



## **Cisco Catalyst 6500 Series Network Analysis Module (NAM 3) Installation and Configuration Guide**

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## Preface

This document contains information about installing and configuring Cisco Prime NAM (Prime NAM).

- [Related Documentation](#), page v
- [Obtaining Documentation and Submitting a Service Request](#), page vi

## Related Documentation

The following sections provide references related to the Cisco Catalyst 6500 Series Network Analysis Module (NAM 3) features.

**Table 1: Related Documentation**

Related Topic	Document Title
Links to software downloads, product documentation, and technical documentation	<i>Cisco Prime Network Analysis Module (Cisco Prime NAM) Software</i> at <a href="http://www.cisco.com/c/en/us/support/cloud-systems-management/prime-network-analysis-module-software/tsd-products-support-general-information.html">http://www.cisco.com/c/en/us/support/cloud-systems-management/prime-network-analysis-module-software/tsd-products-support-general-information.html</a>
Safety and compliance	<i>Cisco Network Modules and Interface Cards Regulatory Compliance and Safety Information</i> at <a href="http://www.cisco.com/en/US/docs/routers/access/interfaces/rcsi/IOHrcsi.html">http://www.cisco.com/en/US/docs/routers/access/interfaces/rcsi/IOHrcsi.html</a>
Accessing the ROM monitor and issuing commands.	<i>ROM Monitor Download Procedures for Cisco 2691, Cisco 3631, Cisco 3725, and Cisco 3745 Routers</i> at <a href="http://www.cisco.com/en/US/docs/routers/access/2600/hardware/notes/piperrom.html">http://www.cisco.com/en/US/docs/routers/access/2600/hardware/notes/piperrom.html</a>
Cisco IOS interface commands: complete command syntax, command mode, command history, defaults, usage guidelines, and examples	<i>Cisco IOS Interface and Hardware Component Command Reference</i> at <a href="http://www.cisco.com/en/US/products/ps6441/tsd_products_support_series_home.html">http://www.cisco.com/en/US/products/ps6441/tsd_products_support_series_home.html</a>

Related Topic	Document Title
Configure a switch port analyzer (SPAN) session on Cisco series routers.	<i>16- and 36-Port Ethernet Switch Module for Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series</i> at <a href="http://www.cisco.com/en/US/docs/ios/12_2t/12_2t8/feature/guide/ft1636nm.html">http://www.cisco.com/en/US/docs/ios/12_2t/12_2t8/feature/guide/ft1636nm.html</a> <i>Cisco HWIC-4ESW and HWIC-D-9ESW EtherSwitch Interface Cards</i> at <a href="http://www.cisco.com/en/US/docs/ios/12_3t/12_3t8/feature/guide/esw_cfg.html">http://www.cisco.com/en/US/docs/ios/12_3t/12_3t8/feature/guide/esw_cfg.html</a>
IP unnumbered interfaces	<i>Understanding and Configuring the ip unnumbered Command</i> at <a href="http://www.cisco.com/application/pdf/paws/13786/20.pdf">http://www.cisco.com/application/pdf/paws/13786/20.pdf</a>
Authentication, authorization, and accounting (AAA)	<i>Cisco IOS Security Configuration Guide</i> at <a href="http://www.cisco.com/en/US/products/ps6441/products_installation_and_configuration_guides_list.html">http://www.cisco.com/en/US/products/ps6441/products_installation_and_configuration_guides_list.html</a>
Cisco IOS software	<i>Cisco IOS Software Releases 12.2 (33) SXJI</i> at <a href="http://www.cisco.com/en/US/products/ps6017/tsd_products_support_series_home.html">http://www.cisco.com/en/US/products/ps6017/tsd_products_support_series_home.html</a>

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

## 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.



# Introduction

This section provides an introduction to Prime NAM installation. It has the following section:

- [Introduction, page 1](#)
- [Front Panel Description, page 2](#)

## Introduction

This document describes how to install the Cisco Prime Network Analysis Module (Prime NAM) software on a Cisco Catalyst 6500 Series Network Analysis Module (WS-SVC-NAM3-6G-K9). It also covers the basic configuration steps to start using Prime NAM software to analyze your network traffic.

The Cisco Prime Network Analysis Module (Cisco Prime NAM) is an integrated module that enables network managers to understand, manage, and improve how applications and services are delivered to end users. NAM 3 is supported on Catalyst 6500 series and Catalyst 6807 switches.

