# Release Notes for Cisco Network Analysis Module Software, 4.0(1a)

**Revised: October 29, 2009, OL-20870-01**
**Original Cisco.com Date: October 8, 2009**

These release notes provide general information about Cisco Network Analysis Module (NAM) software release 4.0(1a) including system requirements, limitations and restrictions, new features, product documentation, and known and resolved anomalies.

NAM 4.0(1a) software enables network managers to understand, manage, and improve how applications and services are delivered to end users.

NAM 4.0(1a) 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 Traffic Analyzer GUI that provides quick access to the configuration menus and presents easy-to-read performance reports on voice, video, and TCP/UDP-based traffic.

This version of the release notes adds information about the Cisco NAM 2200 Series appliances. The Cisco NAM 2200 Series appliances, an extension of the Cisco NAM blades, offer next-generation performance, superior scalability, and maximum deployment flexibility to deliver performance monitoring throughout your Cisco network. The Cisco NAM 2200 Series appliances include the Cisco NAM 2220 and Cisco NAM 2204 appliances.

### Software Product Numbers

SC-SVC-NAM-4.0

(Cisco Catalyst 6500 Series and Cisco 7600 Series Network Analysis Module Software 4.0)

NME-NAM-SW-4.0

(Cisco Branch Routers Series Network Analysis Module Software 4.0)

NAM 4.0(1a) includes all functionality from NAM 4.0, NAM 3.5, and NAM 3.6, including all patches.

NAM 4.0(1a) software supports upgrade paths from the NAM 4.0, NAM 3.5, and NAM 3.6 releases. For information about upgrading earlier releases of NAM software, see Upgrading NAM Software, page 10.

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NAM 4.0(1a) is available as part of new hardware orders or by download from Cisco.com for the following NAM models:

- NAM2204-RJ45
- NAM2204-SFP
- NAM2220
- WS-SVC-NAM-1
- WS-SVC-NAM-1-250S
- WS-SVC-NAM-2
- WS-SVC-NAM-2-250S
- NME-NAM-80S
- NME-NAM-120S

NAM 4.0(1a) is available for NM-NAM devices only by download from Cisco.com.

Throughout this document the following general references apply:

- A reference to a *NAM appliance* indicates any of the following:
  - NAM2220
  - NAM2204-RJ45
  - NAM2204-SFP
- A reference to a *NAM-1 or NAM-2 device* indicates any of the following:
  - WS-SVC-NAM-1
  - WS-SVC-NAM-1-250S
  - WS-SVC-NAM-2
  - WS-SVC-NAM-2-250S
- A reference to an *NME-NAM device* indicates either of the following:
  - NME-NAM-80S
  - NME-NAM-120S
- A reference to an *NM-NAM device* means only an NM-NAM device.

# Contents

This document includes the following sections:

# New Features Introduced in NAM 4.0

This section describes the following new features and improvements that were introduced in NAM 4.0:



## Support for Cisco NAM 2200 Series Appliances

NAM 4.0(1a) software provides support for the Cisco NAM 2200 Series appliances:

- NAM2220
- NAM2204-RJ45
- NAM2204-SFP

The Cisco NAM 2200 Series appliances have been tested with Catalyst 4500 Series switches, Catalyst 6500 Series switches, Cisco 7600 Series routers, and Cisco Nexus 7000 Series switches.

The Cisco NAM 2204-RJ45 appliance supports Catalyst 4500 Series Switches except for the **Monitor > Managed Device > Health** window.

The Cisco NAM 2200 Series appliances provide support for Cisco Nexus 7000. See NAM Appliance Support for Cisco Nexus 7000, page 21 for more information.

## Intelligent Application Performance

The Intelligent Application Performance (IAP) feature helps you gain a better understanding of your applications' performance and enables you to do the following:

- Troubleshoot application performance problems
- Perform pre-and post-deployment monitoring of application optimization and acceleration services

- Define and assure services levels
- Analyze trends for capacity planning

The IAP feature helps you see how well the network is delivering services to the end user, providing an overall view of what is happening on the network. It monitors the TCP application packets as they travel from the client through the network to the data center and out again, measuring network round trip time, client response time, and server response time.

NAM 4.0(1a) calculates additional metrics to help you ensure the efficient and effective delivery of applications and services in your network. The following lists some of the new metrics:

- Data transfer time
- Connection duration
- Acknowledgment delay
- Number of open connections
- Number of closed connections
- Number of refused connections
- Number of unresponsive connections

## Enhanced Voice Quality Analytics

The enhanced voice quality analytics enable you to quickly identify and troubleshoot voice performance degradation issues and includes the following:

- Standards-based qualitative measurements: MOS based on R-factor (E-Model)
- Real-time monitoring: Reporting of call quality at low levels of granularity
- Enhanced user interface with intuitive reports and monitoring screens
- Improved call quality reports based on both signaling and bearer channel monitoring

## WAAS Support

NAM 4.0(1a) provides support for wide-area application services (WAAS) and enables you to measure the application response time and bandwidth improvements WAAS delivers and to view the application delivery improvements at the client-side, the WAN-side, and the server-side. Reports include:

- Total Delay (Response Time) as experienced by the client
- Total Transaction Time as experienced by the client
- Bandwidth usage (bytes/packets) as experienced by the client
- Number of transactions as experienced by the client
- Server Application Delay
- Bandwidth usage (bytes/packets) on optimized (WAN) link
- Server bandwidth usage (bytes/packets)
- WAN Network Delay

## Support for .pcap Format Capture Export

NAM 4.0(1a) enables you to export capture files in **.pcap** format. This enables you to use the capture files with third-party tools.

## More Automatic Captures

NAM 4.0(1a) enables you to configure more than one capture that automatically starts and stops when pre-configured thresholds are exceeded. For example, you can configure one capture to begin gathering data when bandwidth utilization of a particular application exceeds a certain level and start a second capture when response time of a particular server exceeds a pre-defined threshold.

# System Requirements

This section describes the hardware, software, and browser requirements for NAM 4.0(1a) software:



## Platform Hardware Requirements

Table 1 identifies the hardware modules and platforms required to use NAM 4.0(1a).

***Table 1 NAM Hardware Compatibility***

| Module | Cat OS[1] | Cisco IOS | Platform or Devices |
|---|---|---|---|
| WS-SVC-NAM-1<br>WS-SVC-NAM-1-250S<br>WS-SVC-NAM-2<br>WS-SVC-NAM-2-250S | SUP720 | SUP720<br>SUP32<br>RSP720-1G<br>SUP720-10G<br>RSP720-10G | • Catalyst 6500 Series Switches<br>• Cisco 7600 Series Routers |
| NME-NAM-120S<br>NME-NAM-80S<br>NM-NAM[2] | n/a | n/a | • Cisco 2800 Series Integrated Services Routers (except Cisco 2801)<br>• Cisco 2900 Series Integrated Services Routers (except Cisco 2901)<br>• Cisco 3700 Series Multiservice Access Routers<br>• Cisco 3800 Series Integrated Services Routers<br>• Cisco 3900 Series Integrated Services Routers |

1. See Table 3, Minimum IOS or CatOS Versions Required for NAM 4.0(1a), for information about support for various Supervisor cards.
2. The NM-NAM does not support Cisco 2900 Series and Cisco 3900 Series Integrated Services Routers.

