see Replacing a Cisco Nexus Cloud Services Platform, on page 60.

This example shows the output for **show hardware** command. You can check the Switch Hardware ID section to verify the PID on the Cisco Nexus Cloud Services Platform.

```
switch# show hardware
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Documents: http://www.cisco.com/en/US/products/ps9372/tsd_products_support_serie
s_home.html
Copyright (c) 2002-2014, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained herein are owned by
other third parties and are used and distributed under license.
Some parts of this software are covered under the GNU Public
License. A copy of the license is available at
http://www.gnu.org/licenses/gpl.html.

Software
  kickstart: version 5.2(1)SP1(7.1)
  system:    version 5.2(1)SP1(7.1)
  kickstart image file is: bootflash:///nexus-1010-kickstart.5.2.1.SP1.7.1.bin
  kickstart compile time:  5/15/2014 1:00:00 [05/15/2014 10:02:45]
  system image file is:    bootflash:///nexus-1010.5.2.1.SP1.7.1.bin
  system compile time:     5/15/2014 1:00:00 [05/15/2014 10:13:48]


Hardware
  cisco Nexus 1010 (Virtual Services Appliance) 2 slot Chassis ("Cisco Virtual S
ervices Appliance")
   with 12582912 kB of memory.
  Processor Board ID T023D710B01

  Device name: switch
  bootflash:    3897832 kB
  Disk Storage capacity for VM virtual disks: 336264 MB
  Number of physical 1Gbps ethernet ports: 6
  Number of physical 10Gbps ethernet ports: 0
  Number of SSL accelerator card: 0
  Number of CPU Cores: 12
  CPU Cores details:
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz
  model name    : Intel(R) Xeon(R) CPU           X5650  @ 2.67GHz


System uptime is 0 days, 13 hours, 43 minutes, 55 seconds

Kernel uptime is 0 day(s), 13 hour(s), 44 minute(s), 56 second(s)


plugin
  Core Plugin, Ethernet Plugin, Virtualization Plugin
-------------------------------
Switch hardware ID information
-------------------------------
```

```
Switch is booted up
  Switch type is : Nexus 1010 (Virtual Services Appliance) 2 slot Chassis
  Model number is Nexus 1010
  PID-VID-SN: N1K-C1010-A-7911922711400115374

-------------------------------
Chassis has 2 Module slots
-------------------------------

Module1  ok
  Module type is : Cisco Virtual Services Appliance
  0 submodules are present
  Model number is Nexus 1010
  H/W version is A
  UUID is 03BB2905-E130-DF11-68A1-68EFBDF61D42
  Manufacture date is 12/21/2011
  Serial number is QCI1410A4WG

Module2  ok
  Module type is : Cisco Virtual Services Appliance
  0 submodules are present
  Model number is Nexus 1010
  H/W version is A
  UUID is 21E65B27-5432-DF11-44BB-68EFBDF6192E
  Manufacture date is 08/08/2010
  Serial number is QCI1410A4KV
```

Recommended BIOS Settings for the Cisco Nexus 1110-X

Use the recommended process and memory configuration settings listed in the following table to configure the BIOS settings on the Cisco Nexus 1110-X.

Process Configuration	Recommended BIOS Setting in the Low Latency Optimized (Turbo ON) Mode
Intel Hyper Threading Technology	Disabled
Number of Enabled Cores	All
CPU Performance	Custom
Hardware Prefetcher	Enabled
Adjacent Cache Prefetcher	Enabled
DCU Streamer Prefetch	Enabled
DCU IP Prefetch	Enabled
Direct Cache Access	Enabled
Power Technology	Custom
Enhanced Intel SpeedStep(R) Technology	Enabled
Intel(R) Turbo Boost Technology	Enabled

Process Configuration	Recommended BIOS Setting in the Low Latency Optimized (Turbo ON) Mode
Processor Power State C6	Disabled
Processor Power State C1 Enhanced	Disabled
Frequency Floor Override	Disabled
P- STATE Coordination	HW_ALL
Energy Performance	Performance

Memory Configuration	Low Latency Optimized Mode (Turbo ON)
Select Memory RAS	Maximum Performance
DRAM Clock Throttling	Performance
NUMA	Enabled
Low Voltage DDR Mode	Performance Mode
Patrol Scrub	Disabled

The following images show the BIOS settings on a Cisco Nexus 1110-X :

Figure 4: BIOS Parameters - Recommended Process Configuration Settings
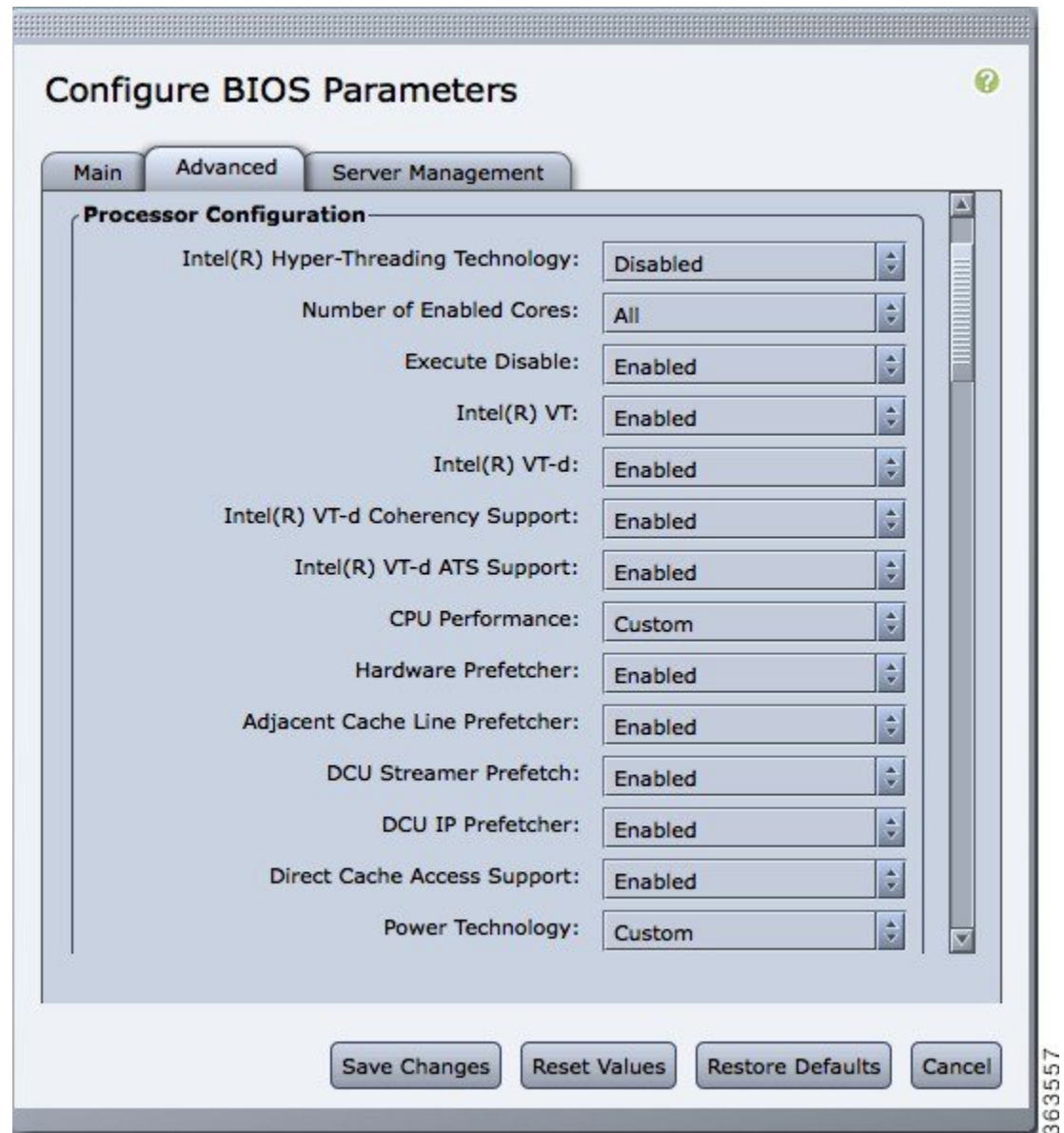
Figure 5: BIOS Parameters - Recommended Memory Configuration Settings
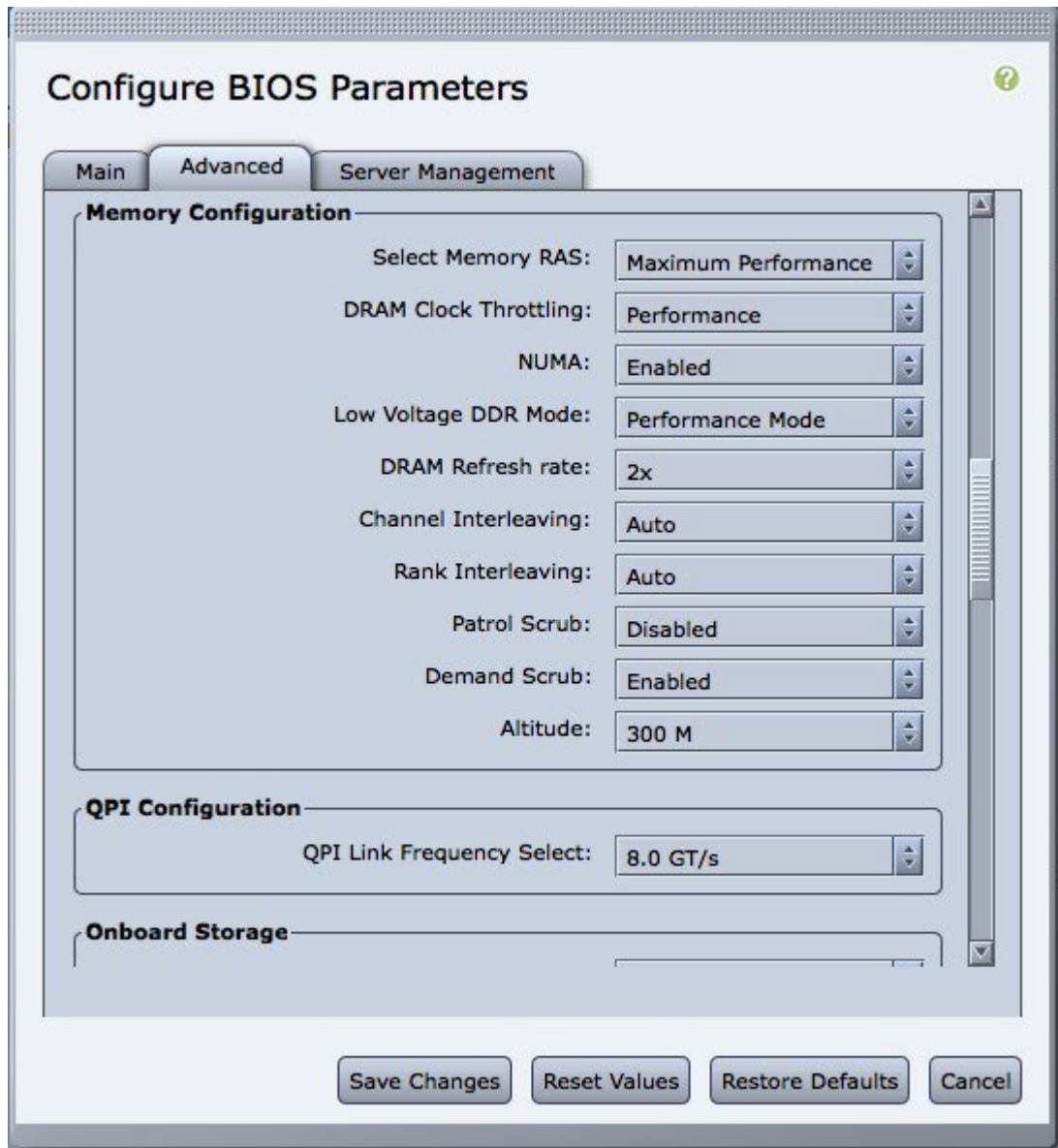
Gathering Information About the Management Software

Before you begin the installation, you must have the following information for your Cisco Nexus Cloud Services Platform:

- Administrator Credentials

- HA Redundancy Role

- HA Redundancy States

- Domain ID

- Network Uplinks

- VLANs

Administrator Credentials

When you set up the system software, you are required to create an administrator password. The following table lists out the password strength guidelines:

Strong Password Characteristics	Weak Password Characteristics
• At least eight characters • Uppercase letters • Lowercase letters • Numbers • Special characters	• Consecutive characters, such as "abcd" • Repeating characters, such as "aaabbb" • Dictionary words • Proper names

HA Redundancy Role

The Cisco Nexus Cloud Services Platform product family is provided in redundant pairs for high availability. When setting up the device, you configure a high availability role as primary or secondary. The following table describes these roles.