The Cisco Prime NAM offers flow-based traffic analysis of applications, hosts, and conversations, performance-based measurements on application, server, and network latency, quality of experience metrics for network-based services such as voice over IP (VoIP) and video, and problem analysis using deep, insightful packet captures. The Cisco NAM includes an embedded, web-based GUI that provides quick access to the configuration menus and presents easy-to-read performance reports on web, voice, and video traffic.

This document covers all aspects of installation of NAM software on a Cisco Catalyst 6500 Series Network Analysis Module (WS-SVC-NAM3-6G-K9):

- Installation from recovery image
- Installation from helper image via the network.

The following summarizes the tasks that you need to perform, and the sections in this guide which explains these tasks:

**Table 2: Installation Overview**

Task	See...
Review installation requirements	<a href="#">Installation Requirements, on page 5</a>

Task	See...
Install Cisco Prime NAM	<a href="#">Installing Cisco Prime NAM, on page 7</a>
Perform post installation tasks	<a href="#">Configuring Cisco Prime NAM, on page 9</a>

## Front Panel Description

The NAM front panel includes a STATUS LED and SHUTDOWN button. The STATUS LED indicates the operating states of the NAM. The following table describes the front panel and LED operation.

**Table 3: Front Panel Descriptions**

Number	Name	Color	Description
1	STATUS LED	Green	The NAM is operational. All diagnostic tests pass.
		Amber	Indicates one of three conditions: <ul style="list-style-type: none"> <li>• The NAM is running through its boot and self-test diagnostic sequence.</li> <li>• The NAM is disabled.</li> <li>• The NAM is the shutdown process (coming up or shutting down).</li> </ul>
		Red	A diagnostic other than an individual port test failed.
		Off	The NAM power is off.
2	ID (Beacon)	Blue	Works as a standard service LED. Available for the operator to turn on so the operational staff can locate the card in a stack.
3	SHUTDOWN button	—	Shutdown pinhole. See <a href="#">SHUTDOWN Button, on page 3</a> .
4	MiniSAS	—	Mini-Serial Attached Storage port.

Number	Name	Color	Description
5	Link Status LEDs	Bi-color	Ethernet port link status. Standard Ethernet Link Status LED conditions.
6	SYNC	—	1 GE 1588 Sync port.
7	MGMT	—	Management port currently not used.
8	PORT 1	—	10 GE SFP+ FCoE port.

## SHUTDOWN Button



### Caution

Do not remove the NAM from the switch until the NAM has shut down completely and the STATUS LED is orange. You risk disk corruption if you remove the NAM from the switch before the NAM completely shuts down.

To avoid corrupting the NAM hard disk, you must correctly shut down the NAM before you remove it from the chassis or disconnect the power. This shutdown procedure is normally initiated by commands entered at the supervisor engine CLI prompt or the NAM CLI prompt.



### Note

If disk corruption occurs, you can recover the disk by upgrading the application image again with the --install option.

If the NAM fails to respond to these commands properly, press the SHUTDOWN button on the front panel to initiate the shutdown procedure.

The shutdown procedure may require several minutes. The STATUS LED turns off when the NAM shuts down.





## CHAPTER 2

# Installation Requirements

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This chapter describes the installation requirements. It has the following section:

- [Installation Requirements, page 5](#)

## Installation Requirements

- Cisco Catalyst 6500 Series E Switch
- Open slot for Cisco NAM
- At least one Supervisor
  - Virtual Switching Supervisor Engine 720 (VS-S720-10G)
  - IOS release version 12.2 (33) SXJ1
  - Access to configuration
- Management IP address, netmask, and gateway for NAM on a Switch controlled vlan
- NAM images
  - Recovery image on a TFTP server accessible to the NAM management IP or for upgrade
  - NAM Application image on an ftp or http server accessible to the NAM management IP
- One Cisco Catalyst 6500 Series Network Analysis Module (WS-SVC-NAM3-6G-K9) Prototype Board.





## Installing Cisco Prime NAM

---

NAM 3 comes with Prime NAM software preinstalled. Review the two scenarios that cover installation options and determine which option best fits your needs:

- No installation required—You received a new NAM blade. See the Catalyst 6500 documentation for information about installing a blade:

[http://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/hardware/Module\\_Installation/Mod\\_Install\\_Note/78\\_15767.html](http://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst6500/hardware/Module_Installation/Mod_Install_Note/78_15767.html)

- Installation or upgrade required—See the Upgrading to Cisco Prime NAM document for the upgrade procedure.