## Using NME-NAMs with Cisco Integrated Services Routers

This section describes the requirements to use NME-NAMs with Cisco Integrated Services Router (ISR) and ISR Generation Two (G2) Platforms.

You can deploy the NME-NAM-120S and NME-NAM-80S in any network module slot in the Cisco router platforms indicated in Table 2. A Network Module (NM) Adapter Card, SM-NM-ADPTR, is required to successfully integrate the NME-NAM into supported ISR G2 platforms. The NME-NAM supports the router platforms using NAM 3.6 or later. See Table 4, Minimum Cisco ISR and ISR G2 IOS Versions Required for NAM 4.0(1a), for the minimum IOS software requirements to support NME-NAM. Only one Cisco NAM can be installed in a Cisco branch router.

***Table 2 Supported Routers***

| Router Platform | Network Module Adapter Card Required? |
|---|---|
| Cisco 3945 ISR | Yes |
| Cisco 3925 ISR | Yes |
| Cisco 2951 ISR | Yes |
| Cisco 2921 ISR | Yes |
| Cisco 2911 ISR | Yes |
| Cisco 3845 ISR | No |
| Cisco 3825 ISR | No |
| Cisco 2851 ISR | No |
| Cisco 2821 ISR | No |
| Cisco 2811 ISR | No |
| Cisco 3745 MSR | No |
| Cisco 3725 MSR | No |

To install an NME-NAM-120S network module in supported ISR G2 platforms using the NM Adapter Card, see *Installing Cisco Network Modules and Service Modules*, section "Using Network Modules in Service Module Slots on Cisco 2900 Series and Cisco 3900 Series Routers":

http://www.cisco.com/en/US/docs/routers/access/interfaces/nm/hardware/installation/guide/InstNetM.html

# Platform Software Requirements

Table 3, Minimum IOS or CatOS Versions Required for NAM 4.0(1a), lists the minimum IOS requirements for NAM 4.0(1a).

*Table 3 Minimum IOS or CatOS Versions Required for NAM 4.0(1a)*

| Chassis | Supervisor Card | SXF | SXH | SXI | SRA | SRB | SRC | Other | CatOS |
|---|---|---|---|---|---|---|---|---|---|
| **Catalyst 6500 Switches** | SUP32 | 12.2(18) SXF | 12.2(33) SXH(1) | 12.2(33) SXI | | | | | |
| | SUP 32 PISA | | | | | | | 12.2(18) ZY(1) | |
| | SUP720 | 12.2(18) SXF | 12.2(33) SXH(1) | 12.2(33) SXI | | | | | CatOS 8.2(1) |
| | SUP720-10GE | | 12.2(33) SXH(1) | 12.2(33) SXI | | | | | |
| **7600 Series Routers** | SUP32 | 12.2(18) SXF | | | 12.2(33) SRA(1) | 12.2(33) SRB(1) | 12.2(33) SRC | | |
| | SUP720 | 12.2(18) SXF | | | 12.2(33) SRA(1) | 12.2(33) SRB(1) | 12.2(33) SRC | | |
| | RSP720-1G | | | | | | 12.2(33) SRC | | |
| | RSP720-10GE | | | | | | | 12.2(33) SRD | |
| NM-NAM | | | | | | | | 12.3(7)T, or 12.4(1) | |
| NME-NAM-80S<br>NME-NAM-120S | | | | | | | | Release 12.4(9)T | |

Table 4 lists the Minimum Cisco ISR and ISR G2 IOS Versions Required for NAM 4.0(1a) on both the NME-NAM-120S and the NME-NAM-80S.

*Table 4 Minimum Cisco ISR and ISR G2 IOS Versions Required for NAM 4.0(1a)*

| Router Platform | IOS Version |
|---|---|
| Cisco 2800 Series Integrated Services Routers | 12.4(9)T |
| Cisco 2900 Series Integrated Services Routers | 15.0(1)M |
| Cisco 3700 Series Multiservice Access Routers | 12.4(9)T |
| Cisco 3800 Series Integrated Services Routers | |
| Cisco 3900 Series Integrated Services Routers | 15.0(1)M |

## NAM and IOS Software Requirements for Virtual Switch System

Table 5 lists the NAM and IOS software requirements for NAM blades used in a Cisco Virtual Switch System (VSS) environment.

*Table 5 NAM and IOS Software Requirements for VSS*

| NAM | NAM Software | IOS Software |
|---|---|---|
| WS-SVC-NAM-1 | NAM 3.6.1a or later | IOS 12.2(33) SXH(1) or later |
| WS-SVC-NAM-2 | | |
| WS-SVC-NAM-1-250S | NAM 3.6.1b or later | |
| WS-SVC-NAM-2-250S | | |

# Catalyst 6500 NAM-1 and NAM-2 Memory Recommendation

To maximize the performance of NAM 4.0(1a), Cisco recommends the memory configurations in Table 6, NAM 4.0(1a) Memory Recommendations.

*Table 6 NAM 4.0(1a) Memory Recommendations*

| | |
|---|---|
| Cisco Catalyst 6500 and Cisco 7600 NAMs | 2 GB DRAM |
| Cisco Branch Routers Series NAMs | 1 GB DRAM |

If you have a WS-SVC-NAM-1 or a WS-SVC-NAM-2 with less memory capacity, Cisco recommends that you purchase a memory upgrade kit (MEM-C6kNAM-2GB) to maximize NAM 4.0(1a) performance.

You can find information about how to upgrade your memory in the document *NAM Memory Upgrade Install Note* at the following URL:

http://www.cisco.com/en/US/docs/switches/lan/catalyst6500/hardware/Config_Notes/78_18630.html

The WS-SVC-NAM-1-250S and WS-SVC-NAM-2-250S ship from the factory with 2 GB DRAM. The NME-NAM-120S ships from the factory with 1 GB DRAM.

If you have an NM-NAM or an NME-NAM-80S, you will not be able to upgrade the memory in your NAM, but you can still use NAM 4.0(1a) software. Contact your Sales teams to assist you with guidelines on how to best take advantage of the NAM 4.0(1a) features.

# Browser Requirements

Table 7 describes the browser requirements for all platforms. We recommend you use the Internet Explorer browser, but Firefox is also supported.

*Table 7 Browser Requirements*

| Browser | Versions | Client Platform | JVM Support[1] |
|---|---|---|---|
| Internet Explorer | 6.0 (with Service Pack 2)<br>7.0 | • Windows<br>• Windows Vista<br>• Windows XP Professional | • Java Plug-In 1.5.0_11 |
| Firefox | 2.0<br>3.0 | • Windows<br>• Windows XP Professional<br>• Solaris<br>• Linux (RHEL) | |

1. A Java plug-in might be required to use the Java Virtual Machine (JVM).

**Note** Although Traffic Analyzer does not require a Java plug-in, you might be required to use the Java Virtual Machine (JVM). The Java plug-in versions listed have been tested for browsers that require a plug-in for the JVM. Cisco recommends JRE Version 5.0 Update 6.