Note The HA standalone role is not supported for the Cisco Nexus Cloud Services Platform product family. The Cisco Nexus Cloud Services Platform is not supported in a non HA-mode.

Role	Description
Primary	• The primary role coordinates the active/standby redundancy state with the secondary Cisco Nexus Cloud Services Platform. • The primary role takes precedence during bootup when negotiating the active/standby redundancy state. If the secondary Cisco Nexus Cloud Services Platform is not in the active state at bootup, the primary Cisco Nexus Cloud Services Platform takes the active redundancy state. • You assign the primary role to the first Cisco Nexus Cloud Services Platform that you install in a dual system
Secondary	• The secondary role coordinates the active/standby state with the primaryCisco Nexus Cloud Services Platform. • You assign the secondary role to the second Cisco Nexus Cloud Services Platform that you install in a dual system.

HA Redundancy States

The following table describes the HA redundancy states.

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

Domain ID

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

Changes in the Supported Network Topology

Starting in release 5.2(1)SP1(7.1), the Cisco Nexus Cloud Services Platform supports only a flexible network topology as the default topology type to connect to the network. As a result, all fresh installations of the Cisco Nexus Cloud Services Platform and upgrades from earlier versions are automatically configured in the flexible topology.

The change in the supported network topology has the following benefits:

• Reduces complexity in the network configuration.

• Provides complete flexibility to connect the Cisco Nexus Cloud Services Platform product family to the network and allows you to achieve a maximum of six uplinks.

• Eliminates the need to reboot either appliance in a pair for changing the topology type.

Network Uplink Configuration

The Cisco Nexus Cloud Services Platform product family supports a default flexible network uplink configuration to connect to the network. The flexible network configuration offers complete flexibility to connect the Cisco Nexus Cloud Services Platform product family to the network and allows you to achieve a maximum of six uplinks.

Because of the changes in the supported topology type, the following changes occur in the network uplink configuration:

• The initial setup script on the system manager module is modified to remove the option to select the network topology type. However, the questionnaire provides an option to configure port channels for control and management interfaces during a fresh installation of the Cisco Nexus Cloud Services Platform. For more information about setting up a primary or secondary Cisco Nexus Cloud Services Platform, see Setting up the Primary Cisco Nexus Cloud Services Platform, on page 24 or Setting up the Secondary Cisco Nexus Cloud Services Platform, on page 30.

• During the In-Service Software Upgrade (ISSU) process, the default network uplink type will be a Flexible topology. For more information about upgrading to the Cisco Nexus Cloud Services Platform Release 5.2(1)SP1(7.1), see Upgrading from earlier Software Releases, on page 40.

• The **show network uplink type** and **network uplink type [number | flexible]** commands are removed from the Cisco Nexus Cloud Services Platform Software CLI.

After you upgrade to Cisco Nexus Cloud Services Platform Release 5.2(1)SP1(7.1), or migrate from the previously configured uplink type, the same port channels and other configurations are retained on the Cisco Nexus Cloud Services Platform.

VLANs

Control and management VLANs are used by the Cisco Nexus Cloud Services Platform product family to manage and communicate with its virtual service blades (VSB). These VLANs are added as a part of the initial setup of the management software. Control VLANs are added to each Virtual Service Blade (VSB) when the VSB is created. The management VLAN is inherited from the Cisco Nexus Cloud Services Platform product family by each VSB.

If you modify a control or management VLAN on the Cisco Nexus Cloud Services Platform product family, you must enter the **copy running-config startup-config** command, and reload the switch for changes to take effect. To ensure service continuity, and to avoid a loss of communication between the VSB and the Cisco Nexus Cloud Services Platform, you must configure the control VLAN on the hosted VSB.

Management VLAN

The management VLAN is the VLAN that forwards traffic for the management port of the Cisco Nexus Cloud Services Platform. If your virtual service blade uses the management class of traffic, it inherits the management VLAN from the Cisco Nexus Cloud Services Platform. The management VLAN is used by the outside world to reach the Cisco Nexus Cloud Services Platform management 0 interface.

When a VSB is deployed initially, the Cisco Nexus Cloud Services Platform and its hosted Cisco Nexus 1000 Virtual Supervisor Modules (VSMs), and the Virtual Service Blades (VSBs) share the same management VLAN. Unlike the control and packet VLANs that are set when a VSB is created, the management VLAN is inherited. However, the inherited management VLAN need not be the same as that of the Cisco Nexus Cloud Services Platform, and you can subsequently change the management VLAN to a different value.

Control VLAN

The control VLAN is a Layer 2 interface used for communication between the redundant Cisco Nexus Cloud Services Platforms. 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 Cloud Services Platforms.

Setting up the Primary Cisco Nexus Cloud Services Platform

You can set up the management software for the primary Cisco Nexus Cloud Services Platform in a redundant HA pair. We recommend that you configure a primary Cisco Nexus Cloud Services Platform with a secondary backup. Although you can configure a primary Cisco Nexus Cloud Services Platform without a secondary backup, this configuration in a production environment is not supported.

Note   Starting in Release, you can set up a primary Cisco Nexus Cloud Services Platform network configuration as a Flexible topology type.

Before You Begin

You have the following information available for this Cisco Nexus Cloud Services Platform:

- Administrator password.
- HA role (primary or secondary). If you do not specify an HA role, the role is configured as primary.
- Control VLAN ID.
- Domain ID.
- Management VLAN ID.
- Management 0 IP address—This IP address appears as the mgmt0 port on the appliance.
- Default gateway IP address.
- SSH service key type and number of key bits.

Procedure

Step 1   Log into the Cisco Nexus Cloud Services Platform CLI using one of the following methods:

- Log in from a terminal server

Example:
```
Example:
telnet 172.25.182.99 2005
Trying 172.25.182.99...
Connected to 172.25.182.99.
Escape character is '^]'
switch#

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

> • Log in from a Serial over LAN (SoL) connection through CIMC:

Example:
```
Example:
ssh admin@172.25.182.230
admin@172.25.182.230's password:
switch# connect host
CISCO Serial Over LAN:
Close Network Connection to Exit

---- System Admin Account Setup ----
Enter the password for "admin":
Confirm the password for "admin":
```
The setup wizard starts automatically.

Step 2   Enter and confirm the Administrator password.

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

Step 3   Enter the HA role. If you do not specify a role, the primary role is assigned.

> **Note**   The HA standalone role is not supported for the Cisco Nexus Cloud Services Platform product family. The Cisco Nexus Cloud Services Platform is not supported in a non-HA mode.

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

Step 4   Enter the domain ID.

Example:
```
Enter the domain ID<1-4095>: 1234
```

Step 5   Enter the VLAN ID for the control VLAN.

Example:
```
Enter the control vlan <1-3967, 4048-4093>: 2062
```

Step 6   Setup the control channel.

Example:
```
Choose Uplink <Gig:1,2,3,4,5,6 10Gig:7,8 NewPortChannel:0> :0
```

Step 7   Choose the type of port channel.

Example:
```
Choose type of portchannel <ha/lacp>: ha
```
Step 8 Enter the uplinks for port channel 1.

Example:
```
Choose uplinks <Gig:1,2,3,4,5,6 10Gig:7,8>:1,2
```
Step 9 Enter the management VLAN.

Example:
```
Enter the management vlan<1-3967, 4048-4093>:2061
```
Step 10 Enter the management uplink.

After the switch reboot, the default topology will be configured. See the following figures for examples of network configuration with and without a vPC and virtual switching system (VSS).

Figure 6: Default Network Uplink Configuration without vPC and VSS
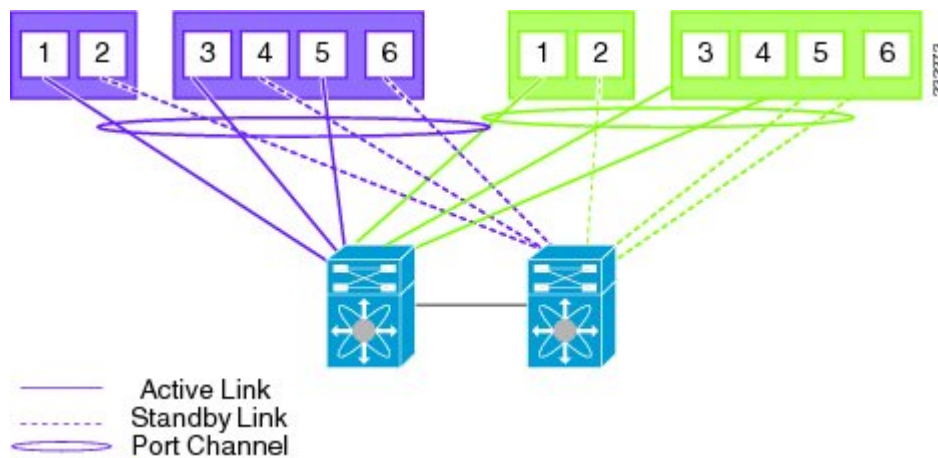
Figure 7: Default Network Uplink Configuration with vPC and VSS
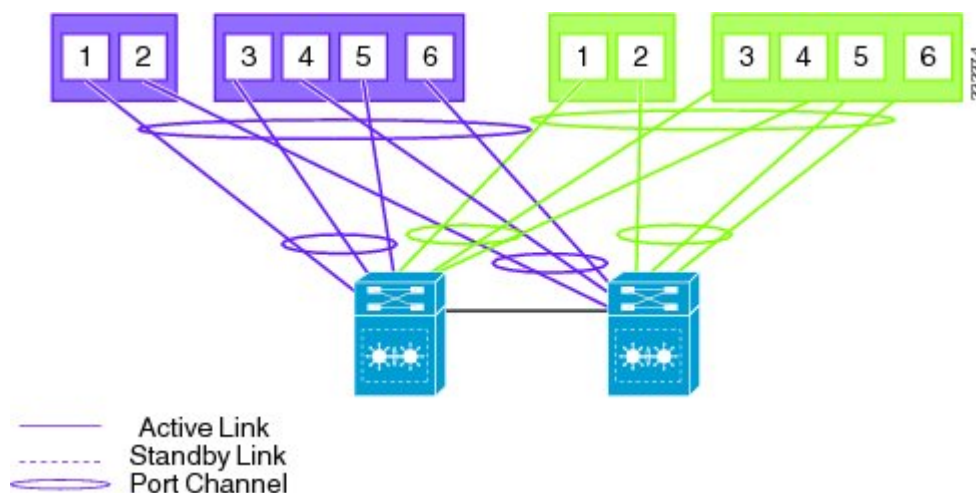
For more information, see the *Cisco Nexus Cloud Services Platform Software Configuration Guide*.

Example:
```
Choose Uplink: <Gig:3,4,5,6 10Gig:7,8 Po1:9 NewPortChannel:0>:9
Saving boot configuration. Please wait...
[#####################################] 100%
Copy complete, now saving to disk (please wait)...
```

Step 11 Enter **yes** if you want to enter the basic configuration dialog.

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 12 Enter **no** if you do not want to create another login account.

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

Step 13 Enter **no** if you do not want to configure a read-only SNMP community string.

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

Step 14 Enter **no** if you do not want to configure a read-write SNMP community string.

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

Step 15 Enter a name for the Cisco Nexus Cloud Services Platform appliance.

Example:
```
Enter the CSP name [Nexus1010]:Nexus1010
```

Step 16 Enter **yes** if you want to configure out-of-band management, and then enter the management 0 IPv4 or IPv6 address.
This IP address appears as the mgmt0 port on the appliance.

Example:
```
Continue with Out-of-band (mgmt0) management configuration? [yes/no] [y]: yes
Mgmt0 IP address type V4/V6? (V4): V4
Mgmt0 IPv4 address: 192.168.61.51
Mgmt0 IPv4 netmask prefix : 255.255.255.0
```

Step 17 Answer **yes** if you want to configure the default gateway.

Example:
```
Configure the default-gateway: (yes/no) [y]: yes
IPv4 address of the default gateway: 192.168.61.254
```

Step 18 Enter **no** if you do not want to configure advanced IP options.

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

Step 19 Enter **no** if you do not want to enable the Telnet service.

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

Step 20 Enter **yes** if you want to enable the SSH service, 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]: 1024
```

Step 21 Enter **yes** if you want to enable the HTTP server.