See the following sections for procedures to install the Field Replaceable Unit as well as NAM in a recovery scenario, where the blade will be completely initialized for NAM and the NAM application installed. This procedure assumes the LCP and FPGA/Rommon versions are current, but does not assume NAM software is installed or is the correct version.

- [Field Replaceable Unit Installation, on page 13](#)
- [Recovery Procedure, on page 14](#)

For information about upgrading Prime NAM, see:

- [Supported Upgrades, page 7](#)

## Supported Upgrades

For information about supported upgrades and upgrade procedures, see the Cisco Prime NAM Upgrade Guide available at:

<http://www.cisco.com/c/en/us/support/cloud-systems-management/prime-network-analysis-module-software/products-installation-guides-list.html>





## Configuring Cisco Prime NAM

The following sections provide information about the configuration tasks that you perform after you install Cisco Prime NAM.

- [Setting up Cisco Prime NAM, page 9](#)
- [Installing and Configuring External Storage, page 10](#)

### Setting up Cisco Prime NAM

To get the Cisco Prime NAM up and functioning, you will need to now set the management IP address and enable the web browser. Starting from the login prompt, the sequence looks like the session below.

**Note**

Remember to replace the IP address, netmask, and gateway shown with those appropriate to your switch setup.

The default username and password for the NAM is root/root. You must change the password first, although the Cisco Prime NAM will accept anything including the default.

```
nam.localdomain login: root
Password:
Cisco Catalyst 6500 Series Network Analysis Module (WS-SVC-NAM3-6G-K9) Console, 6.1
Copyright (c) 1999-2014 by Cisco Systems, Inc.
System Alert! Default password has not been changed!
Please enter a new root user password.
Enter new password:
Confirm new password:
Successfully changed password for user 'root'
root@nam.localdomain# ip address 1.1.1.2 255.255.255.0
root@nam.localdomain# ip gateway 1.1.1.1
root@nam.localdomain# ip http server enable
No web users are configured.
Please enter a web administrator user name [admin]:
New password:
Confirm password:
User admin added.
Starting httpd
root@nam.localdomain#
```

Optionally you can enable Telnet if needed:

```
root@nam.localdomain# exsession on
root@nam.localdomain#
```

You can use ping to verify network connectivity to a known address, as below:

```
root@nam.localdomain# ping 3.3.3.3
PING 3.3.3.3 (3.3.3.3) 56(84) bytes of data.
64 bytes from 3.3.3.3: icmp_seq=1 ttl=245 time=8.48 ms
64 bytes from 3.3.3.3: icmp_seq=2 ttl=245 time=2.61 ms
64 bytes from 3.3.3.3: icmp_seq=3 ttl=245 time=2.95 ms
64 bytes from 3.3.3.3: icmp_seq=4 ttl=245 time=2.15 ms
64 bytes from 3.3.3.3: icmp_seq=5 ttl=245 time=2.43 ms
--- 3.3.3.3 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 2.153/3.728/8.483/2.391 ms
root@nam.localdomain#
```

The Cisco Prime NAM is now on the network and the GUI should be accessible using the management IP address you just set. Use a supported web browser to access the Cisco Prime NAM and confirm connectivity.

## Installing and Configuring External Storage

The Cisco Catalyst 6500 Series Network Analysis Module (WS-SVC-NAM-3) offers external storage connectivity for extended capture durations and higher capture bandwidths. This connectivity is provided through two front-panel ports, one Mini Serial Attached SCSI (SAS, SFF-8088), and one Fibre Channel Over Ethernet (FCoE, SFP+). The external SAS storage array can be directly attached, while most FCoE arrays require an FCoE switch (such as a Nexus 5000 Series Switch) to connect to a NAM-3. A Nexus 5000 Series Switch can connect to multiple FC and FCoE storage arrays.

SAS and FCoE connectivity can be used simultaneously. See [xref](#) for an overview of external data storage setup.

See the following sections:

- [Preparing External SAS Storage, on page 10](#)
- [Preparing External FCoE/FC Storage, on page 11](#)

## Preparing External SAS Storage

This section provides information about preparing the external SAS storage.

### Configure The Storage Array

You must see the the vendor's user guide for detailed information about configuration of the array. The NAM-3 is independent of most array settings, but some are important for accessibility and performance.