# Catalyst 6500 and Cisco 7600 NAM-1 and NAM-2 Maintenance Image and BIOS Requirements

**Note** This section applies only to the WS-SVC-NAM-1 and WS-SVC-NAM-2 blades being upgraded from NAM application image 3.6 to NAM 4.0(1a).

Table 8 lists the minimum versions of NAM maintenance image, the maintenance image filename, and the BIOS image required for NAM-1 and NAM-2 when using NAM application image 4.0(1a).

*Table 8 NAM Maintenance Images*

| Module | Version (minimum) | Maintenance Image | BIOS Version |
|---|---|---|---|
| WS-SVC-NAM-1 | 2.1(3) | c6svc-nam-maint.2-1-3.bin.gz | 4.0-Rel 6.0.9 or later |
| WS-SVC-NAM-2 | | | |

Before upgrading WS-SVC-NAM-1 or WS-SVC-NAM-2 from NAM 3.6 release to NAM 4.0(1a), the BIOS image in the NAM must be checked to determine whether it is running version 6.0.9 or later. If it is, NAM 3.6 can be upgraded to NAM 4.0(1a) without upgrading the BIOS image. If it is not, the BIOS image must be upgraded. If the BIOS is not upgraded before installing NAM 4.0(1a), NAM 4.0(1a) will cause the NAM to lock up.

The BIOS image is bundled with the NAM's maintenance image. The maintenance image must first be upgraded and then the BIOS image. The new BIOS will take effect only after the NAM is rebooted following the maintenance image and BIOS image upgrades.

The Upgrading NAM Software section of these Release Notes provides information on:

- How to identify the version of the Catalyst 6500 and Cisco 7600 NAM's BIOS image
- How to upgrade the Catalyst 6500 and Cisco 7600 NAM's Maintenance image
- How to upgrade the Catalyst 6500 and Cisco 7600 NAM's BIOS image
- How to upgrade the NAM's Application Image

# Upgrading NAM Software

This section provides the following topics:



**Note** Before upgrading NAM software from version 3.6 to NAM 4.0(1a) on the Catalyst 6500 and Cisco 7600 NAM-1 and NAM-2 (WS-SVC-NAM-1 and WS-SVC-NAM-2), ensure that the NAM maintenance image software and BIOS versions are at the proper level to use NAM 4.0(1a). See Catalyst 6500 and Cisco 7600 NAM-1 and NAM-2 Maintenance Image and BIOS Requirements for further information.

## Supported Upgrades

NAM 4.0(1a) supports upgrades from the NAM 3.5 and NAM 3.6 software releases (with any patches) on the following NAM devices:

- WS-SVC-NAM-1
- WS-SVC-NAM-2
- WS-SVC-NAM-1-250S
- WS-SVC-NAM-2-250S
- NM-NAM
- NME-NAM-80S
- NME-NAM-120S

Also, NAM 4.0(1a) supports upgrades from the NAM 4.01 software releases on the following NAM devices:

- WS-SVC-NAM-1
- WS-SVC-NAM-2
- WS-SVC-NAM-1-250S
- WS-SVC-NAM-2-250S
- NM-NAM

- NME-NAM-80S
- NME-NAM-120S
- NAM2204-RJ45
- NAM2204-SFP
- NAM2220

NAM 4.0(1a) does not support upgrades from NAM 3.4 or below. However you can reinstall NAM 4.0(1a). See the next section, Reinstalling NAM Software.

## Reinstalling NAM Software

Although you cannot upgrade from a version prior to NAM 3.4, you can do a reinstallation instead using the **upgrade** command and the ***--install*** option. See the *Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation and Configuration Note* at the following URL for more information:

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/switch/configuration/guide/swinstcfg.html

When you reinstall software with NAM 4.0(1a), you will lose your previous configuration, however, and you will have to use the NAM GUI to restore your configuration.

# Before You Begin

Before you begin the upgrade process, we recommend that you perform a complete backup of your current NAM configuration. Doing so will record your current configuration which will be helpful if you have difficulties duplicating your previous configuration after the software upgrade.

To back up your current configuration, from the NAM command line, enter a **config upload** command like the following:

**config upload ftp://server/path**

The **config upload** command sends a copy of the NAM running configuration to the destination you specify. The information is stored in a back-up configuration file with an ending suffix of **.confg** as in ***NAM_host*-c6svc-nam-3.6.1b.confg**. The destination address should be a valid server name and directory path.

NAM 4.0(1a) has a new architecture that will cause you to lose some of the configuration you have currently set in your NAM. When you upgrade from NAM 3.6 or NAM 3.5 to NAM 4.0(1a), due to the new architecture, the settings for alarms, reports, and capture files will not be upgraded to NAM 4.0(1a). We highly recommend that you record these configurations in a final database backup so you maintain an archive of your final configuration before your software upgrade using the **config upload** command.

Table 9 provides information about configurations you might have issues with following your upgrade.

**Note** This issue is being tracked with CSCsw41758.

*Table 9 Configurations in Jeopardy After Software Upgrade to NAM 4.0(1a)*

| Settings | Post Upgrade Condition |
|---|---|
| Alarm Settings | Configuration is not carried over in NAM 4.0(1a). See Alarm Settings, page 12 for more information. |
| Capture File Settings | Capture File Settings are carried over in NAM 4.0(1a), but you will lose active captures that are configured as *Capture to Buffer*. To save current data, click **Save to File** or the current data will be lost. See Capture File Settings, page 12 for more information. |
| Reports | Report configuration is carried over in NAM 4.0(1a), and all reports will work properly except for those configured to gather data about the ALL SPAN data source on NAM-1 and NAM-1-250S devices. This data source is renamed DATA PORT in NAM 4.0(1a). |
| Voice and RTP Monitoring | Settings for voice monitoring and RTP stream monitoring will be disabled when NAM is upgraded to NAM 4.0(1a). See Voice and RTP Monitoring, page 12 for more information. |
| Application Response Time | Configuration is set to default values and will need to be reconfigured using the NAM GUI. See Application Response Time, page 13 for more information. |

## Alarm Settings

Due to changes in the NAM configuration file, alarms settings will not be carried over during the NAM 4.0(1a) software upgrade. When you have completed the upgrade, go to the **Setup** > **Alarms** window and configure your desired alarm settings. We recommend that you record your settings for alarms before you begin the software upgrade to NAM 4.0(1a).

## Capture File Settings

Capture files will be retained after you upgrade to NAM 4.0(1a), but you will lose active data still in memory for those captures configured as *Save to Buffer*.

Click **Save to File** to save current capture data in a file on disk.

## Reports

Reports you have configured in NAM 3.6 will be carried over after you upgrade to NAM 4.0(1a) and all reports will work properly except for those configured for the ALL SPAN data source on NAM-1 and NAM-1-250S devices. This data source is renamed in NAM 4.0(1a) as the DATA PORT data source. After you upgrade to NAM 4.0(1a), you need to recreate any reports set up for the ALL SPAN data source to use the DATA PORT data source instead.