Example:
```
Enable http-server? (yes/no) [y]: yes
```

Step 22 Enter **no** if you do not want to configure the NTP server.
The configuration is summarized.

Example:
```
Configure NTP server? (yes/no) [n]: no
The following configuration will be applied:
  switchname Nexus-CSP
  interface mgmt0
  ip address 192.168.61.51 255.255.255.0
  no system shutdown
  vrf context management
  ip route 0.0.0.0/0 192.168.61.254
  no telnet server enable
  ssh key rsa 1024 force
  ssh server enable
  feature http-server
```

Step 23 Do one of the following:

   • If you do not want to edit the configuration, enter **no** and continue with the next step.

   • If you want to edit the configuration, enter **yes** and return to Step 11 to revisit each command.
     ```
     Would you like to edit the configuration? (yes/no) [n] :no
     ```

Step 24 Enter **yes** if you want to edit this configuration.
```
Would you like to edit the configuration? (yes/no) [n]:no
```

Step 25 Enter **yes** if you want to use and save this configuration.
   Caution   If you do not save the configuration now, none of your changes are part of the configuration the next time that the switch is rebooted. Enter yes to save the new configuration to ensure that the kickstart and system images are also automatically configured.

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

```
Copy complete, now saving to disk (please wait)... System is going to reboot to configure
network uplinks.
```
After the new configuration is saved into nonvolatile storage, the running and the startup copies of the configuration are identical.

Note   You can use the setup routine to update the configuration that you made in Step 11 through Step23 at any time by entering the **setup** command in EXEC mode. After the setup begins, press Enter to skip a command. Press Ctrl–c to skip the remaining commands.

Step 26   Verify the configuration:

```
telnet 172.25.182.99 2005
Trying 172.25.182.99...
Connected to 172.25.182.99.
Escape character is '^]'
switch#

---- System Admin Account Setup ----
Enter the password for "admin":
Confirm the password for "admin":
ssh admin@172.25.182.230
admin@172.25.182.230's password:
switch# connect host
CISCO Serial Over LAN:
Close Network Connection to Exit

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

Enter HA role[primary/secondary]: primary

Enter the domain ID<1-4095>: 1234

Enter the control vlan <1-3967, 4048-4093>: 2062

Choose Uplink <Gig:1,2,3,4,5,6 10Gig:7,8 NewPortChannel:0> :0

Choose type of portchannel <ha/lacp>: ha
Choose uplinks <Gig:1,2,3,4,5,6 10Gig:7,8>:1,2

Enter the management vlan<1-3967, 4048-4093>:2061
Choose Uplink: <Gig:3,4,5,6 10Gig:7,8 Po1:9 NewPortChannel:0>:9
Saving boot configuration. Please wait...
[#####################################] 100%
Copy complete, now saving to disk (please wait)...

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.

Create another login account (yes/no) [n]: no
Configure read-only SNMP community string (yes/no) [n]: no
Configure read-write SNMP community string (yes/no) [n]:
Enter the CSP name [Nexus1010]:Nexus1010
Continue with Out-of-band (mgmt0) management configuration? [yes/no] [y]: yes
Mgmt0 IP address type V4/V6? (V4): V4
Mgmt0 IPv4 address: 192.168.61.51
Mgmt0 IPv4 netmask prefix : 255.255.255.0
Configure the default-gateway: (yes/no) [y]: yes
IPv4 address of the default gateway: 192.168.61.254
```

```
Configure Advanced IP options? (yes/no) [n]: no
Enable the telnet service? (yes/no) [y]: no
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]: 1024
Enable http-server? (yes/no) [y]: yes
Configure NTP server? (yes/no) [n]: no

The following configuration will be applied:
  switchname Nexus-CSP
  interface mgmt0
  ip address 192.168.61.51 255.255.255.0
  no system shutdown
  vrf context management
  ip route 0.0.0.0/0 192.168.61.254
  no telnet server enable
  ssh key rsa 1024 force
  ssh server enable
  feature http-server

Would you like to edit the configuration? (yes/no) [n] :no
Would you like to edit the configuration? (yes/no) [n]:no
Use this configuration and save it? (yes/no) [y]: yes
[#######################################] 100%
Copy complete, now saving to disk (please wait)... System is going to reboot to configure
network uplinks.
```

Setting up the Secondary Cisco Nexus Cloud Services Platform

You can set up the management software for the secondary Cisco Nexus Cloud Services Platform in a redundant pair. We recommend that you configure the same domain ID, control VLAN, management VLAN, control uplink, management uplink for both primary and secondary Cisco Nexus Cloud Services Platforms.

Procedure

Step 1   Enter and confirm the Administrator password.

Example:
```
---- System Admin Account Setup ----
Enter the password for "admin":
```
Step 2   Enter the HA role.

Example:
```
Enter HA role[primary/secondary]: secondary
```
Step 3   Enter the domain id.

Example:
```
Enter the domain id<1-4095>: 1234
```
Step 4   Enter the VLAN ID for the control VLAN.

Example:
```
Enter the control vlan <1-3967, 4048-4093>: 2062
```
Step 5   Enter the uplink type for the control channel setup.

Example:
```
Choose uplink type <Gig:1,2,3,4,5,6 10Gig:7,8> : 6
```

Step 6 Enter the new port channel for the control channel setup.

Example:
```
Enter the new port channel:<ha/lacp>: ha
```
Step 7 Enter the uplink for port channel 1.

Example:
```
Choose the uplinks <Gig:1,2,3,4,5,6 10Gig:7,8>: 1,2
```
Step 8 Enter the VLAN ID for the management VLAN.

Example:
```
Enter management vlan<1-3967, 4048-4093>: 2061
```
Step 9 Enter the uplink for the management channel setup.

Example:
```
Choose the uplink <Gig:3,4,5,6 10Gig:7,8> :4
```
Step 10 Enter the new port channel for the management channel set up.
The following things occur on the switch:

- After the new configuration is saved into nonvolatile storage, 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:
```
Choose new port channel:0>:9

  Saving boot configuration. Please wait...

[#######################################] 100%

Copy complete, now saving to disk (please wait)...
  System is going to reboot to configure network uplinks
```

Configuration Example for Network Uplinks

This example shows how to configure a flexible network uplink configuration during installation:

```
---- System Admin Account Setup ----
  Enter the password for "admin":
  Confirm the password for "admin":
  Enter HA role[primary/secondary]: secondary

  Enter control vlan <1-3967, 4048-4093>: 347
  Enter control uplink <1-6>: 1

  Enter the domain id<1-4095>: 3477
```

```
  Enter management vlan <1-3967, 4048-4093>: 180
  Enter management uplink <1-6>: 2

  Saving boot configuration. Please wait...
[#######################################] 100%
  System is going to reboot to configure network uplinks
```

Verifying the Cisco Nexus Cloud Services Platform Configuration

To verify the Cisco Nexus Cloud Services Platform configuration, use the following commands:

Command	Purpose
show running-configuration	Displays the Cisco Nexus Cloud Services Platform running configuration. See show running configuration , on page 32.
show system redundancy status	Displays the redundancy state (active or standby) and the redundancy role (primary or secondary) for the Cisco Nexus Cloud Services Platforms. See show system redundancy status, on page 34.
show svs domain	Displays the domain information for the Cisco Nexus Cloud Services Platform. See show svs domain, on page 34.
show network cdp neighbors	Displays the uplink connectivity for the active or standby Cisco Nexus Cloud Services Platform. See show network cdp neighbors, on page 34.

show running configuration

This example shows how to display and verify the Cisco Nexus Cloud Services Platform setup configuration:

```
switch# show running-configuration

!Command: show running-config
!Time: Fri May 16 12:47:01 2014

version 5.2(1)SP1(7.1)
hostname switch

feature telnet
no feature http-server
feature scp-server

username admin password 5 $1$mu2Pt0OP$QngQ1hDbUG1x7Gaz/RIzS1  role network-admin
username admin role network-operator
username admin keypair rsa

banner motd #Cisco VSA
#

ip domain-lookup
ip host switch 172.23.180.184
```

```
errdisable recovery cause failed-port-state
snmp-server user admin network-operator auth md5 0xd8660132bb3eb73764f409f7d64ebb19
localizedkey
rmon event 1 log trap public description FATAL(1) owner PMON@FATAL
rmon event 2 log trap public description CRITICAL(2) owner PMON@CRITICAL
rmon event 3 log trap public description ERROR(3) owner PMON@ERROR
rmon event 4 log trap public description WARNING(4) owner PMON@WARNING
rmon event 5 log trap public description INFORMATION(5) owner PMON@INFO

vrf context management
  ip route 230.21.31.10/0 172.23.180.1
vlan 1,180,267

port-channel load-balance ethernet source-mac
port-profile default max-ports 32
port-profile default port-binding static
port-profile type vethernet N1K_Cloud_Default_Trunk
  switchport mode trunk
  no shutdown
  guid 65e71825-95da-4572-8019-97399f2c777f
  max-ports 64
  description Port Profile created for Nexus 1000V internal usage. Do not use.
  state enabled

system storage-loss log time 30
system inter-sup-heartbeat time 15
system trace 0xFFFFFFFF
logging level sysmgr 10
interface Ethernet1
interface Ethernet2
interface Ethernet3
interface Ethernet4
interface Ethernet5
interface Ethernet6
svs-domain
  control uplink Ethernet1
  management uplink Ethernet1
virtual-service-blade dcnm
  virtual-service-blade-type name DCNM-VSB-6.3
  interface eth0 vlan 180
  interface eth0 uplink Ethernet2
  interface eth1 vlan 0
  interface eth1 uplink
  ramsize 8192
  disksize 80
  numcpu 2
  cookie 2120424824
  no shutdown primary
interface VsbEthernet1/1
virtual-service-blade vsm
  virtual-service-blade-type name VSM_SV3-1.1
  interface control vlan 321
  interface control uplink Ethernet1
  interface management vlan 232
  interface management uplink Ethernet1
  interface packet vlan 321
  interface packet uplink Ethernet1
  ramsize 4096
  disksize 3
  numcpu 2
  cookie 514197755
  no shutdown primary
  no shutdown secondary
interface VsbEthernet2/1
interface VsbEthernet2/2
interface VsbEthernet2/3


interface mgmt0
  ip address 172.23.180.184/24

interface control0
line console
```

```
line vty
boot kickstart bootflash:/nexus-1010-kickstart.5.2.1.SP1.7.1.bin
boot system bootflash:/nexus-1010.5.2.1.SP1.7.1.bin
boot kickstart bootflash:/nexus-1010-kickstart.5.2.1.SP1.7.1.bin
boot system bootflash:/nexus-1010.5.2.1.SP1.7.1.bin
svs-domain
  domain id 267
  control vlan 267
  management vlan 180
  svs mode L2
  switch-guid c0a0c224-f8bc-494a-8585-77fe848e85e4
```