When configuring the Logical Unit Numbers (LUNs) on the array, there is often a "Segment Size" setting. Larger segment sizes can improve write speeds. It is recommended to use a segment size as large as possible, up to 512KB. Multiple LUNs can be configured on a single array. The NAM-3 supports up to 24 LUNs between the SAS and FCoE ports combined.

It is very important to map the NAM-3 SAS address to the LUNs. Most storage arrays require this for security reasons, ensuring that only certain hosts (for example, a NAM) can access the LUNs. Each NAM has a unique

SAS address, so this step must be performed for each NAM that requires access and for each LUN that is to be accessed.

The NAM SAS address can be found using the CLI command **remote-storage sas local-address**. Many storage arrays will automatically detect the SAS address once connected to the NAM.

```
root@nam.domain#
remote-storage sas local-address
Local SAS Address: 5003223-0-0000-0000
```

Some SAS storage arrays do not properly negotiate the SAS base address of the front panel port. The port is a “wide port” because it consists of four SAS lanes. Each lane has its own SAS address, and any one of the four addresses can be considered the base address for the wide port. To safely account for this potential behavior, be sure to map all four SAS addresses in the storage array configuration.

For example, the CLI command above returned a SAS address of 5003223000000000 for the first lane. The other three lanes have consecutive addresses: 5003223000000001, 5003223000000002, and 5003223000000003. All four of those addresses should be mapped in the storage array configuration.

## Connect The Storage Array

After the storage array is configured, connect it to the Cisco Prime NAM using the SFF-8088 cable. The NAM-3 supports SFF-8088 cables up to six meters long. Be sure to use the correct host-connect port on the array as indicated by the vendor’s user guide. The array can be connected while Cisco Prime NAM is running.

Some arrays come with multiple storage controller modules, and the module ownership must often be mapped to each LUN. This is a common security feature.

Use the CLI command **remote-storage sas list** to view the detected external SAS storage.

```
root@nam.localdomain# remote-storage sas list
Storage ID: 3
  Label:
  Status: Unformatted
  Transport: SAS
  Type: LUN
  Model: DotHill DH3000
  LUN: 0
  Capacity: 3.2TB
  Available: 3.2TB
```

The LUN number can help you identify one LUN from others of the same external storage array. This number is unique to each particular array, meaning two LUNs from different arrays can have the same number. If the new LUNs do not show up in the list, then Cisco Prime NAM cannot access them. This is likely due to a configuration error on the array.

You will now be able to use the SAS external storage from within Cisco Prime NAM. See the [Cisco Prime Network Analysis Module User Guide](#) for more information.

## Preparing External FCoE/FC Storage

This section provides information about preparing the external FCoE/FC storage.

### Configure The Storage Array

Reference the vendor’s user guide for proper configuration of the array. The NAM-3 is independent of most array settings, but some are important for accessibility and performance.

When configuring the Logical Unit Numbers (LUNs) on the array, there is often a “Segment Size” setting. Larger segment sizes can improve write speeds. Cisco recommends that you use a segment size as large as possible, up to 512KB. Multiple LUNs can be configured on a single array. The NAM-3 supports up to 24 LUNs between the SAS and FCoE ports combined.

It is very important that you map the NAM FCoE Port World Wide Identifier (PWWN). Most storage arrays require this for security reasons, ensuring that only certain hosts (for example, a NAM) can access the LUNs. Each NAM has a unique PWWN, so this step must be performed for each NAM which requires access and for each LUN that is to be accessed.

The NAM PWWN can be found using the CLI command **remote-storage fcoe local-pwwn**. The PWWN is based off of the SFP+ port MAC address. Two bytes are appended to the front, and may be changed by the Nexus switch when the PWWN is presented to the storage array. Many storage arrays will automatically detect the PWWN after being connected to the NAM, so look for the MAC address in the PWWN.

```
root@mynam.mydomain# remote-storage fcoe local-pwwn
Local FCoE MAC : 00:22:BD:CF:3E:4E
Local FCoE PWWN: 23:e8:00:22:BD:CF:3E:4E
```

The Nexus 5000 Series switch must also be configured for FCoE communication. Refer to the Nexus 5000 Series configuration guide that applies to your switch for configuration steps. The Nexus switch allows Cisco Prime NAM to connect to multiple FC and FCoE storage arrays.