## Voice and RTP Monitoring

Settings for voice monitoring and RTP stream monitoring will be disabled when NAM is upgraded to NAM 4.0(1a) due to architectural changes. We recommend that you record your settings for voice monitoring and RTP monitoring before you begin the software upgrade to NAM 4.0(1a).

## Application Response Time

The configuration you set up for application response time (ART) at the **Setup > Response Time > Configuration** window will be set to the default values after you complete the software upgrade to NAM 4.0(1a). Use the information in the configuration file to reconfigure these settings.

# Upgrading NAM Software

If you are upgrading a NAM-1 or a NAM-2 module, follow the software upgrade procedures described in the chapter Administering the Network Analysis Module in the following documents:

- For NAM-1 and a NAM-2 modules installed in an IOS switch:

  http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/switch/configuration/guide/advcfg.html#wp1035516

- For NAM-1 and a NAM-2 modules installed in a CatOS switch:

  http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/switch/configuration/guide/advcfg.html#wp1036152

If you are upgrading an NME-NAM, follow the software upgrade procedures described in the section Upgrading the NAM Software-Full Image of the *Cisco Branch Router Series (NME-NAM) Installation and Configuration Note*.

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/branch_router/configuration/guide/BR_incfg_120.html#wp1060546

If you are upgrading an NM-NAM, follow the software upgrade procedures described in the section Upgrading the NAM Software-Full Image of the *NM-NAM Feature Guide*.

http://www.cisco.com/en/US/docs/ios/12_3/12_3x/12_3xd/feature/guide/nm_nam.html#wp1046561

**Note** You can apply the NAM 4.0(1a) Crypto K9 patch, **nam-app.4-0.cryptoK9.patch.1-0.bin**, on top of NAM 4.0(1a) using NAM CLI command **patch**.

## Viewing Software Version Information

To display the NAM version information, use the **show version** command. The following is an example of the **show version** command and the information it returns:

```
Root@localhost#  show version

NAM application image version: 4.0(1a)
Maintenance image version: 2.1(5)
BIOS Version: 4.0-Rel 6.0.9
PID: WS-SVC-NAM-1-250S
Memory size: 2048MB
Disk size: 250GB
Installed patches:

No patches are installed on this system.

Root@localhost#
```

For more detailed information about the **show version** command, see the *Network Analysis Module Command Reference Guide, 4.0* at the following URL:

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/command/reference/guide/cmdspart6.html#wp1056860

## Upgrading the NAM Maintenance Image Software

To upgrade the NAM maintenance image software, follow these steps.

**Note** This section applies only to the WS-SVC-NAM-1 and WS-SVC-NAM-2 blades running a maintenance image before version 2.1(3) which are being upgraded from NAM application image 3.6 to NAM 4.0(1a).

**Step 1** Copy the NAM maintenance software image to a directory accessible to FTP.

You can download the latest version of the NAM maintenance image from the following URL:

http://www.cisco.com/cgi-bin/tablebuild.pl/ws-svc-nam

The most recent NAM maintenance image software available to download is 2.1(5), and its filename is **c6svc-nam-maint.2-1-5.bin.gz**.

**Step 2** Log in to the switch through the console port or through a Telnet session.

**Step 3** If the NAM is running in the application image, go to Step 5. If the NAM is not running in the application image, enter this command in the privileged mode:

```
Router# hw-module module 9 reset hdd:1
Device BOOT variable for reset = hdd:1
Warning:Device list is not verified.

Proceed with reload of module? [confirm]
% reset issued for module 9
Router#
00:31:11:%SNMP-5-MODULETRAP:Module 9 [Down] Trap
00:31:11:SP:The PC in slot 9 is shutting down. Please wait ...
00:31:25:SP:PC shutdown completed for module 9
00:31:25:%C6KPWR-SP-4-DISABLED:power to module in slot 9 set off (admin
request)
00:31:28:SP:Resetting module 9 ...
00:31:28:%C6KPWR-SP-4-ENABLED:power to module in slot 9 set on
00:33:26:%SNMP-5-MODULETRAP:Module 9 [Up] Trap
00:33:26:%DIAG-SP-6-BYPASS:Module 9:Online Diagnostics is Bypassed
00:33:26:%OIR-SP-6-INSCARD:Card inserted in slot 9, interfaces are now
online
```

**Step 4** After the NAM is back online, establish a console session with the NAM and log in to the root account.

**Step 5** Upgrade the NAM maintenance image software as follows:

```
root@localhost# upgrade ftp-url
```

where *ftp-url* is the FTP location and name of the NAM software image file.

**Note** If the FTP server does not allow anonymous users, use the following syntax for the *ftp-url* value: *ftp://user@host//absolute-path/filename*. Enter your password when prompted.

**Step 6** Follow the screen prompts during the upgrade.

**Step 7** After completing the upgrade, log out of the NAM.

**Step 8** Boot into the maintenance image to reset the NAM maintenance image software with a command like the following:

```
Router# hw-module module 9 reset cf:1
Device BOOT variable for reset = cf:1
Warning:Device list is not verified.

Proceed with reload of module? [confirm]
% reset issued for module 9

Router#
00:16:06:%SNMP-5-MODULETRAP:Module 9 [Down] Trap
00:16:06:SP:The PC in slot 9 is shutting down. Please wait ...
00:16:21:SP:PC shutdown completed for module 9
00:16:21:%C6KPWR-SP-4-DISABLED:power to module in slot 9 set off (admin request)
00:16:24:SP:Resetting module 9 ...
00:16:24:%C6KPWR-SP-4-ENABLED:power to module in slot 9 set on
00:18:21:%SNMP-5-MODULETRAP:Module 9 [Up] Trap
00:18:21:%DIAG-SP-6-BYPASS:Module 9:Online Diagnostics is Bypassed
00:18:21:%OIR-SP-6-INSCARD:Card inserted in slot 9, interfaces are now online
Router#
```

**Step 9** (Optional) Verify the initial configuration after the NAM comes back online by logging into the NAM root account as follows:

```
root@localhost# show ip
```

