# Cisco Prime Network Analysis Module Software 5.1 Release Notes

**April 4, 2011, OL-24399-01**

These release notes provide general information about Cisco Prime Network Analysis Module Software 5.1, including new features and enhancements, system requirements, software upgrade, limitations and restrictions, caveats, and product documentation.

The Cisco Prime Network Analysis Module software empowers Network Managers with actionable visibility to quickly troubleshoot performance issues, ensure optimal use of network resources, and deliver consistent end-user experience.

The Cisco Prime portfolio of enterprise and service provider management offerings supports integrated lifecycle management of Cisco architectures and technologies based on a service-centric framework. Built on an intuitive workflow-oriented user experience, Cisco Prime products help increase IT productivity and reduce operations costs through innovative management solutions for the network services, infrastructure, and endpoints.

Network administrators need multifaceted visibility into the network and application to help ensure consistent and cost-effective delivery of service to end users. Knowing how traffic over the network is being used and how it is performing is essential for managing and improving the delivery of your business-critical applications. It is the foundation for establishing and verifying quality of service (QoS) policies, undertaking WAN-optimization projects, and rolling out voice over IP (VoIP). It is also the foundation for recognizing when a configuration change has unintentionally degraded application performance or for providing proof points that it is the application and not the network that is causing one of your business planning systems to perform poorly, so that the appropriate actions can then be taken.

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# Contents

This document includes the following sections:



# New Features and Enhancements in Cisco Prime Network Analysis Module 5.1

## Addition of NAM SRE Platform

The Cisco® Services Ready Engine (SRE) modules are router blades for the Cisco Integrated Services Routers Generation 2 that provide the capability to host Cisco, third-party, and custom applications. The modules have their own processors, storage, network interfaces, and memory that operate independently of the host router resources, helping to ensure maximum concurrent routing and application performance while reducing physical footprint, lowering power consumption, and simplifying administration.

Cisco Prime Network Analysis Module 5.1 introduces the Cisco Prime Network Analysis Module (NAM) software for the ISR G2 SRE platform. Benefits include higher performance levels as a result of the superior processing power and throughput capabilities of the Service Module Service Ready Engine, and greater mass storage capabilities on the Cisco Prime NAM for ISR G2 SRE.

## Performance Agent Aggregation

The Performance Agent (PA) can monitor interface traffic and collect, analyze, aggregate, and export key performance analytics to a Cisco Network Analysis Module for further processing and GUI visualization. PA integration with Cisco NAM 5.1 enables you to have a cost effective way to gain visibility into Application Response Time and traffic statistics at a remote branch.

It is supported on the Cisco ISR 880, ISR 890, and ISR G2 platforms with Cisco IOS Software. Deployed with WAAS Express, this feature allows an end-to-end view into the WAN-optimized network, delivering a cost-effective and scalable solution. It correlates PA data sources (WAAS Express) and FA data sources (WAE).

The NAM will perform automatic detection of PA-exporting devices.

### WAAS Central Manager Integration with NAM

The Cisco WAAS is centrally managed by a scalable, secure, and simple function called the Cisco WAAS Central Manager, which runs on Cisco WAE Appliances. The Cisco WAAS Central Manager provides a centralized mechanism for configuring features, reporting, and monitoring, and can manage a topology containing thousands of Cisco WAE nodes.

Starting with Cisco Prime Network Analysis Module 5.1, the Cisco NAM is accessible from within the WAAS Central Manager interface. The Cisco NAM integration with WAAS Central Manager provides for easier viewing of NAM reports that are directly associated with Application Response Time measurements through the WAN, in both WAAS optimized and non-optimized environments.

# NAM Platforms

The following models differ in memory, performance, disk size, and other capabilities. Therefore, some allow for more features and capabilities (for example, the amount of memory allocated for capture).