show system redundancy status

This example shows how to display redundancy status of the Cisco Nexus Cloud Services Platform setup configuration:

```
switch(config)# 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
```

show svs domain

This example shows how to display the domain information for the Cisco Nexus Cloud Services Platform:

```
switch# show svs domain
SVS domain config:
  Domain id:    267
  Control vlan: 267
  Management vlan:  180
```

show network cdp neighbors

This example shows how to display the uplink connectivity for the active or standby Cisco Nexus Cloud Services Platform:

```
switch# show network cdp neighbors
switch(config)# show network cdp neighbors
Capability Codes: R - Router, T - Trans-Bridge, B - Source-Route-Bridge
S - Switch, H - Host, I - IGMP, r - Repeater,
V - VoIP-Phone, D - Remotely-Managed-Device,
s - Supports-STP-Dispute


Device-ID Local Intrfce Hldtme Capability Platform Port ID

sfish-cat3k-K5-stack1 Ethernet2 164 S I cisco WS-C375 GigabitEt
```

```
hernet2/0/48
sfish-cat3k-K5-stack1 Ethernet3 164 S I cisco WS-C375 GigabitEt
hernet2/0/46
sfish-cat3k-K5-stack2 Ethernet4 158 S I cisco WS-C375 GigabitEt
hernet2/0/47
sfish-cat3k-K5-stack1 Ethernet5 164 S I cisco WS-C375 GigabitEt
hernet2/0/47
sfish-cat3k-K5-stack2 Ethernet6 158 S I cisco WS-C375 GigabitEt
hernet2/0/46
switch# ^C
```

Getting Started with the Cisco Nexus Cloud Services Platform

After you complete the software installation, you can configure the Cisco Nexus Cloud Services Platform product family.

Procedure

Step 1   Configure port channels for a flexible network uplink.
Use this procedure to configure port channels after you set up the flexible network uplink type:

Step 2   Set up remote management.
Use this procedure to set up remote management in your startup configuration for use in recovering an unreachable Cisco Nexus Cloud Services Platform.

Step 3   Do one of the following to add a service blade to the new Cisco Nexus Cloud Services Platform:

- Create a new virtual service blade.

- Migrate an existing VSM from a VM to the Cisco Nexus Cloud Services Platform.

  See the *Cisco Nexus Cloud Services Platform Software Configuration Guide* for more information.

Feature History for Software Installation

This section provides the software installation and upgrade release history:

Feature Name	Releases	Feature Information
Hardware support for SSL and Crypto acceleration	5.2(1)SP1(7.1)	This hardware was introduced.
Static Topology	5.2(1)SP1(7.1)	This feature was removed.
10 Gbps Interface Support	5.2(1)SP1(7.1)	This hardware was enabled.

Feature Name	Releases	Feature Information
Cisco Nexus 1110-S and Cisco Nexus 1110-X	4.2(1)SP1(5.1a))	This hardware was introduced.
Flexible Network Uplink	4.0(4)SP1(4)	This feature was introduced.
Cisco Nexus 1010-X	4.2(1)SP1(3)	This hardware was introduced.
Software upgrade	4.2(1)SP1(2)	This feature was introduced.

CHAPTER **4**

Upgrading the Cisco Nexus Cloud Services Platform Software

This chapter contains the following sections:

Information About the In Service Software Upgrade

The Cisco Nexus Cloud Services Platform upgrade is a hitless in-service software upgrade (ISSU). When you upgrade the software, the operational data is retained without loss of persistent information. The availability of virtual service blades (VSBs) will not be affected during the upgrade process.

After you enter the command to upgrade the software, from that point on, the whole upgrade process is automated. The upgrade process is in the following sequence:

- The ISO image components are extracted, verified and synchronized to the standby Cisco Nexus Cloud Services Platform.
- The standby Cisco Nexus Cloud Services Platform is upgraded.
- The VSBs on the standby are restarted.
- The upgrade of the active is initiated.

Once the upgrade of the active and standby platform is complete, both form a high-availability (HA) pair by running the upgraded software.

Changes in Cisco Nexus Cloud Services Platform After an Upgrade to Release 5.2(1)SP1(7.1)

When you upgrade to the Cisco Nexus Cloud Services Platform Release 5.2(1)SP1(7.1), the following changes occur on the Cisco Nexus Cloud Services Platform software:

- All configuration settings and uplink assignments are the same after upgrading the Cisco Nexus Cloud Services Platform to a Flexible topology type.

- When you enter the **show hardware command** after powering on the Cisco Nexus 1110-X, the Cisco UCS VIC 1225 10 Gbps card is listed as an installed hardware component. You should enable the 10 Gbps port for a VSB to use it as a shared uplink or form a port channel with two 10 Gbps ports.

- Starting in Release 5.2(1)SP1(7.1), all configured interfaces on the Cisco Nexus Cloud Services Platform are called Ethernet interfaces instead of Gbps Ethernet interfaces.

- The Cavium NITROX Crypto card will not be supported after an upgrade to Release 5.2(1)SP1(7.1). The Crypto card is supported only on a fresh installation of the Cisco Nexus 1110-X. For more information about enabling the Cavium NITROX crypto card, see the *Cisco Nexus Cloud Services Platform Software Configuration Guide* .

Prerequisites

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

- Verify that you have the following product ID (PID), using the instructions in the Verifying the CIMC Software Version section.

  ◦ N1K-1110-S on the Cisco Nexus 1110-S

  ◦ N1K-1110-X on the Cisco Nexus 1110-X

  ◦ N1K-C1010 on the Cisco Nexus 1010

  ◦ N1K-C1010-X on the Cisco Nexus 1010-X

  ⚠

  Caution   You cannot install or upgrade to Release 5.2(1)SP1(7.1) unless your Cisco Nexus 1110-S has the product ID (PID) N1K-1110-S, your Cisco Nexus 1110-Xhas the product ID (PID) N1K-1110-X, your Cisco Nexus 1010 has the product ID (PID) N1K-C1010, or your Cisco Nexus 1010-X has the product ID (PID) N1K-C1010-X.

- Upgrade firmware using the Cisco Host Upgrade Utility (HUU). The HUU is a tool that upgrades the following components:

  ◦ Cisco Integrated Management Controller (CIMC)

  ◦ System BIOS

◦ LAN on Motherboard (LOM)

◦ Cisco UCS VIC 1225

◦ Network adapters

◦ LSI

Use the following Cisco HUU versions to upgrade the firmware before you upgrade the Cisco Nexus Cloud Services Platform:

- For the Cisco Nexus 1010 product family, see the Cisco Host Upgrade Utility Release 1.4(3) Quick Start Guide.

- For the Cisco Nexus 1110 product family, see the Cisco Host Upgrade Utility 1.5(1) User Guide.

⚠

Caution   We recommend that you upgrade the firmware using the Cisco Host Upgrade Utility. Failing to do so might result in a network setup failure and/or system reboots. For more information, see Cisco Host Upgrade Utility Information, on page 14.

- Log in to the command-line-interface (CLI) from the CIMC/Serial over LAN (SoL) port on the rear of the Cisco Nexus Cloud Services Platform.

✎

Note   Do not log in using the management IP address for this procedure. This procedure requires that you upgrade and reload the standby Cisco Nexus Cloud Services Platform. After you upgrade, the HA pair will have incompatible software versions. By logging in using SoL, you prevent the split brain that occurs in this configuration.

- Save a backup copy of your running configuration on an external server.

- Save a copy of the new Cisco Nexus Cloud Services Platform software file to an external server after downloading it from www.cisco.com.

- Install Cisco Integrated Management Controller (CIMC) Software Version 1.4(3s) or higher for the Cisco Nexus 1010 product family installed and CIMC Software Version 1.5(4e) or higher for the Cisco Nexus 1110 product family installed. For more information, see the Verifying the CIMC Software Version, on page 14 section.

Guidelines and Limitations

The Cisco Nexus Cloud Services Platform product family has the following configuration guidelines and limitations:

- This procedure upgrades both the active and standby Cisco Nexus Cloud Services Platforms.

- After reloading the new software release during an upgrade, you must save the new upgrade configuration persistently through reboot and then restart the startup configuration.

- The only way to upgrade the software is by using the **install nexus1010 command**.

- Boot variables will be set by the system when you use the **install** command. Do not set the boot variables manually.

Upgrading from earlier Software Releases

You can use this procedure for the following Cisco Nexus Cloud Services Platform upgrades while retaining operational data and persistent information:

Supported Software Release for Upgrade	To Software Release
4.2(1)SP1(3)—Minimum required version for Upgrade	4.2(1)SP1(6.2) and later releases
4.2(1)SP1(4)	
4.2(1)SP1(5.1) or 4.2(1)SP1(5.1a)	4.2(1)SP1(6.2) and later releases
4.2(1)SP1(6.1)	
4.2(1)SP1(6.2)	4.2(1)SP1(6.2a) and later releases
4.2(1)SP1(6.2a)	5.2(1)SP1(7.1)

Note Upgrade from Release 4.2(1)SP1(1) or 4.2(1)SP1(2) to 4.2(1)SP1(6.1) or later releases is not supported.

Note For information about upgrading Cisco Nexus 1000V software on a VSB, see the *Cisco Nexus 1000V Software Installation and Upgrade Guide*.

Before You Begin

Procedure

Step 1 From the Cisco Nexus Cloud Services Platform serial over LAN (SoL) connection, copy any unsaved configuration from the running configuration to the startup configuration so that it is preserved after the reload.

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

Step 2 Copy the new software image from the external server to the bootflash: \repository.

Example:
```
switch# copy scp://user@linux-box.cisco.com/home/user/
nexus-1010.4.2.1.SP1.5.1a.iso bootflash:repository
Enter vrf (If no input, current vrf 'default' is considered):
user@linux-box.cisco.com's password:
nexus-1010.4.2.1.SP1.5.1a.iso        100%  258234  10.3KB/s   00:15
switch#
```

Step 3 Install the new image.

The following things occur on the switch:

- The new software image is copied to bootflash and the standby Cisco Nexus Cloud Services Platform is upgraded.

- 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 startup configuration.

- The active switch reloads the standby switch with the new software release.

- The system waits for all VSBs to come up before the standby switch takes over and reloads the active switch with the new software version.

Example:
```
switch# install nexus1010 bootflash:repository/nexus-1010.4.2.1.sp1.5.1a.iso
```

Step 4 From the CLI for each module, verify that both modules are in HA mode.

Example:
```
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 HA standby
Other supervisor (sup-2)
----------------------
    Redundancy state: standby
    Supervisor state: HA standby
      Internal state: HA standby
switch#
---- ----
```

Step 5 Verify if the new software is loaded.

Example:
```
switch# show module
Mod Ports Module-Type                       Model  Status
--- ----- ------------------------------- ------ ------------
1   0     Cisco Virtual Services Appliance  VSA    active *
2   0     Cisco Virtual Services Appliance  VSA    ha-standby

Mod Sw             Hw
--- ---------------- ------------------------------------------------
1   4.2(1)SP1(5.1a)   0.0
```

```
2   4.2(1)SP1(5.1a)   0.0

Mod  MAC-Address(es)                        Serial-Num
---  -------------------------------------  ----------
1    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA
2    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA

Mod  Server-IP        Server-UUID  Server-Name
---  ---------------  -----------  --------------------
1    10.78.109.100    NA           NA
2    10.78.109.100    NA           NA

* this terminal session
```

Step 6   Save the new upgrade configuration persistently through reboots and restarts by copying it to the startup configuration.