**Step 10** (Optional) Reboot into the application image as follows:

```
Router# hw-module module 9 reset
```

---

This example shows how to upgrade the NAM maintenance image software:

```
Router#
Router# hw-module module 9 reset hdd:1
Device BOOT variable for reset = hdd:1
Warning:Device list is not verified.

Proceed with reload of module? [confirm]
% reset issued for module 9
Router#
00:31:11:%SNMP-5-MODULETRAP:Module 9 [Down] Trap
00:31:11:SP:The PC in slot 9 is shutting down. Please wait ...
00:31:25:SP:PC shutdown completed for module 9
00:31:25:%C6KPWR-SP-4-DISABLED:power to module in slot 9 set off (admin
request)
00:31:28:SP:Resetting module 9 ...
00:31:28:%C6KPWR-SP-4-ENABLED:power to module in slot 9 set on
00:33:26:%SNMP-5-MODULETRAP:Module 9 [Up] Trap
00:33:26:%DIAG-SP-6-BYPASS:Module 9:Online Diagnostics is Bypassed
00:33:26:%OIR-SP-6-INSCARD:Card inserted in slot 9, interfaces are now
online
Router#

Router# session slot 9 proc 1
The default escape character is Ctrl-^, then x.
You can also type 'exit' at the remote prompt to end the session
Trying 127.0.0.91 ... Open
```

```
Cisco Network Analysis Module (WS-SVC-NAM-2)

login:root
Password:

Cisco Network Analysis Module (WS-SVC-NAM-2) Console,  4.0
Copyright (c) 2008 by cisco Systems, Inc.

WARNING! Default password has not been changed!
root@localhost.cisco.com#

root@localhost.cisco.com# upgrade ftp://host/pub/c6svc-nam-maint.2-1-5.bin.gz

Downloading image...
ftp://host/pub/c6svc-nam-maint.2-1-5.bin.gz (11065K)
-                         [########################]   11065K |  837.65K/s
11331153 bytes transferred in 13.21 sec (837.64k/sec)

Uncompressing the image...

Verifying the image...

Applying the Maintenance image.
This may take several minutes...

Upgrade of Maintenance image completed successfully.
root@hostname.cisco.com# exit

Router# hw-module module 9 reset cf:1
Device BOOT variable for reset = cf:1
Warning:Device list is not verified.

Proceed with reload of module? [confirm]
% reset issued for module 9
Router#
02:27:19:%SNMP-5-MODULETRAP:Module 9 [Down] Trap
02:27:19:SP:The PC in slot 9 is shutting down. Please wait ...
02:27:36:SP:PC shutdown completed for module 9
02:27:36:%C6KPWR-SP-4-DISABLED:power to module in slot 9 set off (admin
request)
02:27:39:SP:Resetting module 9 ...
02:27:39:%C6KPWR-SP-4-ENABLED:power to module in slot 9 set on
02:29:37:%SNMP-5-MODULETRAP:Module 9 [Up] Trap
02:29:37:%DIAG-SP-6-BYPASS:Module 9:Online Diagnostics is Bypassed
02:29:37:%OIR-SP-6-INSCARD:Card inserted in slot 9, interfaces are now
online
Router#
```

# Upgrading Catalyst 6500 and Cisco 7600 NAM-1 and NAM-2 BIOS Image

**Note** This section applies only to the WS-SVC-NAM-1 and WS-SVC-NAM-2 blades running a BIOS image before version 6.0.9 and which are being upgraded from NAM application image 3.6 to NAM 4.0(1a).

**Note** The BIOS image is bundled with the NAM's maintenance image. The maintenance image must first be upgraded, and then the BIOS image.

The NAM maintenance image software also provides upgrade software for your BIOS. If the **show version** command indicates a BIOS version below 4.0-Rel 6.0.9, see one of the following sections for information about how to perform a BIOS upgrade:

- Using IOS Commands
- Using CatOS Commands

## Using IOS Commands

**Step 1** Boot the NAM to the maintenance image. Enter the following command from the Supervisor CLI:

**hw-module module <module-number> reset cf:1**

**Step 2** After the NAM has booted the new maintenance image, session into the NAM module with the following Supervisor CLI command:

**session slot <module-number> processor 1**

**Step 3** Log in as user *root* with the default password *cisco*.

**Step 4** Enable the *guest* account (disabled by default) for the maintenance image. Enter the following command at the NAM maintenance CLI:

**enable-guest**

**Note** You can only perform the BIOS upgrade procedure from the *guest* account.

**Step 5** Log out of the NAM CLI.

**Step 6** Log in again as the user *guest*.

The default password for the *guest* account is *cisco*.

**Warning** **While the new BIOS is being programmed, the procedure should not be interrupted in any way. Do not turn power off or shut down the NAM until the programming is complete.**

A message such as `BIOS programming complete` displays when the procedure is finished, usually in less than two minutes.

**Step 7** While logged into the *guest* account, enter the following command to begin the BIOS upgrade procedure:

**upgrade-bios**

**Step 8** When prompted for the filename of the BIOS file to be programmed. Enter the following filename:

```
B01MQ009.ROM
```

**Note** In the above filename, use the *digit 0*, not the *letter O,* except for the **.ROM** extension which does use the *letter O*.

The following output shows an example of this procedure:

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

```
guest@nam-test.cisco.com#upgrade-bios
Enter filename of BIOS file to be programmed: B01MQ009.ROM
Write BIOS File B01MQ009.ROM to Flash

WARNING: Removing or powering down this module during BIOS programming may resul t in the
module unable to come online!

Erasing old BIOS...
Programming new BIOS...DONE
Verifying new BIOS...DONE

BIOS programming complete
guest@nam-test.cisco.com#
------------------------------------------------------------
```

**Step 9** Log out of the NAM CLI (returning to the Supervisor CLI), and enter a command like the following to boot the NAM Application image:

**hw-module module <module-number> reset hdd:1**

**Step 10** Enter the **show version** command to verify the BIOS was successfully installed.

**show version**

The output of the **show version** command should look something like the following:

```
BIOS Version: 4.0-Rel 6.0.9
```

This **show version** command output indicates that the most recent BIOS version (4.0-Rel 6.0.9) is installed.

You can now reboot the NAM Application image and resume normal NAM operation.

## Using CatOS Commands

This version updates the BIOS using CatOS commands.

**Step 1** Boot the NAM to the maintenance image. Enter the following command from the Supervisor CLI:

**reset <module-number> cf:1**

**Step 2** After the NAM has booted the new maintenance image, session into the NAM module with the following Supervisor CLI command:

**session <module-number>**

**Step 3** Log in as user *root* with the default password *cisco*.

**Step 4** Enable the *guest* account (disabled by default) for the maintenance image. Enter the following command at the NAM maintenance CLI:

**enable-guest**

**Note** You can only perform the BIOS upgrade procedure from the *guest* account.

**Step 5** Log out of the NAM CLI.

**Step 6** Log in again as the user *guest*.

The default password for the *guest* account is *cisco*.

**Warning** **While the new BIOS is being programmed, the procedure should not be interrupted in any way. Do not turn power off or shut down the NAM until the programming is complete.**

A message such as `BIOS programming complete` displays when the procedure is finished, usually in less than two minutes.

**Step 7** While logged into the *guest* account, enter the following command to begin the BIOS upgrade procedure:

**upgrade-bios**

**Step 8** When prompted for the filename of the BIOS file to be programmed. Enter the following filename:

**B01MQ009.ROM**

**Note** In the above filename, use the *digit 0*, not the *letter O,* except for the **.ROM** extension which does use the *letter O*.