NAM 5.1 software supports the following NAM models (SKU):

- Cisco NAM 2204 Appliances
  - NAM2204-RJ45
  - NAM2204-SFP
- Cisco NAM 2220 Appliance
  - NAM2220
- Cisco 6500 Series Switches and Cisco 7600 Series Routers
  - WS-SVC-NAM-1
  - WS-SVC-NAM-1-250S
  - WS-SVC-NAM-2
  - WS-SVC-NAM-2-250S
- Cisco Branch Routers
  - NME-NAM-80S
  - NME-NAM-120S

- Cisco SRE NAM
  - SM-SRE-700
  - SM-SRE-900

NAM 5.1 software also supports the following virtual blades:

- Cisco WAAS NAM Virtual Services Blade
  - WAVE-574
  - WAE-674
- Cisco Nexus 1010 Virtual Services Blade
  - N1K-C1010

Table 1 lists the software product numbers for NAM 5.1.

***Table 1 Software Product Numbers***

| Part Number | Description |
|---|---|
| **NAM-APPL-SW-5.1-K9** | Cisco NAM 5.1 for Appliances with Recovery CD |
| **SC-SVC-NAM-5.1-K9** | Cisco NAM 5.1 for Catalyst 6500 and Cisco 7600 NAM |
| **NME-NAM-SW-5.1-K9** | Cisco NAM 5.1 for Branch Routers NAM |
| **WAAS-VB-NAM5.1-K9** | Cisco NAM Software 5.1 for WAAS 574/674 |
| **WAAS-VB-NAM5.1-K9=** | Cisco NAM Software 5.1 for WAAS 574/674 Spare |
| **L-WAAS-VBNAM-5.1-K9** | Cisco NAM Software 5.1 for WAAS 574/674 (eDelivery) |
| **N1K-C1010NAM51-K9** | Cisco NAM Virtual Service Blade Software 5.1 for Nexus 1010 |
| **N1K-C1010NAM51-K9=** | Cisco NAM Virtual Service Blade Software 5.1 for Nexus 1010 Spare |
| **L-N1KC10NAM51-K9=** | Cisco NAM Virtual Service Blade Software 5.1 for Nexus 1010 (eDelivery) |
| **SM-NAM-SW-5.1-K9** | Cisco NAM 5.1 for ISR G2 SRE SM |
| **L-SM-NAM-SW-51-K9=** | Cisco NAM 5.1 for ISR G2 SRE SM (eDelivery) |

The NAM 5.1 software does not support any upgrade paths from NAM 3.x or NAM 4.x releases.

# System Requirements

This section describes the platform hardware, platform software, NAM hardware, and NAM software requirements for NAM 5.1 software:



## Platform Hardware Requirements

Table 2 identifies the hardware modules and platforms required to use NAM 5.1.

At least 1 GB of memory is required to run the NAM 5.1 software on any of the supported platforms.

***Table 2 NAM Hardware Compatibility***

| Module | 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<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 | 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 |

### 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 3. 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 5, Minimum Cisco ISR and ISR G2 IOS Versions Required for NAM 5.1, for the minimum IOS software requirements to support NME-NAM. Only one Cisco NAM can be installed in a Cisco branch router.

*Table 3 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 4 lists the Minimum Cisco Catalyst 6500 and Cisco 7600 Series IOS Versions Required for NAM 5.1.

*Table 4 Minimum Cisco Catalyst 6500 and Cisco 7600 Series IOS Versions Required for NAM 5.1*

| Chassis | Supervisor Card | SXF | SXH | SXI | SRA | SRB | SRC | Other |
|---|---|---|---|---|---|---|---|---|
| **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 | | | | |
| | SUP720-10GE | | 12.2(33) SXH(1) | 12.2(33) SXI | | | | |

*Table 4 Minimum Cisco Catalyst 6500 and Cisco 7600 Series IOS Versions Required for NAM 5.1*

| Chassis | Supervisor Card | SXF | SXH | SXI | SRA | SRB | SRC | Other |
|---|---|---|---|---|---|---|---|---|
| **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 |

Table 5 lists the Minimum Cisco ISR and ISR G2 IOS Versions Required for NAM 5.1 on both the NME-NAM-120S and the NME-NAM-80S.