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

Reconfiguring SNMP User Accounts After an Upgrade

During an upgrade, the SNMP engine ID changes internally to a unique engine ID. You must reconfigure all SNMP user accounts to work with the new engine ID. Until the SNMP user accounts are reconfigured, all SNMPv3 queries fail.

After an upgrade, the engine ID is shown as 128:0:0:9:3:2:0:12:0:0:0, as follows:
```
switch# show snmp user
_____
                SNMP USERS
_____

User                          Auth  Priv(enforce) Groups
____                          ____  _____  _____
_____
 NOTIFICATION TARGET USERS (configured  for sending V3 Inform)
_____

User                          Auth  Priv
____                          ____  ____
admin                         md5   des
(EngineID 128:0:0:9:3:2:0:12:0:0:0)
```
Complete the following steps to delete and recreate the username.

Procedure

Step 1   Delete the username.

Example:
```
switch(config)#no snmp user admin auth md5
Sfish123 engineID 128:0:0:9:3:2:0:12:0:0:0
```
Step 2   Use either of the following options to recreate the username:

  • Option 1
    ```
    switch(config)# snmp user admin auth md5 Sfish123
    ```

- Option 2

```
switch(config)# snmp-server user admin auth md5
Sfish123 priv aes-128 Sfish123
```

Step 3 Confirm that the engine ID has been updated, as follows:

- Option 1

```
switch# show snmp user
_____
                    SNMP USERS
_____

User                          Auth  Priv(enforce) Groups
____                          ____  _____  _____
admin                         md5   no            network-operator

 NOTIFICATION TARGET USERS (configured  for sending V3 Inform)
_____

User                          Auth  Priv
____                          ____  ____
```

- Option 2

```
switch(config)# show snmp user
_____
                    SNMP USERS
_____

User                          Auth  Priv(enforce) Groups
____                          ____  _____  _____
admin                         md5   aes-128(no)   network-operator

 NOTIFICATION TARGET USERS (configured  for sending V3 Inform)
_____

User                          Auth  Priv
____                          ____  ____
```

Step 4 Verify that the engine ID is unique.

Example:
```
switch# show snmp engineID
Local SNMP engineID: [Hex] 8000000903005056A0544E
                     [Dec] 128:000:000:009:003:000:080:086:160:084:078
```

Configuration Examples for Upgrading the Cisco Nexus Cloud Services Platform

Upgrading Release 4.2(1)SP1(6.2a) to 5.2(1)SP1(7.1)

This example shows how to upgrade from software Release version 4.2(1)SP1(6.2a) to 5.2(1)SP1(7.1):

```
cppa-mgr(config)# install nexus1010 bootflash:repository/nexus-1010.5.2.1.SP1.7.1.isocppa_mgr

debug: Using URI:
```

```
bootflash:/repository/nexus-1010.5.2.1.SP1.7.1.iso
Installing bootflash:/repository/nexus-1010.5.2.1.SP1.7.1.iso
.2014 May 24 04:07:26 cppa-mgr %CPPA_MGR-5-UPGRADE_START: Upgrade started. Image:
nexus-1010.5.2.1.SP1.7.1.iso...
.......................................................2014 May 24 04:09:28 cppa-

mgr %CPPA_MGR-5-UPGRADE_START: Upgrade started. Image:
nexus-1010.5.2.1.SP1.7.1.iso....................................2014
May 24 04:10:48 cppa-mgr %VSHD-5-VSHD_SYSLOG_CONFIG_I: Configured from

vty by root on vsh.22492.
Verifying image bootflash:/nexus-1010-kickstart.5.2.1.SP1.7.1.bin for boot variable
"kickstart".
[#                    ]   0%._____[###################] 100% -- SUCCESS

Verifying image bootflash:/nexus-1010.5.2.1.SP1.7.1.bin for boot variable "system".
[#                    ]   0%._____[###################] 100% -- SUCCESS

Verifying image type.
[#                    ]   0%._____[#####           ]  20%.._____[#######
             ]
30%_____[#########          ]  40%_____[##########         ]

50%..._____[##########        ]  50%._____[##########         ]  50%.
._____[################### ]
 90%_____[###################] 100%_____

[###################] 100% -- SUCCESS

Extracting "system" version from image bootflash:/nexus-1010.5.2.1.SP1.7.1.bin.
[#                    ]   0%._____[###################] 100% -- SUCCESS

Extracting "kickstart" version from image bootflash:/nexus-1010-kickstart.5.2.1.SP1.7.1.bin.
[#                    ]   0%_____[###################] 100% -- SUCCESS
........
Notifying services about system upgrade.
....._____[###################] 100% _____-- SUCCESS


Compatibility check is done:
Module  bootable          Impact  Install-type  Reason
------  --------  -------------  ------------  ------
     1       yes  non-disruptive         reset
     2       yes  non-disruptive         reset


Images will be upgraded according to following table:
Module      Image        Running-Version           New-Version  Upg-Required
------  ----------  ---------------------  ----------------------  ------------
     1      system      4.2(1)SP1(6.2a)          5.2(1)SP1(7.1)           yes
     1   kickstart      4.2(1)SP1(6.2a)          5.2(1)SP1(7.1)           yes
     2      system      4.2(1)SP1(6.2a)          5.2(1)SP1(7.1)           yes
     2   kickstart      4.2(1)SP1(6.2a)          5.2(1)SP1(7.1)           yes


Module       Running-Version                                    ESX Version
VSM Compatibility     ESX Compatibility
------  --------------------  ---------------------------------------------------
--------------------  ---------------------


Install is in progress, please wait.

Syncing image bootflash:/nexus-1010-kickstart_____[###################]
 100% -- SUCCESS

Syncing image bootflash:/nexus-1010.5.2.1.SP1.7.1.bin to standby.
[#                    ]   0%...._____[###################] 100% -- SUCCESS

Setting boot variables.
[#                    ]   0%....._____[_____
```

```
Performing configuration copy.
[#              ]   0%_____[##              ]   5%_____[###
          ]
 10%_____[####              ]  15%_____[########           ]

35%_____[#########              _____]  40%_____[##########
]
 45%_____[##########           ]  50%_____[##############     ]
70%_____

[###############     ]  75%_____[################    ]
80%_____[#################  ]
 85%_____[###################] 100%2014 May 24 04:12:03 cppa-mgr %SYSMGR-STANDBY-5-

CFGWRITE_STARTED: Configuration copy started (PID 5896).._____[####################]
 100%
 -- SUCCESS
...................2014 May 24 04:12:50 cppa-mgr %REDUN_MGR-4-CTRL_COMM_STATUS_CHANGE:
Control Connectivity is DOWN with Secondary VSA.
.2014 May 24 04:13:00 cppa-mgr %REDUN_MGR-4-HB_STOPPED:

Heartbeats stopped from: Secondary VSA. 2014 May 24 04:13:01 cppa-mgr %PLATFORM-2-MOD_REMOVE:
 Module 2 removed
(Serial number _____T023D77DE81)...........................2014 May 24

04:14:00 cppa-mgr %REDUN_MGR-4-AC_AC_POSSIBLE: Secondary VSA not yet come UP, Possible
Active-Active VSA WARNING!!
Check the following things: 1) Secondary VSA is manually powered off? 2) Network

connectivity with Secondary VSA is broken? 3) Secondary VSA is stuck at booting?

.............................................................................................
....................................................................................20

14 May 24 04:20:33 cppa-mgr %REDUN_MGR-4-CTRL_COMM_STATUS_CHANGE: Control Connectivity is
UP with Secondary VSA.
2014 May 24 04:20:34 cppa-mgr %PLATFORM-2-MOD_DETECT: Module 2 detected (Serial

number :unavailable) Module-Type Virtual Supervisor Module Model :unavailable.........2014
 May 24 04:20:51 cppa-mgr
%BOOTVAR-5-NEIGHBOR_UPDATE_AUTOCOPY: auto-copy supported by neighbor supervisor,

starting...  .........2014 May 24 04:21:10 cppa-mgr %SYSMGR-STANDBY-4-READCONF_STARTED:
Configuration update started (PID 3600)._____.
2014 May 24 04:21:12 cppa-mgr %SYSMGR-STANDBY-4-

READCONF_STARTED: Configuration update started (PID 3711)..
Module 2: Waiting for module online.
 -- SUCCESS
2014 May 24 04:21:15 cppa-mgr %MODULE-5-STANDBY_SUP_OK: Supervisor 2 is standby2014
May 24 04:21:15 cppa-mgr %SYSMGR-STANDBY-5-MODULE_ONLINE: System Manager has received
notification of local

module becoming

online.......................................................................................
.............................................................................................
.............................................................................................
.................
Notifying services about the switchover.
._____[###################] 100% -- SUCCESS


"Switching over onto standby".
```

Upgrading Release 4.2(1)SP1(6.1) to 4.2(1)SP1(6.2)

This example shows how to upgrade from software Release version 4.2(1)SP1(6.1) to 4.2(1)SP1(6.2).

```
login: admin
Password:

Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2013, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
switch#
switch# show module

Mod  Ports  Module-Type                      Model              Status
---  -----  -------------------------------  -----------------  ------------
1    0      Cisco Virtual Services Appliance  VSA               active *
2    0      Cisco Virtual Services Appliance  VSA               ha-standby

Mod  Sw              Hw
---  --------------- ------------------------------------------------
1    4.2(1)SP1(6.1)  0.0
2    4.2(1)SP1(6.1)  0.0


Mod  MAC-Address(es)                        Serial-Num
---  -------------------------------------- ----------
1    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA
2    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA

Mod  Server-IP       Server-UUID                         Server-Name
---  --------------- ----------------------------------- --------------------
1    80.80.80.220    NA                                  NA
2    80.80.80.220    NA                                  NA

* this terminal session

switch# dir bootflash:repository

  939063296      Oct 01 02:39:47 2013  dcnm-installer.6.2.3.iso
      16384      Oct 01 08:06:29 2013  lost+found/
  221212672      Oct 01 02:37:27 2013  nam-app-x86_64.5-1-2.iso
  162895872      Oct 01 02:35:03 2013  nexus-1000v.4.2.1.SV2.2.1a.iso
  169783296      Oct 01 02:35:39 2013  nexus-1000v.5.2.1.SM1.5.1.iso
  159037440      Oct 01 02:36:29 2013  nexus-1000v.5.2.1.VSGM1.4.1.iso
  674701312      Oct 01 02:42:32 2013  nexus-1010.4.2.1.SP1.6.2.iso
        460      Oct 01 03:58:12 2013  vmpresults.txt

Usage for bootflash://sup-local

  311828480 bytes used
 3679551488 bytes free
 3991379968 bytes total

switch# install nexus1010 bootflash:repository//nexus-1010.4.2.1.SP1.6.2.iso
switch debug: Using URI: bootflash:/repository//nexus-1010.4.2.1.SP1.6.2.iso
Installing bootflash:/repository//nexus-1010.4.2.1.SP1.6.2.iso
.............................................................

Verifying image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.6.2.bin for boot variable
"kickstart".
[#               ]  0%._____[##################] 100% -- SUCCESS

Verifying image bootflash:/nexus-1010-mz.4.2.1.SP1.6.2.bin for boot variable "system".
[#               ]  0%_____[##################] 100% -- SUCCESS
```

```
Verifying image type.

[#                    ]   0%._____[#####                ]
20%._____[######            ]
30%_____[########          ]
40%_____[##########        ]
50%.._____[###########       ]
50%_____[###########        ]
50%._____[################# ]
90%_____[##################]
100%._____[##################] 100% -- SUCCESS

Extracting "system" version from image bootflash:/nexus-1010-mz.4.2.1.SP1.6.2.bin.
[#               ]   0%_____[##################] 100% -- SUCCESS
Extracting "kickstart" version from image
bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.6.2.bin.
[#               ]   0%._____[##################] 100% -- SUCCESS
.....
Notifying services about system upgrade.
....._____[##################] 100% -- SUCCESS


Compatibility check is done:

Module  bootable          Impact  Install-type  Reason
------  --------  --------------  ------------  ------
    1       yes  non-disruptive           reset
    2       yes  non-disruptive           reset


Images will be upgraded according to following table:

Module        Image        Running-Version              New-Version  Upg-Required
------  ----------  ----------------------  ----------------------  ------------
    1      system        4.2(1)SP1(6.1)          4.2(1)SP1(6.2)           yes
    1   kickstart        4.2(1)SP1(6.1)          4.2(1)SP1(6.2)           yes
    2      system        4.2(1)SP1(6.1)          4.2(1)SP1(6.2)           yes
    2   kickstart        4.2(1)SP1(6.1)          4.2(1)SP1(6.2)           yes

Module        Running-Version                                          ESX Version
VSM Compatibility      ESX Compatibility
------  --------------------  --------------------------------------------------
--------------------  --------------------

Install is in progress, please wait.

Syncing image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.6.2.bin to standby.

[#               ]   0%.._____[##################] 100% --
SUCCESS

Syncing image bootflash:/nexus-1010-mz.4.2.1.SP1.6.2.bin to standby.
[#               ]   0%.._____[##################] 100% --
SUCCESS
Setting boot variables.
[#               ]   0%...._____[##################] 100% --
SUCCESS
Performing configuration copy.
[#               ]   0%_____[##                ]
5%_____[###            ]  10%_____[####
              ]  15%_____[########         ]
35%_____[#########         ]
40%_____[##########        ]
45%_____[##########        ]
50%_____[#############     ]
70%_____[##############    ]
75%_____[###############   ]
80%_____[################  ]
85%_____[################# ]
100%._____[##################] 100% -- SUCCESS
...................2013 Oct  1 04:46:18 switch %PLATFORM-2-MOD_REMOVE: Module 2 removed
(Serial number T023D781781)
```
....2013

```
 Oct  1 04:53:09 switch %PLATFORM-2-MOD_DETECT: Module 2 detected (Serial number :unavailable)
 Module-Type Virtual Supervisor Module Model :unavailable
....................
Module 2: Waiting for module online.
 -- SUCCESS
...............................
Notifying services about the switchover.
                                 [####################] 100% -- SUCCESS
"Switching over onto standby".

Cisco VSA

switch login: admin
Password:

Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2013, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php


switch#
switch# show module

Mod  Ports  Module-Type                       Model              Status
---  -----  --------------------------------  ------------------ ------------
1    0      Cisco Virtual Services Appliance  VSA                ha-standby
2    0      Cisco Virtual Services Appliance  VSA                active *

Mod  Sw               Hw
---  ---------------  -------------------------------------------------
1    4.2(1)SP1(6.2)   0.0
2    4.2(1)SP1(6.2)   0.0

Mod  MAC-Address(es)                        Serial-Num
---  -------------------------------------  ----------
1    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA
2    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA

Mod  Server-IP       Server-UUID                          Server-Name
---  --------------- ------------------------------------ --------------------
1    80.80.80.220    NA                                   NA
2    80.80.80.220    NA                                   NA


* this terminal session
```