The following shows an example of the BIOS upgrade output:

```
------------------------------------------------------------
guest@nam-test.cisco.com#upgrade-bios
Enter filename of BIOS file to be programmed: B01MQ009.ROM
Write BIOS File B01MQ009.ROM to Flash

WARNING: Removing or powering down this module during BIOS programming may resul t in the
module unable to come online!

Erasing old BIOS...
Programming new BIOS...DONE
Verifying new BIOS...DONE

BIOS programming complete
guest@nam-test.cisco.com#
------------------------------------------------------------
```

**Step 9** Log out of the NAM CLI (returning to the Supervisor CLI), and enter a command like the following to boot the NAM Application image:

**reset <module-number> hdd:1**

**Step 10** When the upgrade process completes, enter the **show version** command to verify the BIOS was successfully installed.

**show version**

The output from of the **show version** command should look like the following:

```
BIOS Version: 4.0-Rel 6.0.9
```

This **show version** command output indicates that the most recent BIOS version (4.0-Rel 6.0.9) is installed.

You can now reboot the NAM Application image and resume normal NAM operation.

# Limitations and Restrictions

The following limitations and restrictions currently apply to the NAM 4.0(1a) software release:



## Direct Flow Packets to NAM Data Port

If you use a NAM-2 device, either WS-SVC-NAM-2 or WS-SVC-NAM-2-250S, we recommend that you direct all packets for the same flow to the same data port.

**Note** This issue applies only to the WS-SVC-NAM-2 and WS-SVC-NAM-2-250S NAM models.

NAM-2 devices have two data ports (DATA_PORT1 and DATA_PORT2), but the packets received on these two ports are not well merged in respect to the order in which the packets are received. When packets for a given flow are split into two data ports, it might impact the calculation of application response time (ART) metrics and voice quality metrics.

## No Default CLI Password

For security purposes, beginning with NAM 4.0(1a), we no longer provide a default root password. After you upgrade the NAM software to NAM 4.0(1a), you must specify a password for the root account. Store this password in accordance with your site's security policies. You will need the root account password for additional software upgrades.

## Intelligent Application Performance and Voice Quality Analytics

The calculation of IAP and voice quality metrics in NAM 4.0(1a) depends on the actual packet arrival time and packet sequences. In events such as packet drops, duplicated packets, or asymmetric routing, the NAM may not be able to calculate accurate quality metrics for the associated polling interval.

Administrators should pay attention to the NAM syslog messages and system alerts to be aware of any packet drops or duplicated packets occurrences.

## Intelligent Application Performance

Due to the way NAM 4.0(1a) processes packets in a TCP connection, response time monitoring on WAAS data sources probably will not include the first response of the TCP connection. This occurs because the WAAS optimization engine might not be able to determine to which optimized or non-optimized segment the first few packets belong.

This issue will be noticed when you monitor a TCP connection that has only a single response. No response time will be reported for this connection. The NAM determines response time by taking the average response time over multiple TCP connections. Because most TCP connections have multiple responses, this issue is generally unnoticed over a longer period of monitoring.

## Analyzing Direct RTP Streams and Voice Traffic

To successfully build the association between the active phone list and RTP streams, you should direct both voice traffic (the control plane) and related RTP streams (the data plane) to NAM data ports. The data port number is insignificant because the NAM analyzes voice quality based on the ALL SPAN data source.

## Checking the NAM Maintenance Image and BIOS Versions

NAM 4.0(1a) software requires that you use the correct NAM maintenance image and BIOS versions. The recommended BIOS version for NAM 4.0(1a) software is BIOS 6.0.9.

The recommended MP version depends on the NAM model. See Table 8 for the recommended maintenance image for each NAM platform. If you need to upgrade your NAM maintenance image, see Upgrading the NAM Maintenance Image Software, page 14.

## NAM Appliance Support for Cisco Nexus 7000

With the deployment flexibility the new Cisco NAM 2200 Series appliances offer, you now have a NAM solution to gain visibility into network and application performance for the Cisco Nexus 7000 Series switches. The Cisco NAM 2200 Series appliances provide core NAM functionality to support the Cisco Nexus 7000 Series including monitoring, reporting, capturing data and alarms. The NAM appliances support features such as traffic analysis, Intelligent Application Performance (IAP) monitoring, differentiated services analysis, and voice quality monitoring. The same NAM software image supports all tested infrastructure devices.

The Cisco NAM 2200 Series appliances do not yet offer the same level of management interface support they offer other tested devices, such as the Catalyst 6500 Series switches. This affects the following NAM functions:

- Configuring a SPAN session on the Nexus 7000 Series using the NAM GUI. Instead, use the switch CLI to configure such a session.
- Monitoring and reporting traffic statistics about the managed device. Managed device statistics include port (mini-RMON), VLAN, and device health statistics. This limitation does not affect monitoring and reporting statistics on traffic that you can SPAN to NAM.
- Configuring and displaying alarms about the managed device.

Support for both NBAR-PD and MPLS functionality is not available for the Nexus 7000.

# Restrictions for NM-NAM and NME-NAMs

**Note** This restriction applies only to traffic that is monitored through the internal NAM interface.

The NAM Traffic Analyzer (web GUI) provides Layer 3 and higher layer information about the original packets. The Layer 2 header is modified by the router when it forwards the packets to the NAM, so the Layer 2 information that the NAM records is not applicable to the original packets.

# IOS Issues Affecting NAM 4.0(1a)

The following IOS issues affect the use of NAM 4.0(1a):

- IOS Image Incompatibility Prevents Creating SPAN Data Sources Using NAM GUI
- Cisco 7600 With Redundant Supervisor Cards Running IOS Image 12.2(33)SRC2
- Running IOS Image Newer Than 12.2(18)SXF5
- RSPAN and ERSPAN Unsupported in IOS Image 12.2(33)SRD
- Wrong Egress Interface Found in 12.4(20)T and 12.4(22)T

## IOS Image Incompatibility Prevents Creating SPAN Data Sources Using NAM GUI

An issue with the supervisor card and IOS images 12.2(18)SXF9 and 12.2(33)SRB1 prevents you from creating SPAN data sources (SPAN sessions) using the NAM GUI. (This issue is described in CSCse98807.) This issue has been resolved with IOS image 12.2(18)SXF10.

You can also use switch command-line interface (CLI) commands to create SPAN sessions, or you can use other IOS releases on the supervisor card, such as 12.2(18)SXF10 or 12.2(33)SRB2, that fix this IOS issue.

On affected systems, when you attempt to use the NAM GUI to create a SPAN session by choosing **Setup > Data Source** and clicking **Create**, the NAM GUI displays no information for the Destination Port. This prevents you from creating the SPAN session.

## Cisco 7600 With Redundant Supervisor Cards Running IOS Image 12.2(33)SRC2

You might experience an error condition with a Cisco 7600 chassis that has redundant supervisor cards running the 12.2(33)SRC2 IOS image and a NAM service blade. The error occurs when you perform a sequential boot of the two supervisor cards because the secondary (standby) supervisor does not go into proper standby mode.

You can find more information about this issue in Field Notice #63179.

This problem does not occur:

- When you boot the two supervisor cards in parallel
- When you boot the standby supervisor card after the primary supervisor is up
- When the Cisco 7600 router runs the 12.2SRC1 image
- When only one supervisor card is installed in the Cisco 7600 chassis

#### Problem Symptom

When the primary supervisor functions as a standalone with the secondary supervisor card in RPR mode, the Cisco 7600 chassis functions normally (as if it has a standalone supervisor card). A switchover causes the system to be unavailable for up to three minutes because the secondary supervisor card is not in proper standby mode.