*Table 5 Minimum Cisco ISR and ISR G2 IOS Versions Required for NAM 5.1*

| 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 6 lists the NAM and IOS software requirements for NAM blades used in a Cisco Virtual Switch System (VSS) environment.

*Table 6 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 | | |

# WAAS Appliance Requirements

NAM 5.1 supports the WAVE-574 and WAE-674 WAAS appliances. Table 7 provides a description of the Cisco WAAS appliances, their components, and deployment scenarios. WAAS appliances require the following software:

- Central Manager: WAAS 4.2.3 (build 55 or later).
- Managed WAAS: WAAS 4.2.3 (or later).

*Table 7 Cisco WAAS Appliances*

| Platform | Component | Deployment Scenarios |
|---|---|---|
| Cisco WAVE-574 | • 3 or 6 GB DRAM<br>• 500 GB hard disk drive<br>• RAID-1 (optional)<br>• 2- and 4-port inline card options<br>• WAAS-VB-NAM-5.0 | • Edge deployments at enterprise branch offices<br>• Core deployments at small data centers |
| Cisco WAE-674 | • 4 or 8 GB DRAM<br>• 600 GB HDD<br>• RAID-5 (optional)<br>• 4-port inline card optional<br>• WAAS-VB-NAM-5.0 | • Edge deployments at large enterprise branch offices<br>• Core deployments at medium-sized data centers |

# NAM SRE Requirements

NAM 5.1 introduces support on the Cisco SRE (Service Ready Engine), the SM-SRE-700 and SM-SRE-900. The Cisco® Services Ready Engine (SRE) modules are router blades for the Cisco Integrated Services Routers Generation 2 (ISR G2) that provide the capability to host Cisco, third-party, and custom applications.

*Table 8 Cisco SRE Hardware Requirements*

| Platform | Component | |
|---|---|---|
| Cisco SM-SRE-700 or Cisco SM-SRE-900 | • 4 GB DRAM<br>• 1 (700) or 2 (900) 500 GB disks<br>• Intel dual core CPU (64bit)<br>• Gigabit Ethernet connectivity to router backplane<br>• Gigabit Ethernet external port | • SRE blades can be used for several applications (for example, NAM, CUE, WAAS), only one at a time<br>• Fits single (external) slot of ISRg2 routers |

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

To optimize the performance of NAM software, particularly of NAM 5.x releases given new features that can have large table sizes, Cisco offers a field-installable memory upgrade kit that can be purchased for WS-SVC-NAM-1 and WS-SVC-NAM-2 devices. The memory upgrade kit comes with 2GB of DRAM. Its part number is MEM-C6KNAM-2GB=.

Cisco has characterized that the memory upgrade can increase the number of hosts and conversations that can be monitored by up to a factor of two (the improvement can vary depending on packet sizes monitored, burstiness of traffic, NAM features enabled, switch/router features enabled, and so on). The memory upgrade not only can improve the number of hosts and conversations monitored, but also, as a

result of the foregoing, can increase the number of concurrent flows that can be monitored. This can result in improved NAM performance when the NAM is deployed in places in the network where it can see a large number of concurrent flows.

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

No memory upgrade kit is offered for the WS-SVC-NAM-1-250S and WS-SVC-NAM-2-250S, which already ship from factory with 2 GB DRAM.

# Browser Requirements

Table 9 describes the browser requirements for all platforms.

***Table 9 Minimum Browser Requirements***

| Browser | Versions | Client Platform[1] | JVM Support[2] | Adobe Flash |
|---|---|---|---|---|
| Internet Explorer | 8.0<br>(7.0 not supported) | • Windows<br>• Windows XP Professional | Java Plug-In 1.5.0_11 | Version 10.1 or greater |
| English Firefox | 3.6 | • Windows<br>• Windows XP Professional<br>• Solaris<br>• Linux (RHEL) | | |

1. At least 4 GB of memory is recommended for optimal NAM GUI performance.
2. A Java plug-in might be required to use the Java Virtual Machine (JVM).