Upgrade from software Release version 4.2(1)SP1(5.1a) to 4.2(1)SP1(6.2)

This example shows how to upgrade from Release 4.2(1)SP1(5.1a) to Release 4.2(1)SP1(6.2):

```
login: admin
Password:

Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2012, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNULesser General Public License
(LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
```

```
switch# show module
Mod  Ports  Module-Type                         Model               Status
---  -----  ----------------------------------  ------------------  -----------
1    0      Cisco Virtual Services Appliance    VSA                 active
2    0      Cisco Virtual Services Appliance    VSA                 ha-standby
Mod  Sw                 Hw
---  ----------------   ----------------------------------------------
1    4.2(1)SP1(5.1a)    0.0
2    4.2(1)SP1(5.1a)    0.0

Mod  MAC-Address(es)                         Serial-Num
---  -------------------------------------   ----------
1    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA
2    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA
Mod  Server-IP       Server-UUID                               Server-Name
---  -------------   -------------------------------------     --------------------
1    80.80.80.220    NA                                        NA
2    80.80.80.220    NA                                        NA
* this terminal session


switch# dir bootflash:repository

16384     Oct 02 07:51:38 2013  lost+found/
674701312     Oct 02 00:08:23 2013  nexus-1010.4.2.1.SP1.6.2.iso
Usage for bootflash://sup-local

309125120 bytes used 3682254848 bytes free
3991379968 bytes total


switch#

switch# install nexus1010 bootflash:repository//nexus-1010.4.2.1.SP1.6.2.iso
switch debug: Using URI: bootflash:/repository//nexus-1010.4.2.1.SP1.6.2.iso

Installing
bootflash:/repository//nexus-1010.4.2.1.SP1.6.2.iso...............................................................Verifying
 image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.6.2.bin for boot variable "kickstart".[#
           ]   0%._____[###################] 100% -- SUCCESS

Verifying image bootflash:/nexus-1010-mz.4.2.1.SP1.6.2.bin for boot variable "system".[#
           ]   0%_____[###################] 100% -- SUCCESS

Verifying image type.[#                 ]   0%._____[#####
       ]  20%._____[#######          ]
30%_____[########         ]
40%_____[##########       ]
50%.._____[##########      ]
50%_____[##########       ]
50%._____[##################  ]
90%_____[###################]
100%._____[###################] 100% -- SUCCESS

Extracting "system" version from image bootflash:/nexus-1010-mz.4.2.1.SP1.6.2.bin.[#
           ]   0%_____[###################] 100% -- SUCCESS

Extracting "kickstart" version from image
bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.6.2.bin.[#                    ]
0%._____[###################] 100% -- SUCCESS.....

Notifying services about system upgrade......_____[###################]
 100% -- SUCCESS

Compatibility check is done:

Module  bootable       Impact         Install-type  Reason
------  --------       -------------  ------------  ------
1       yes  non-disruptive           reset
2       yes  non-disruptive           reset
Images will be upgraded according to following table:
Module       Image        Running-Version             New-Version   Upg-Required
```

```
------  ----------  --------------------  --------------------  ------------
1    system        4.2(1)SP1(5.1a)      4.2(1)SP1(6.2)            yes
1    kickstart     4.2(1)SP1(5.1a)      4.2(1)SP1(6.2)            yes
2    system        4.2(1)SP1(5.1a)      4.2(1)SP1(6.2)            yes
2    kickstart     4.2(1)SP1(5.1a)      4.2(1)SP1(6.2)            yes

Module       Running-Version                                    ESX Version
VSM Compatibility     ESX Compatibility
------  --------------------  --------------------------------------------------
--------------------  ----------------------


Install is in progress, please wait.
Syncing image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.6.2.bin to standby.[#
        ]   0%._____[####################] 100% -- SUCCESS
Syncing image bootflash:/nexus-1010-mz.4.2.1.SP1.6.2.bin to standby.[#             ]
   0%..._____[####################] 100% -- SUCCESS
Setting boot variables.[#                    ]
0%..._____[####################] 100% -- SUCCESS
Performing configuration copy.[#                    ]   0%_____[##
        ]   5%_____[###                ]
10%_____[#####           ] 25%_____[#######
        ] 30%_____[########           ]
35%_____[###########      ]
50%_____[###########      ]
55%_____[############     ]
60%_____[###############  ]
75%_____[################ ]
80%_____[################ ]
85%_____[#################]
100%._____[##################] 100% --
SUCCESS....................2013 Oct  2 00:14:04 switch %PLATFORM-2-MOD_REMOVE: Module 2
removed (Serial number T023D781781)
..............................................................................................2013
 Oct  2 00:20:46 switch %PLATFORM-2-MOD_DETECT: Module 2 detected (Serial number :unavailable)
 Module-Type Virtual Supervisor Module Model :unavailable
.....................Module 2: Waiting for module online. --
SUCCESS...............................Notifying services about the
switchover._____[##################] 100% -- SUCCESS"Switching over
 onto standby"..
login as: admin
Cisco VSA
Using keyboard-interactive authentication.
Password:
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
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owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
switch# show module
Mod  Ports Module-Type                         Model              Status
---  ----- ------------------------------- ------------------ -----------
1    0     Cisco Virtual Services Appliance  VSA                ha-standby
2    0     Cisco Virtual Services Appliance  VSA                active *

Mod  Sw               Hw
---  ---------------  ------------------------------------------------
1    4.2(1)SP1(6.2)   0.0
2    4.2(1)SP1(6.2)   0.0

Mod  MAC-Address(es)                      Serial-Num
---  ------------------------------------ ----------
1    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA
2    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8  NA

Mod  Server-IP      Server-UUID                           Server-Name
---  -------------- ------------------------------------- --------------------
1    80.80.80.220   NA                                    NA
```

```
2   80.80.80.220    NA                                                  NA

* this terminal session
switch#
```

Upgrading Release 4.2(1)SP1(3) to 4.2(1)SP1(5.1)