**Note** When both supervisors are booted simultaneously, the system will go to Hot Standby status. The primary supervisor will reboot when you issue the **redun force-switchover** command which causes the redundant supervisor to boot up to be the primary and the primary to be the redundant.

#### Solution

This problem requires you to downgrade the IOS image from 12.2SRC2 to 12.2SRC1. Account teams will help you do this if needed.

This problem will be fixed in 12.2(33)SRC4; a target date for this release is not yet available.

## Running IOS Image Newer Than 12.2(18)SXF5

If you upgrade your IOS to an image newer than 12.2(18)SXF5, you remain vulnerable to a security issue where IOS switches the SNMP communication between the NAM and the SUP from inband to EOBC.

Due to this issue, you should not apply the NAM CLI command **supervisor address <*sup-address*>**. To remove this configuration from the NAM, use the negating form of the command, **no supervisor address**.

## RSPAN and ERSPAN Unsupported in IOS Image 12.2(33)SRD

The ERSPAN command is not working properly in NAM 4.0(1a) when using IOS image 12.2(33)SRD. The problem is noticed when you attempt to configure a destination on the NAM in ERSPAN or RSPAN sub-mode.

After issuing the command:

**destination analysis-module 3 data-port 1**

Where module 3 is the NAM you have set up to monitor (using the command **monitor session 1 type erspan-destination**), the configured destination cannot be found.

This problem also affects the local SPAN (with sub-mode configuration).

## Wrong Egress Interface Found in 12.4(20)T and 12.4(22)T

This issue is described in caveat CSCsr18741. This issue affect NME-NAMs using image 12.4(20)T and 12.4(22)T.

This issue will be noticed when you attempt to use the NME-NAM to monitor interface-based traffic using CEF support.

A change to correct this issue is expected in 12.4(23.7)T.

# Caveats

This section provides information about active and resolved anomalies in the NAM 4.0(1a) software. To obtain more information about known problems, access and log in to the Cisco Software Bug Toolkit at the following URL:

http://www.cisco.com/cgi-bin/Support/Bugtool/home.pl.

This section provides the following:



## Known Anomalies in NAM 4.0(1a)

Table 10 provides a list of known anomalies found in NAM 4.0(1a) software. Each anomaly includes a description of the symptom, conditions in which the anomaly occurs, and any workaround.

***Table 10 Known Anomalies in NAM 4.0(1a)***

| Bug ID | Description |
|---|---|
| CSCsv41047 | Intermittent multiple instances are created for collections<br>Symptom: Attempting to check the check box for monitoring data collection to *Off* has no affect; the window returns with the box checked.<br>Conditions: This occurs on all NAM platforms.<br>Go to the **Setup > Monitoring > Core Monitoring** window fields for functions like Application Statistics and Network Hosts, then click the check box off.<br>Walking the respective SNMP MIB control table such as the hlMatrixControlTable and hlHostControlTable for examples above) shows more than one row for the same data source and owner (LocalMgr). |
| CSCsz05419 | Upgrading SVC-NAM-1-250S and SVC-NAM-2-250S occasionally fails with disk errors when you upgrade NAM software.<br>Conditions: This occurs when you upgrade NAM software on a SVC-NAM-1-250S or a SVC-NAM-2-250S from NAM 3.6 to NAM 4.0(1a). |

*Table 10 Known Anomalies in NAM 4.0(1a) (continued)*

| Bug ID | Description |
|---|---|
| CSCtc32835 | Symptom: The NAM 4.0 Capture Buffer is cleared after modifying Capture Settings.<br>To reproduce:<br>1. Go to NAM monitoring page (e.g. Monitor > Conversation > Network Hosts)<br>2. Select an entry (e.g. Source=1.1.1.1 and Desitnation=2.2.2.2)<br>3. Click on the [Capture] button, and decode window appears<br>4. Click the capture session name (e.g. CONVS_1_1_1_1 and 2_2_2_2)<br>5. Click on the [Clear] button to stop the capture session<br>6. Modify the Capture Settings to “Capture to Disk”<br>7. Go back to NAM monitoring page again<br>8. Select the same conversation entry<br>9. Click on the [Capture] button<br>The NAM will then be out of service for some minutes.<br>Conditions: NAM 4.0(1a)<br>Workaround: Modify the Capture Name as well as modifying the Capture Settings. |
| CSCtc04235 | Scheduled CSV export to FTP results in files with 0 size.<br>Conditions: This occurs if **Reports > Schedule Export > Delivery Option** is set to FTP.<br>There is no workaround for the FTP option. Other methods such as e-mail are available. |
| CSCtb67391 | NAM 4.0(1a) report for response time with different interval shows incorrect.<br>Symptom: Generating a report of Response time with two column of #Connection, from the same data, are showing different value on the report.<br>Conditions:<br>• ReportType: Response<br>• Column: #Connection<br>• Polling interval: 1minute and 5minutes<br>• Granularity: 5minutes<br>Workaround: Using the 1 minute value. Set the report polling interval the same as the response time report interval (**Setup > Monitor > Response Time > Configuration**). |
| CSCtb67468 | NAM 4.0(1a) Report repeating same value within every 5 minutes.<br>Symptom: Generating a report of Response time for some column with 1 minute polling interval and the parameter 'Granularity' is set as 1 minute. but the values seems repeating the same value within every 5 minutes.<br>Conditions:<br>• ReportType: Response<br>• Polling interval: 1minute<br>• Granularity: 1minutes<br>Workaround: Set the report polling interval the same as the response time report interval (**Setup > Monitor > Response Time > Configuration**). |

*Table 10 Known Anomalies in NAM 4.0(1a) (continued)*

| Bug ID | Description |
|---|---|
| CSCta24668 | NAM 4.0.1 Granularity 5mins shows incorrect values.<br>Symptom: “Granularity 5mins” always shows average values of sum of “Granularity 1min”. Other Granularities such as 15mins, 30mins and more seem to be incorrect.<br>Workaround: Set the report polling interval the same as the response time report interval (**Setup > Monitor > Response Time > Configuration**). |
| CSCsu50908 | The NAM CLI command config network does not completely restore the NAM configuration.<br>Symptom: A configuration restore does not completely restore the NAM configuration.<br>Conditions: This occurs on all NAM platforms and depends on the order in which the NAM was configured. All configuration statements prior to the time command should be restored. When the NAM sees the time command, it reboots, so all configuration that follows the time command will be lost.<br>Workaround: First, use a text editor to move the time command to bottom of the NAM configuration file (such as NAM_host_name-c6svc-nam-3.6.1b.config). Then execute the config network command.<br>Another way to work around this problem would be to use the show log config command to determine which commands failed during the CLI command config network. Then manually repair the missing configuration using the GUI or CLI. |

# Anomalies Fixed in NAM 4.0(1a)

Table 11 describes anomalies known to exist in previous versions of NAM software that have been fixed in the NAM 4.0(1a) release. Each anomaly listed includes information about symptoms, conditions, and any available workaround.