**Note** Although NAM 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

Table 10 lists the minimum versions of the NAM maintenance image, the maintenance image filename, and the BIOS image required for NAM-1 and NAM-2 when using NAM application image 5.1.

***Table 10 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 | | | |

The BIOS image is bundled with the NAM's maintenance image.

The Upgrading to NAM 5.1 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

## NAM Licensing Requirements

NAM software (for the WAAS, Nexus 1010, and SRE) requires you to install a product license in the form of a text file. An evaluation license allows you to use the software for up to 60 days, but you will be unable to log in to the NAM GUI after the evaluation license expires. When using an evaluation license, the NAM login window indicates how many days remain before the evaluation license expires.

You can provide licensing information, also known as node-locking information, during software installation or after software installation using the NAM CLI. During the NAM software installation, you will be prompted to enter a product identifier (PID) and serial number (SN).

To obtain a NAM license, go to the following URL:

http://www.cisco.com/go/license

Follow the instructions on this page to obtain a NAM license file. You will need the appliance PID and SN to obtain the license file. After you enter the PID and SN or the Product Authorization Key, a license file will be sent to you by e-mail. Store this license file on an available FTP server. Use the **license install** command to install the license after the NAM software installation completes.

# Upgrading to NAM 5.1

This section provides the following topics:



## Supported Upgrades

NAM 5.1 does not support any upgrades from the NAM 3.x or NAM 4.x software releases on NAM devices. If you are running a NAM 3.x or NAM 4.x release, you will need to do a fresh install of NAM 5.1 (see the next section, Installing NAM Software). Also, since NAM 5.1 has a new architecture, if you are upgrading from NAM 3.x or NAM 4.x, you will lose the configuration you have currently set in your NAM. Cisco highly recommends that you back up your current configuration in case you want to go back to a previous version of NAM, where you can restore the saved configuration.

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.

**Note** The Cisco Nexus 1010 Virtual Services Appliance is not supported with NAM 5.0. Therefore, because an upgrade from NAM 4.x to NAM 5.x is not supported, you will need to do a fresh install of NAM 5.1 if you are using the Nexus 1010.

# Upgrading from NAM 5.0 to NAM 5.1

The NAM software can be upgraded from NAM 5.0 to NAM 5.1 with some platforms. Table 11 shows the method that you can follow depending on the platform on which you are running the NAM.

*Table 11 Upgrade Method Per Platform*

| NAM Platforms | Upgrade Method (from NAM 5.0 to NAM 5.1) |
|---|---|
| **NAM blades (NAM-1, NAM-1x, NAM-2, NAM-2x)** | Upgrade from the maintenance image |
| **NME NAM** | Upgrade from the Helper image |
| **NAM 2220 and 2204 Series Appliances** | Upgrade from the CLI or Helper image |
| **NAM on WAAS VB** | Upgrade from the Helper image |
| **NAM on Nexus 1010** | Not supported |
| **NAM SRE** | Not supported |

# Installing NAM Software

If you need to do a fresh install of NAM 5.1, see the Installation and Configuration Guide specific to your platform.

For Cisco 2200 Series Appliances, see the following URL:

http://www.cisco.com/en/US/products/ps10113/prod_installation_guides_list.html

For the WAAS NAM Virtual Blade, see the following URL:

http://www.cisco.com/en/US/products/ps10506/prod_installation_guides_list.html

For NAM on Nexus 1010, see the following URL:

http://www.cisco.com/en/US/products/ps10846/prod_installation_guides_list.html

For the NAM SRE, see the following URL:

http://www.cisco.com/en/US/products/ps10598/prod_module_series_home.html

For all other platforms, see the following URL:

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

# Upgrading Catalyst 6500 and Cisco 7600 NAM-1 and NAM-2 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).

**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, 5.0
```

```
Copyright (c) 2010 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 Software

**Note** This section applies only to the WS-SVC-NAM-1 and WS-SVC-NAM-2 blades running a BIOS image prior to version 6.0.9.