This example shows how to upgrade Release 4.2(1)SP1(3) to Release 4.2(1)SP1(5.1).

```
login as: admin
Nexus 1010
Using keyboard-interactive authentication.
Password:
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
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Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php

switch# show mod[15D[J
switch# show mod[Jule

Mod  Ports  Module-Type                      Model              Status
---  -----  -------------------------------- -----------------  -----------
1    0      Nexus 1010 (Virtual Services App Nexus1010          active *
2    0      Nexus 1010 (Virtual Services App Nexus1010          ha-standby

Mod  Sw               Hw
---  ---------------  -----------------------------------------------
1    4.2(1)SP1(3)     0.0
2    4.2(1)SP1(3)     0.0

Mod  MAC-Address(es)                        Serial-Num
---  -------------------------------------- ----------
1    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8 NA
2    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8 NA

Mod  Server-IP        Server-UUID                         Server-Name
---  ---------------  ----------------------------------- --------------------
1    10.78.109.59     NA                                  NA
2    10.78.109.59     NA                                  NA

* this terminal session
switch# show[J[J[J[Jd[Jdir boot[15D[J
switch# dir boot[Jflash:r[22D[J
switch# dir bootflash:r[Jepository

16384     Jun 11 02:49:38 2014  lost+found/
  305928192     Jun 12 12:33:09 2014  nexus-1010.4.2.1.SP1.5.0.33.iso

Usage for bootflash://sup-local
  308862976 bytes used
 3682516992 bytes free
 3991379968 bytes total

switch# inst[11D[J
switch# inst[Jall nexu[19D[J
switch# install nexu[Js1010 boot[29D[J
switch# install nexus1010 boot[Jflash:[35D[J
switch# install nexus1010 bootflash:

bootflash:///          bootflash://sup-1/      bootflash://sup-local/

bootflash://module-1/  bootflash://sup-2/      bootflash://sup-remote/

bootflash://module-2/  bootflash://sup-active/ bootflash://sup-standby/
```

```
[J
switch# install nexus1010 bootflash://[J[Jr[36D[J
switch# install nexus1010 bootflash:r[Jepository/nexu[50D[J
switch# install nexus1010 bootflash:repository/nexu[Js-1010.4.2.1.SP1.5.0.33.iso

cppa_mgr debug: Using URI: bootflash:/repository/nexus-1010.4.2.1.SP1.5.0.33.iso
Installing bootflash:/repository/nexus-1010.4.2.1.SP1.5.0.33.iso
.................
Verifying image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.5.1.bin for boot variable
"kickstart".
[#                   ]   0%[###################] 100% -- SUCCESS

Verifying image bootflash:/nexus-1010-mz.4.2.1.SP1.5.1.bin for boot variable "system".
[#                   ]   0%..[###################] 100% -- SUCCESS

Verifying image type.
[#                   ]   0%[#####               ]  20%.[#######           ]  30%[#########
        ]  40%[##########         ]  50%..[##########          ]  50%[##########
   ]  50%.[################## ]  90%[##################] 100%[###################]
100% -- SUCCESS

Extracting "system" version from image bootflash:/nexus-1010-mz.4.2.1.SP1.5.1.bin.
[#                   ]   0%.[###################] 100% -- SUCCESS

Extracting "kickstart" version from image
bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.5.1.bin.
[#                   ]   0%[###################] 100% -- SUCCESS
.....
Notifying services about system upgrade.
......[###################] 100% -- SUCCESS

Compatibility check is done:
Module  bootable          Impact  Install-type  Reason
------  --------          --------------  ------------  ------
     1       yes  non-disruptive         reset
     2       yes  non-disruptive         reset

Images will be upgraded according to following table:
Module     Image         Running-Version              New-Version  Upg-Required
------  ----------  --------------------  --------------------  ------------
     1     system          4.2(1)SP1(3)          4.2(1)SP1(5.1)           yes
     1  kickstart          4.2(1)SP1(3)          4.2(1)SP1(5.1)           yes
     2     system          4.2(1)SP1(3)          4.2(1)SP1(5.1)           yes
     2  kickstart          4.2(1)SP1(3)          4.2(1)SP1(5.1)           yes


Module        Running-Version                                    ESX Version
VSM Compatibility     ESX Compatibility
------  --------------------  -------------------------------------------------
--------------------  --------------------



Install is in progress, please wait.

Syncing image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.5.1.bin to standby.
[#                   ]   0%.[###################] 100% -- SUCCESS

Syncing image bootflash:/nexus-1010-mz.4.2.1.SP1.5.1.bin to standby.
[#                   ]   0%..[###################] 100% -- SUCCESS

Setting boot variables.
[#                   ]   0%...[###################] 100% -- SUCCESS

Performing configuration copy.
[#                   ]   0%[##                  ]   5%[###                 ]  10%[####
        ]  15%[#######             ]  35%[#########           ]  40%[##########
   ]  45%[##########          ]  50%[##############      ]  70%[################    ]
75%[################    ]  80%[################    ]  85%[###################]
100%.[###################] 100% -- SUCCESS
...................2014 Jun 12 12:37:03 n1010 %PLATFORM-2-MOD_REMOVE: Module 2 removed
(Serial number T023D7FFD81)

.........................................................................................2014
```

```
 Jun 12 12:40:41 n1010 %PLATFORM-2-MOD_DETECT: Module 2 detected (Serial number :unavailable)
 Module-Type Virtual Supervisor Module Model :unavailable

..................
Module 2: Waiting for module online.
 -- SUCCESS
..............................
Notifying services about the switchover.
.[####################] 100% -- SUCCESS

"Switching over onto standby".
login as: admin
Nexus 1010
Using keyboard-interactive authentication.
Password:
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2012, Cisco Systems, Inc. All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under
license. Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or the GNU
Lesser General Public License (LGPL) Version 2.1. A copy of each
such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php

switch# show mod[15D[J
switch# show mod[Jule

Mod  Ports  Module-Type                     Model              Status
---  -----  ------------------------------- ------------------ ------------
1    0      Cisco Virtual Services Appliance VSA               ha-standby
2    0      Cisco Virtual Services Appliance VSA               active *

Mod  Sw               Hw
---  ---------------- ------------------------------------------------
1    4.2(1)SP1(5.1)   0.0
2    4.2(1)SP1(5.1)   0.0

Mod  MAC-Address(es)                        Serial-Num
---  -------------------------------------- ----------
1    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8 NA
2    00-19-07-6c-5a-a8 to 00-19-07-6c-62-a8 NA

Mod  Server-IP        Server-UUID                          Server-Name
---  ---------------  ------------------------------------ --------------------
1    10.78.109.59     NA                                   NA
2    10.78.109.59     NA                                   NA

* this terminal session
```

Upgrading Release 4.2(1)SP1(3) to 4.2(1)SP1(4)

This example shows how to upgrade Release 4.2(1)SP1(3) to Release 4.2(1)SP1(4):

```
switch# install nexus1010 bootflash:repository/nexus-1010.4.2.1.SP1.4.iso
cppa_mgr debug: Using URI: bootflash:/repository/nexus-1010.4.2.1.SP1.4.iso
Installing bootflash:/repository/nexus-1010.4.2.1.SP1.4.iso
.............................................................................
Verifying image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.4.bin for boot variable
"kickstart".
[[####################] 100% -- SUCCESS

Verifying image bootflash:/nexus-1010-mz.4.2.1.SP1.4.bin for boot variable "system".
[[####################] 100% -- SUCCESS

Verifying image type.
[[[[[####################] 100% -- SUCCESS

Extracting "system" version from image bootflash:/nexus-1010-mz.4.2.1.SP1.4.bin.
[[####################] 100% -- SUCCESS
```

```
Extracting "kickstart" version from image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.4.bin.
[####################] 100% -- SUCCESS
......
Notifying services about system upgrade.                    [####################]
100% -- SUCCESS
.
Compatibility check is done:
Module  bootable          Impact  Install-type  Reason
------  --------  --------------  ------------  ------
     1       yes  non-disruptive         reset
     2       yes  non-disruptive         reset

Images will be upgraded according to following table:
Module      Image       Running-Version           New-Version  Upg-Required
------  ----------  ----------------------  ----------------------  ------------
     1      system        4.2(1)SP1(3)            4.2(1)SP1(4)          yes
     1   kickstart        4.2(1)SP1(3)            4.2(1)SP1(4)          yes
     2      system        4.2(1)SP1(3)            4.2(1)SP1(4)          yes
     2   kickstart        4.2(1)SP1(3)            4.2(1)SP1(4)          yes
Module       Running-Version ESX Version     VSM Compatibility       ESX Compatibility
------  --------------------  -------------------------------------------------
--------------------  --------------------

Install is in progress, please wait.

Syncing image bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.4.bin to standby.
[[####################] 100% -- SUCCESS

Syncing image bootflash:/nexus-1010-mz.4.2.1.SP1.4.bin to standby.
[#[####################] 100% -- SUCCESS

Setting boot variables.
[# [####################] 100% -- SUCCESS

Performing configuration copy.
[[[####################] 100% -- SUCCESS
........................2011 Jul 25 20:12:16 switch %PLATFORM-2-MOD_REMOVE: Module 2
removed (Serial number T023D750981)
.......................................................................2011 Jul 25
20:14:54 switch %PLATFORM-2-MOD_DETECT: Module 2 detected (Serial number :unavailable)
Module-Type Virtual Supervisor Module Model :unavailable
...................
Module 2: Waiting for module online.
 -- SUCCESS
.......................................................................................................................
Notifying services about the switchover.
[####################] 100% -- SUCCESS

"Switching over onto standby".
.
Broadcast message from root (console) (Mon Jul 25 20:20:41 2011):

The system is going down for reboot NOW!
INIT: Switching to runlevel: 6
INIT: Sending processes the TERM signal
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "sksd" (PID 2487) is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "Security Daemon" (PID 2499) is
forced exit.
Jul 25 20:20:41 %TTYD-2-TTYD_ERROR TTYD Error ttyd bad select
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "stp" (PID 2765) is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service"fs-daemon"(PID2455)is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service"Cert_enroll Daemon"(PID 2500)is
forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "netstack"(PID2557)is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "vdc_mgr"(PID 2484)is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "u6rib" (PID 2507) is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "res_mgr"(PID2489)is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "licmgr" (PID 2454)is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "igmp" (PID 2771) is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "adjmgr" (PID 2537)is forced exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "Radius Daemon"(PID 2634)is forced
 exit.
```

```
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "AAA Daemon"(PID 2501)is forced
exit.
Jul 25 20:20:41 %LIBSYSMGR-3-SIGTERM_FORCE_EXIT Service "urib" (PID 2508) is forced exit.
Auto booting bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.4.bin bootflash:/n
exus-1010-mz.4.2.1.SP1.3.bin...
Booting kickstart image: bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.4.bin.
.......................................................Image verification
OK

Starting kernel...
PCI: PIIX3: Enabling Passiv%H+Y4%
                                   001-Usage: init 0123456SsQqAaBbCcUu
mkdir: cannot create directory `/new-root/old-root': File exists
INIT: version 2.85 booting
Bootflash device is /dev/hda
Checking all filesystems..... done.
Setting kernel variables: sysctlnet.ipv4.ip_forward = 0
net.ipv4.ip_default_ttl = 64
net.ipv4.ip_no_pmtu_disc = 1
.
/etc/rc.d/rcS.d/S35iptables: line 41: //iptables: No such file or directory
/etc/rc.d/rcS.d/S35iptables: line 44: //ip6tables: No such file or directory
Loading system software
Uncompressing system image: bootflash:/nexus-1010-mz.4.2.1.SP1.4.bin

Load plugins that defined in image conf: /isan/plugin_img/img.conf
load_plugin: failed read swid map from "/mnt/pss/plugin_swid_map" with rc 0xffffffff. Plugin
 will be assigned new ID
Loading plugin 0: core_plugin...
load_plugin: Can't get exclude list from /isan/plugin/0/boot/etc/plugin_exclude.conf (rc
0x40ea0017)
plugin_link_to_exec_path: plugin_path = /isan/plugin/0, tar_log = /isan/plugin_extract_log/0
num srgs 1
0: swid-core-sup1sfp, swid-core-sup1sfp
num srgs 1
0: swid-sup1sfp-ks, swid-sup1sfp-ks
INIT: Entering runlevel: 3
Starting dhcpd daemon: dhcpdInternet Systems Consortium DHCP Server V3.0.1rc14
Copyright 2004 Internet Systems Consortium.
All rights reserved.
For info, please visit http://www.isc.org/sw/dhcp/
Wrote 0 deleted host decls to leases file.
Wrote 0 new dynamic host decls to leases file.
Wrote 0 leases to leases file.

Not configured to listen on any interfaces!
.
Exporting directories for NFS kernel daemon...done.
Starting NFS kernel daemon:rpc.nfsd.
rpc.mountddone.

/bin/mkdir: cannot create directory `/bootflash/repository': File exists
/isan/bin/mount_cppa_repository exist


Nexus 1010
switch(standby) login: 2011 Jul 26 04:24:22 switch %USER-2-SYSTEM_MSG: CLIS: loading cmd
files begin  - clis
2011 Jul 26 04:24:29 switch %USER-2-SYSTEM_MSG: CLIS: loading cmd files end  - clis
2011 Jul 26 04:24:29 switch %USER-2-SYSTEM_MSG: CLIS: init begin  - clis
2011 Jul 26 04:24:38 switch %USER-2-SYSTEM_MSG: Invalid feature name eth-port-sec - clis
Nexus 1010
switch(standby) login: admin
Password:
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
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License (LGPL) Version 2.1. A copy of each such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
```

```
switch(standby)#

Inactive timeout reached, logging out.

Nexus 1010
switch(standby) login:

(The upgrade of the standby Cisco Nexus 1010 begins here.)
Auto booting bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.4.bin
bootflash:/nexus-1010-mz.4.2.1.SP1.4.bin...
Booting kickstart image: bootflash:/nexus-1010-kickstart-mz.4.2.1.SP1.4.bin.
.............................................................Image verification
OK

Starting kernel...
PCI: PIIX3: Enabling Passive Veh+001-?Usage: init 0123456SsQqAaBbCcUu
mkdir: cannot create directory `/new-root/old-root': File exists
INIT: version 2.85 booting
Bootflash device is /dev/hda
Checking all filesystems...r.r.r done.

Setting kernel variables: sysctlnet.ipv4.ip_forward = 0
net.ipv4.ip_default_ttl = 64
net.ipv4.ip_no_pmtu_disc = 1
.
/etc/rc.d/rcS.d/S35iptables: line 41: //iptables: No such file or directory
/etc/rc.d/rcS.d/S35iptables: line 44: //ip6tables: No such file or directory
Loading system software
Uncompressing system image: bootflash:/nexus-1010-mz.4.2.1.SP1.4.bin

Load plugins that defined in image conf: /isan/plugin_img/img.conf
load_plugin: failed read swid map from "/mnt/pss/plugin_swid_map" with rc 0xffffffff. Plugin
 will be assigned new ID
Loading plugin 0: core_plugin...
load_plugin: Can't get exclude list from /isan/plugin/0/boot/etc/plugin_exclude.conf (rc
0x40ea0017)
plugin_link_to_exec_path: plugin_path = /isan/plugin/0, tar_log = /isan/plugin_extract_log/0
num srgs 1
0: swid-core-sup1sfp, swid-core-sup1sfp
num srgs 1
0: swid-sup1sfp-ks, swid-sup1sfp-ks
INIT: Entering runlevel: 3
Starting dhcpd daemon: dhcpdInternet Systems Consortium DHCP Server V3.0.1rc14
Copyright 2004 Internet Systems Consortium.
All rights reserved.
For info, please visit http://www.isc.org/sw/dhcp/
Wrote 0 deleted host decls to leases file.
Wrote 0 new dynamic host decls to leases file.
Wrote 0 leases to leases file.

Not configured to listen on any interfaces!
.
Exporting directories for NFS kernel daemon...done.
Starting NFS kernel daemon:rpc.nfsd.
rpc.mountddone.

/bin/mkdir: cannot create directory `/bootflash/repository': File exists
/isan/bin/mount_cppa_repository exist

Continuing with installation, please wait
Trying to start the installer...
Trying to start the installer...
2012 May 26 09:30:15 switch %USER-2-SYSTEM_MSG: CLIS: loading cmd files end  - clis
2012 May 26 09:30:15 switch %USER-2-SYSTEM_MSG: CLIS: init begin  - clis
2012 May 26 09:30:32 switch %USER-2-SYSTEM_MSG: Invalid feature name eth-port-sec - clis

Module 2: Waiting for module online.
 -- SUCCESS
2011 Jul 25 20:20:41 switch %SYSMGR-2-HASWITCHOVER_PRE_START: This supervisor is becoming
active (pre-start phase).
2011 Jul 25 20:20:41 switch %SYSMGR-2-HASWITCHOVER_START: This supervisor is becoming active.
2011 Jul 25 20:20:41 switch %SYSMGR-2-SWITCHOVER_OVER: Switchover completed.
2011 Jul 25 20:20:58 switch %PLATFORM-2-MOD_REMOVE: Module 1 removed (Serial number )
```

```
2011 Jul 25 20:24:21 switch %PLATFORM-2-MOD_DETECT: Module 1 detected (Serial number
:unavailable) Module-Type Virtual Supervisor Module Model :unavailable
Install has been successful.

Nexus 1010
switch login: admin
Password:
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (c) 2002-2012, Cisco Systems, Inc. All rights reserved.
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under the GNU General Public License (GPL) version 2.0 or the GNU Lesser General Public
License (LGPL) Version 2.1. A copy of each such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://www.opensource.org/licenses/lgpl-2.1.php
switch# copy running-config startup-config
[#######################################] 100%
cppa-mgr#
```