## Connect The Storage Array

After the storage array is configured, connect it to the Nexus 5000 Series switch using fibre cables and the appropriate SFP+ modules. The module depends on the storage array port type. It may be 4 Gb FC, 8 Gb FC, or 10 Gb FCoE. In the case of FC, make sure your Nexus 5000 Series switch supports the required speed. Some Nexus 5000 Series switches come with 4 Gb FC switch cards that do not support 8 Gb FC. In the case of FCoE, the supported SFP+ module types are 10 GbE SR, LR, and LRM. Be sure to use the correct host-connect port on the array as indicated by the vendor’s user guide.

Next, connect the Nexus 5K to Cisco Prime NAM using a fibre cable and matching 10 GbE SFP+ modules. The array can be connected while Cisco Prime NAM is running. Once the connection is made, the NAM FCoE PWWN will show up in the Nexus 5000 Series switch FCoE database and can be used for configuration.

Some arrays come with multiple storage controller modules, and the module ownership must often be mapped to each LUN. This is a common security feature.

Use the CLI command **remote-storage fcoe list** to view the detected external FCoE storage.

```
root@nam.localdomain# remote-storage fcoe list
Storage ID: 4
  Label:
  Status: Unformatted
Transport: FCOE
  Type: LUN
  Model: Vendor Name 28376
    LUN: 0
  Capacity: 14TB
Available: 14TB
```

The LUN number can help you identify one LUN from others of the same external storage array. This number is unique to each particular array, meaning two LUNs from different arrays can have the same number. If the new LUNs do not show up in the list, then Cisco Prime NAM cannot access them. This is likely due to a configuration error on the array.

You will now be able to manage the FCoE/FC external storage from within Cisco Prime NAM. See the [Cisco Prime Network Analysis Module User Guide](#) for more information.



## Troubleshooting

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This section provides information that helps you troubleshoot your Prime NAM installation.

- [Field Replaceable Unit Installation, page 13](#)
- [Recovery Procedure, page 14](#)
- [Switch Commands, page 16](#)

## Field Replaceable Unit Installation

The memory or hard disk can be replaced using the following instructions:



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**Note** For safety precautions, see the [Safety Guidelines](#).

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- 
- Step 1** Shut down the NAM-3 using the CLI **shutdown** command, or by pushing the shutdown button on the front panel with a pin. Wait until the lights go off and unplug it.
- Step 2** Carefully remove the NAM blade out of the switch slot.
- Step 3** To remove old memory DIMMs, push down on the white latches. All size DIMMs are uncovered, not screwed in, and not soldered, and there is no other component blocking them, so they can be easily removed.
- Step 4** Follow all necessary antistatic standards in handling the hard disk drives.  
**Danger** Remember to use an ESD or antistatic wrist strap, a conductive foam pad or mat (recommended), and follow all necessary antistatic standards when handling the hard disk drives.
- Step 5** If a hard drive is already installed in the hard drive tray, you can remove it by unfastening the four screws that attach it to the drive tray with a Number 2 Phillips screwdriver.
- Step 6** Install the new DIMMs or hard drive. Avoid extra force when removing and inserting DIMMs.
- Step 7** Plug the NAM-3 back in. You would see the STATUS button go red, and then green when it is booting up.
-

# Recovery Procedure

Complete the following steps for the recovery:

## Step 1

Access the switch CLI in enable mode using Telnet or SSH.

At this point you will need to set the management vlan for the blade correctly. The IP address used for the Prime NAM will also be used to download and install the recovery image from rommon. However, for connectivity to occur, the switch will need to be set to route traffic to the management interface. The vlan ID in the command below must contain the IP address that must be used for the Prime NAM management port.

Replace **X** below with the valid module and **XX** with valid vlan information.

```
Cisco6500# conf t
Cisco6500(config)# analysis module X management-port X access-vlan XX
Cisco6500(config)#
```

Optionally, save the config.

```
Cisco6500# wr mem
Building configuration...
[OK]
Cisco6500#
```

## Step 2

Plug the blade into an open slot on the switch.

## Step 3

Session into the console from your switch session.

```
Cisco6500#service-module session slot X
You can type Ctrl-^, then x at the remote prompt to end the session
Trying 127.0.0.20, 2065 ... Open
```

At this point you may see a bootup sequence on the session terminal, or a rommon prompt. You must get to the blade's rommon prompt to start the recovery process.