**Note** The BIOS image is bundled with the NAM's maintenance 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 the following procedure for performing a BIOS upgrade:

**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.

# Limitations and Restrictions

The following limitations and restrictions currently apply to the NAM 5.1 software release:



## NAM Creates Capture File on Cancel

If you are using a Cisco 2200 Series appliance, and during **Capture > Packet Capture/Decode > Files** you click on the **Download** button, a **xxx.pcap** file is created regardless of whether you accept the download action or cancel it. This is why one capture done from a Cisco 2200 Series appliance may have an extra file, while another from a different platform may not.

## NAM Support With Non-Cisco H.323 Voice Devices and Call Managers

NAM voice call monitoring may not function properly with some of the non-Cisco voice devices and Call Managers such as Avaya. This is only for non-Cisco voice devices. Cisco IP Phone and Call Managers do not have any problems.

## ACS Version Supported

The only ACS server versions supported are ACS versions 5.1 and 4.2.

## 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 4.1, we no longer provide a default root password. After you install NAM 5.1, 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.

## Response Time and Voice Quality Analytics

The calculation of Application Performance Response Time and voice quality metrics in NAM 5.0 depends on the actual packet arrival time and packet sequences. In events such as packet drops, duplicated packets, or asymmetric routing, the NAM might not be able to calculate accurate quality metrics for the associated polling interval.

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

## Intelligent Application Performance

Due to the way NAM 5.1 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.

# Checking the NAM Maintenance Image and BIOS Versions

NAM 5.0 software requires that you use the correct NAM maintenance image and BIOS versions. The recommended BIOS version for NAM 5.0 software is BIOS 6.0.9.

The recommended MP version depends on the NAM model. See Table 10 for the recommended maintenance image for each NAM platform. If you need to upgrade your NAM maintenance image, see Upgrading Catalyst 6500 and Cisco 7600 NAM-1 and NAM-2 Maintenance Image Software.

# 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.
- 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 NME-NAMs

**Note** This restriction applies only to traffic that is monitored through the internal NAM interface on the NME-NAM-80S and NME-NAM-120S.

The NAM 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.

# Most Recent NAM 5.1 Information

To see the most recent version of the NAM 5.1 User Guide, see the technical documentation for the Network Analysis Module on www.cisco.com:

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

# IOS Issues That Might Affect NAM 5.1

The following IOS issues might affect your use of NAM 5.1 depending on other software versions.

- 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

## 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.)

**Note** 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.

**Note** This issue has been resolved in 12.2(33)SRC3.

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.

## 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**.

**Note** This issue has not yet been resolved.

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

The ERSPAN command is not working properly in NAM 5.1 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).

**Note** This issue has been resolved with IOS image 12.2(33)SRD1 or later.

# Caveats

This section provides information about active anomalies in the NAM 5.1 software.

To obtain more information about known problems, access the Cisco Software Bug Toolkit at the following URL:

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

# Known Anomalies in NAM 5.1

Table 13 provides a list of known anomalies in NAM 5.1 software. Each anomaly includes a description of the symptom, conditions in which the anomaly occurs, and any workaround.