*Table 11 Anomalies Fixed in NAM 4.0(1a)*

| Bug ID | Description |
|---|---|
| CSCsz32897 | Core files found on NAM-2x caused by 0 length packets from falcon infrastructure |
| CSCsv46394 | VSS: NAM eobc not in access-lists until 30 minutes later after second switcove cat6000-svc c2w2 span-feat-vss c6k-svc-fwd |
| CSCsz84134 | SNMP set to rmon protocoldir can bring down monitoring |
| CSCsz83978 | sdp parser failed to parse media attributes “rtpmap: codec” |
| CSCsy81032 | Some time intervals the Top conversation report shows incorrect value |
| CSCta44907 | After 4.0(1a) upgrade, 2nd reboot may erase some existing NDE data sources |
| CSCsz72922 | Please remove pass-through DS from WAAS config screen |
| CSCsz89447 | NAM Alarm polling interval decrements to 0 without user interaction |
| CSCta53248 | **Monitor > Overview** measures traffic in Bytes even when showing “Bits” |
| CSCsz66864 | Remove SSLv2 from Apache |
| CSCtb41337 | NAM 4.0(1a) CLI shows only one netflow data-source in the config |
| CSCta45544 | Should turn off TRACE method in HTTP |

*Table 11 Anomalies Fixed in NAM 4.0(1a) (continued)*

| Bug ID | Description |
|---|---|
| CSCtb86778 | Update SSH daemon version |
| CSCtb87029 | Monitor/art export and details show bytes when preference is bits |
| CSCsx05493 | Exporting report in pdf fails when NAM GUI is accessed through NAT/PAT |

# Cisco NAM 4.0 Software Documentation

The following is a list of the documentation for Cisco Network Analysis Module, Release 4.0.

**Note** We recommend you refer to the documentation in the following order.


- Release Notes for the Cisco Network Analysis Module, Release 4.0(1a), page 27
- User Guide for the Cisco Network Analysis Module Traffic Analyzer, Release 4.0, page 27
- Cisco NAM Command Reference, Release 4.0, page 28
- Copyright Notices for the Cisco Network Analysis Module, Release 4.0, page 29


You can access the URLs listed for each document on the Documentation CD-ROM and at www.cisco.com on the web. You can access all product documentation at the following URL:

http://www.cisco.com/en/US/products/sw/cscowork/ps5401/tsd_products_support_series_home.html

## Release Notes for the Cisco Network Analysis Module, Release 4.0(1a)

**OL-20870-01**

The *Release Notes for the Cisco Network Analysis Module, Release 4.0(1a)* (this document) provides a collection of information including software and hardware compatibility and information about new features, requirements, and anomalies that might exist.

## User Guide for the Cisco Network Analysis Module Traffic Analyzer, Release 4.0

**OL-14964-01**

The *User Guide for the Cisco Network Analysis Module Traffic Analyzer* describes how to use the Network Analysis Module Traffic Analyzer and NAM 4.0 user software.

http://cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/user/guide/userguide.html

# Cisco NAM Command Reference, Release 4.0

**OL-14941-01**

The *Cisco NAM Command Reference, Release 4.0* provides information about how to use the NAM command-line interface to manage the NAM devices supported by NAM 4.0 software including:

- NAM2220
- NAM2204-RJ45
- NAM2204-SFP
- WS-SVC-NAM-1
- WS-SVC-NAM-1-250S
- WS-SVC-NAM-2
- WS-SVC-NAM-2-250S
- NME-NAM-80S
- NME-NAM-120S
- NME-NAM
- NM-NAM

http://cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/command/reference/guide/cmdref.html

# Catalyst 6500 Series Switch and Cisco 7600 Series Router NAM Installation and Configuration Note, Release 4.0

This document describes how to configure the NAM to work with the Catalyst 6500 series switch, Catalyst 6000 series switch, and Cisco 7600 series routers. This document also describes how to configure the NAM using the command-line interface (CLI) for the operating system supporting the NAM (Cisco IOS or the Catalyst operating system).

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/switch/configuration/guide/swinstcfg.html

# Cisco Branch Routers Series NAM Installation and Configuration Note, Release 4.0

**OL-14942-01**

This document supports the basic installation and configuration of the NME-NAM, NME-NAM-80S, and the NME-NAM-120S. This document is meant as an introduction to Cisco Branch Routers Series NAM and is not meant to replace the Cisco Branch Routers Series Hardware Installation Guide chapter.

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/branch_router/configuration/guide/BR_incfg_120.html

# Copyright Notices for the Cisco Network Analysis Module, Release 4.0

**OL-14961-01**

The *Copyright Notices for the Cisco Network Analysis Module, Release 4.0* provides a listing of all copyright notices for the open source third-party software used in NAM 4.0.

http://cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.0/copyright/notice/copyrite.html

# Cisco NAM 2200 Series Appliance Documentation

This section provides information about the documentation for the Cisco NAM 2200 Series appliances.

## Quick Start and Documentation Guide for the Cisco NAM 2200 Series Appliance

**78-18440-01**

The *Quick Start and Documentation Guide for the Cisco NAM 2200 Series Appliance* is a printed document that ships with the NAM appliance and is also available online at the following URLs:

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_appliance/2220/roadmap/docguide.html

## Installation and Configuration Guide for the Cisco NAM 2220 Appliance

**OL-16692-01**

The *Installation and Configuration Guide for the Cisco NAM 2220 Appliance* provides information to help you install and configure the Cisco NAM 2220 appliance. This guide includes overview information and details about how to install the appliance, connect the appliance to power and the device it monitors, configure the appliance, log in, and get started setting up the appliance to monitor the device.

The *Installation and Configuration Guide for the Cisco NAM 2220 Appliance* is an online only document you can find at the following URL:

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_appliance/2220/installation/guide/instcfg.html

## Installation and Configuration Guide for the Cisco NAM 2204 Appliance

**OL-14943-01**

The *Installation and Configuration Guide for the Cisco NAM 2204 Appliance* provides information to help you install and configure the NAM 2204 appliance. This guide includes overview information and details about how to install the appliance, connect the appliance to power and the device it monitors, configure the appliance, log in, and get started setting up the appliance to monitor the device.

The *Installation and Configuration Guide for the Cisco NAM 2204 Appliance* is an online only document you can find at the following URL:

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_appliance/2204/installation/guide/instcfg.html

## Regulatory Compliance and Safety Information for the Cisco NAM 2200 Series Appliances

**78-18308-01**

The *Regulatory Compliance and Safety Information for the Cisco NAM 2200 Series Appliances* contains regulatory compliance and safety information for the Cisco *NAM* 2200 Series appliances and is a printed document that ships with the NAM appliance and is also available online at the following URL:

hhttp://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_appliance/regulatory/compliance/nam2200rcsi.html

# Obtaining Documentation and Submitting a Service Request

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

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

Subscribe to the What's New in Cisco Product Documentation as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.