Feature History for Software Upgrade

This section provides the software installation and upgrade release history:

Feature Name	Releases	Feature Information
Software upgrade	4.2(1)SP1(2)	This feature was introduced.

CHAPTER **5**

Reinstalling the Cisco Nexus Cloud Services Platform Software

This chapter contains the following sections:

Information About Reinstalling the Software

You can reinstall a different version of the software on the Cisco Nexus Cloud Services Platform product family in any one of the following cases:

- Cisco Nexus Cloud Services Platform disk gets corrupted.
- The latest version of the Cisco Nexus Cloud Services Platform has been shipped to you, but you want to install the previous version of the software instead, and you can download the previous release from http://www.cisco.com/.

  If a disk gets corrupted on the Cisco Nexus Cloud Services Platform, the system can be brought up by copying the image from a CD.

Guidelines and Limitations

Reinstallation guidelines and limitations are as follows:

- When you reinstall the Cisco Nexus Cloud Services Platform software, all the previous configurations will be overwritten or deleted and your previous settings will be lost.

Reinstalling the Software

You can 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:

- You have verified that you have the following product ID (PID), using the instructions in Verifying the CIMC Software Version, on page 14.

    - N1K-1110-S on the Cisco Nexus 1110-S

    - N1K-1110-X on theCisco Nexus 1110-X

    - N1K-C1010 on the Cisco Nexus 1010

    - N1K-C1010-X on the Cisco Nexus 1010-X

⚠️ **Caution** You cannot install or upgrade to Release 4.2(1)SP1(6.2) unless your Cisco Nexus 1110-S has the product ID (PID) N1K-1110-S, your Cisco Nexus 1110-X has the product ID (PID) N1K-1110-X, your Cisco Nexus 1010 has the product ID (PID) N1K-C1010, or your Cisco Nexus 1010-X has the product ID (PID) N1K-C1010-X.

⚠️ **Caution** Potential loss of data—
When you reinstall the software, all the previous configurations will be overwritten or deleted and your previous settings will be lost.

Procedure

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

Step 2 Insert the installation CD in the CIMC KVM virtual DVD mapping.

Step 3 On the Cisco Nexus Cloud Services Platform, press the **Power** button.
The Cisco Nexus Cloud Services Platform reboots and the management software setup process begins.

To configure the software, see the *Cisco Nexus Cloud Services Platform Software Configuration Guide*.
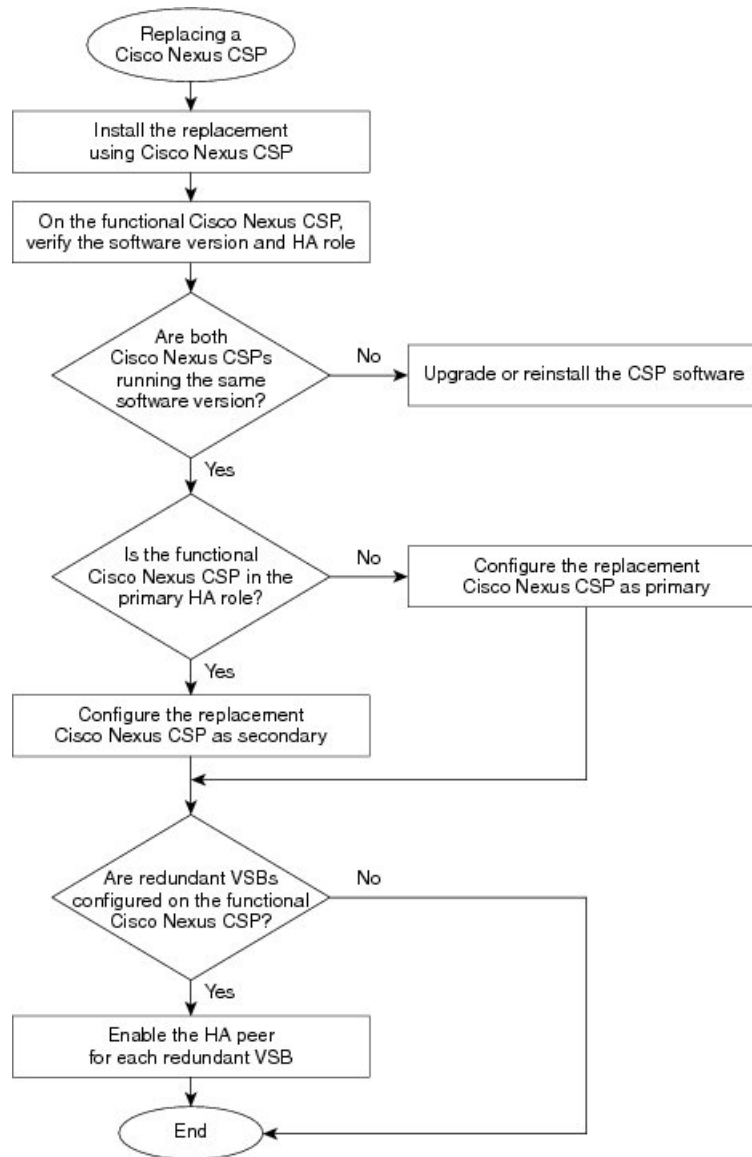
Replacing a Cisco Nexus Cloud Services Platform

You can replace one Cisco Nexus Cloud Services Platform in a redundant pair using the process shown in the following flowchart.

✎

Note   For information about powering down, disconnecting, repacking, and shipping the Cisco Nexus Cloud Services Platform, see the *Cisco Nexus Cloud Services Platform Hardware Installation Guide*.

Figure 8: Flowchart: Replacing a Cisco Nexus Cloud Services Platform

Procedure

Step 1   Collect the following information from the functioning Cisco Nexus Cloud Services Platform.

• Software Release.

- HA role. The HA role of the functioning Cisco Nexus Cloud Services Platform determines the role assigned to the replacement Cisco Nexus Cloud Services Platform.

  ◦ If the functioning Cisco Nexus Cloud Services Platform is in the primary HA role, the software for the replacement Cisco Nexus Cloud Services Platform must be set up in the secondary HA role.

  ◦ If the functioning Cisco Nexus Cloud Services Platform is in the secondary HA role, the software for the replacement Cisco Nexus Cloud Services Platform must be set up in the primary HA role.

- Control VLAN

- Management VLAN

- Domain ID

- Network uplink type

  When you are setting up the software for the replacement Cisco Nexus Cloud Services Platform, you must use the same IDs that are used on the functioning Cisco Nexus Cloud Services Platform.

Step 2 Prepare the replacement Cisco Nexus Cloud Services Platform by doing the following:

- Perform a total firmware update. See Verifying the CIMC Software Version, on page 14.

  ◦ Verify the firmware ISO image.

- Install the same software release on the replacement Cisco Nexus Cloud Services Platform as that on the existing Cisco Nexus Cloud Services Platform.

  ◦ The software releases that are running on the functioning Cisco Nexus Cloud Services Platform and the replacement Cisco Nexus Cloud Services Platform must match. The replacement Cisco Nexus Cloud Services Platform has the latest software version installed on it when it is shipped.

  ◦ If you need to downgrade the software release on the replacement Cisco Nexus Cloud Services Platform, see Reinstalling the Software, on page 60.

  ◦ If you need to upgrade the software on one of the Cisco Nexus Cloud Services Platforms, see the procedure in Upgrading from earlier Software Releases, on page 40.

Step 3 Connect the replacement Cisco Nexus Cloud Services Platform to the upstream switch. See the *Cisco Nexus Cloud Services Platform Hardware Installation Guide* for information about connecting to upstream switches.

Step 4 On the existing Virtual Supervisor Module (VSM), do the following:

- Get the following information:

  - VSM version

  - Domain ID

  - Management IP address

  - IP subnet mask

  - Gateway IP address

- Check that the corresponding ISO image is present. If it is not present, bring it in.

Example:
```
switch# dir bootflash:repository
283129856      Apr 25 15:39:15 2012 nexus-1000v.4.2.1.SV1.5.1.iso
```

Step 5 After you set up the software for the replacement Cisco Nexus Cloud Services Platform, you must manually enable the HA peer for each redundant virtual service blade (VSB). See the *Cisco Nexus Cloud Services Platform Software Configuration Guide*.

- If the functioning Cisco Nexus Cloud Services Platform is in the primary HA role, enable the secondary HA peer for each redundant VSB.
  ```
  switch# configure terminal
  switch# virtual-service-blade name
  switch# enable secondary
  ```

- If the functioning Cisco Nexus Cloud Services Platform is in the secondary HA role, enable the primary HA peer for each redundant VSB.
  ```
  configure terminal
  virtual-service-blade name
  enable primary
  ```

Feature History for Software Reinstallation

This section provides the software installation and upgrade release history:

Feature Name	Releases	Feature Information
Software reinstall or upgrade	4.2(1)SP1(2)	This feature was introduced.