Look for this output during bootup:

```
Break out with <ESC>
```

Press **Esc** within 10 seconds. You will see the rommon prompt very soon after that. After you have the rommon prompt, you will need to set up networking.

```
Use ? for help.
```

```
Sending Cisco Catalyst 6500 Series NAM (WS-SVC-NAM3-6G-K9) recovery start SCP message
to supervisor.
```

```
ACK received.
```

```
rommon #0>
```

Several parameters need to be set at the rommon.

- ◦ ADDRESS – NAM IP address on the switch vlan as set up on the switch
- GATEWAY – Gateway for the vlan as set up on the switch
- SERVER – TFTP server to use for downloading the recovery image
- IMAGE – Complete path to and including the recovery image on the TFTP server
- VLAN – Switch vlan which contains allocated Cisco Prime NAM IP address
- PORT - Set to Data0 for internal port

Replace the addresses below with the Prime NAM IP address and gateway you are using in the following sequence. Also, enter the IP address of the TFTP server as **SERVER**. The **IMAGE** parameter is the path to and including the recovery image on the TFTP server.

```
rommon #1> ADDRESS=1.1.1.2
rommon #2> GATEWAY=1.1.1.1
rommon #3> SERVER=2.2.2.2
rommon #4> IMAGE=/tftpboot/path/to/and/including/nam_recv.img
rommon #5> PORT=Data0
rommon #6> VLAN=35
```

Now you can download and boot the Prime NAM recovery image:

```
rommon #7> tftpdnld
...
tftp /tftpboot/trifecta/latest-recv@172.20.98.174 via 172.20.103.1
Starting download. Press ESC to abort.
!!!! .....
```

Starting download. Press ESC to abort.

!!!! .....

This procedure will take up to 15 minutes to complete. At some point you will see a menu. You can install the Prime NAM image from that menu. For recovery purposes, you will only need to use menu item 4. After the image has been validated, you will be prompted for confirmation. Here is the sequence:

```
=====
Cisco Systems, Inc.
Network Analysis Module (WS-SVC-NAM3-6G-K9) recovery utility
Version 1.0(0.6)
-----
Network Analysis Module (WS-SVC-NAM3-6G-K9) Recovery Menu
1 - Download and install application image from network (destructive)
2 - Re-initialize eUSB
3 - Display software versions
4 - Install Application Image from Ramdisk (destructive)
5 - Change file transfer method (currently ftp/http)
6 - Send Ping
n - Configure network
r - Exit and reset Services Engine
h - Exit and shutdown Services Engine
Selection [123456nrh]: 4
uncompressing image . . .
Checking nam-app
Do you want to proceed installing it? [y/N] y
Executing pre install actions...
Initializing the hard disk. This process may take several minutes...
Required disk size: 22020096 Kb (blocks)
Available disk size: 586061784 Kb (blocks)sd 0:0:0:0: [sda] Assuming drive cache:
write through
sd 0:0:0:0: [sda] Assuming drive cache: write through
Applying the image, this process may take several minutes...
Performing post install, please wait...
Running post install script: /tmp/post-install
Application image upgrade complete. You can boot the image now.
Selection [123456nrh]: r
About to exit and reset NAM.
```

```
Are you sure? [y/N] y
rebooting...
```

Now the Prime NAM login prompt will come up on the console after rebooting. If you are still on the console, you will see the rommon bootup sequence as well as the Prime NAM bootup sequence. You should wait for the Prime NAM login prompt. No user interaction is needed until that point is reached.

```
...
Cisco Network Analysis Module
nam.localdomain login:
Prime NAM is installed and ready to be configured.
```

---

## Switch Commands

### show users

This command is executed when you do not log out of a session command, and the subsequent logins fail. In order to clear the session created by the service-module session slot X command, use the following procedure.

From the switch CLI, in execution mode, issue this command:

```
show users
Note the vty connected to the slot ip
ip addresses are: 127.0.0.[X]0
clear line vty X
```

Where X is the switch slot which contains the NAM blade.

Output shows the vty used for the session open for a NAM module. Note the vty connected to the slot IP you want to clear.

For example, a NAM in slot 1 would produce this output, after the show users command is executed:

```
1 vty 0                127.0.0.10
```

In this example, to clear the Cisco Prime NAM session, issue this command:

```
clear line vty 1
```

### show analysis module version

This command is used to identify the version of the Cisco Prime NAM software on a standalone switch.

### show analysis switch module version

This command is used to identify the version of the Cisco Prime NAM software on VSS.

For example,

```
sw12-SUP4-VSS# show analysis switch 1 module 4 version
NAM-3 module 4:
Sw Version: 6.1
```