*Table 12 Known Anomalies in NAM 5.1*

| Bug ID | Description |
|---|---|
| **CSCtn79004** | In the NAM, on the **Monitor > Traffic Summary** page, when the Interactive Report time range is less than 24 hours, starting from NOW going backward to the past, all the top N charts data are fine. However, sometimes when the time range is not starting from NOW, for example Custom to view 3 days ago data, the Host Top N chart may display no data but others are OK.<br>This occurs when viewing data with long term (more than 24 hours) window.<br>There is not workaround |
| **CSCto12399** | NBI: Not able to delete the capture files on the remote storage<br>This occurs with files on remote storage.<br>The workaround is to use the web user interface to delete files. |
| **CSCto40292** | The Capture Session action NBI is not working. The actions are changed from the NAM 4.x to NAM 5.x.<br>The workaround is to use the NAM web GUI for Capture actions. |
| **CSCto40319** | The NAM loses NDE definitions on reboot.<br>To replicate the condition:<br>a) Remove all NetFlow data exports and reboot the NAM.<br>b) Add four test exports using different export formats but with the same IP address and destination port and all export options enabled.<br>c) Log out of the UI and reboot the NAM using the reboot command in the CLI, and log in to the UI again.<br>d) Edit test export 4 and change the options so that all are disabled. (This also disables the options for the other exports, because they are using the same IP and port number as destination.)<br>e) Log out and reboot the NAM. Log in and now the following output is shown. Not only is this the only flow shown in the UI, it is also the only export that is generating NetFlow records to that destination. All other test exports are idle.<br>f) Remove the test export 4, log out, and reboot again. Now the three remaining NetFlow exports have reappeared in the UI, and are also generating NetFlow output again to the collector.<br>There is no workaround. |
| **CSCtn71899** | When the WAAS Central Managers's classifier/app sync function is invoked initially using WAAS, WAAS Express, and WAAS Policies (in that order), the creation of one of the app-groups "Email-and-Messaging" fails due to large number of applications.<br>There is no workaround. |

*Table 12 Known Anomalies in NAM 5.1 (continued)*

| Bug ID | Description |
|---|---|
| CSCtn11827 | In the NAM, the **Analyze > Managed Device > Health** page is missing some information. This occurs in the VSS only.<br>There is not workaround |
| CSCtn34072 | The sessions login time out is not handled properly on different pages. The workaround is to refresh the browser to show the login page. |
| CSCtn81849 | On the NAM **Administration > System > System Time** page, the font size of Region is bigger than others. |
| CSCto15334 | In the FireFox browser, saved interactive filters with long names show the filter contents to the right and outside of the saved filter container.<br>The workaround is to create a filter with a shorter name. |
| CSCto48143 | On Cisco NAM 2200 Series Appliances, the capture files are produced in .pcap format; hence, the files are created with .pcap extension. However, the GUI code is looking for .capture file extension as indicated in the error message below.<br>When capturing data from an ERSPAN data source with the write to file option, upon decoding the captured file, the user receives an error message:<br>"Cannot access capture file xxxx_1.capture. The file may have been deleted.<br>Go to Capture > Files to check the file status."<br>The workaround is to decode the capture file from the **Capture > Files** screen. |
| CSCto46831 | When you use the Internet Explorer 8 browser to view the NAM GUI, and go to **Analyze > Managed Device > NBAR**, you do not see any data.<br>The workaround it to use the Mozilla Firefox browser for this function (it works using Firefox 3.6.x). |
| CSCto46832 | In NAM 5.1, the All Hosts table should separate all applications by the same host. Instead, it takes the sum of In/Out Bits/Packets regardless of the applications, and put the first application into the "Application column."<br>The workaround is to go to the **Analyze > Traffic > Hosts** page for this function. |
| CSCto46833 | In NAM 5.1, in the Response Time Details table, the preference is set to Bits, but it shows "Client/Server Bytes" with bits information. |

# Resolved Anomalies in NAM 5.1

Table 13 provides a list of resolved anomalies in NAM 5.1 software. Each anomaly includes a description of the symptom, conditions in which the anomaly occurs, and any workaround.

*Table 13 Resolved Anomalies in NAM 5.1*

| Bug ID | Description |
|---|---|
| CSCtl98065 | Entering the dce-rpc uuid information twice causes mond to restart. Application match creation from the CLI, NBI, and from the GUI gives uncertain results. |
| CSCtk63250 | An exported set of NDE records is empty in the presence of IP address-related filtering. The internal filtering algorithm is too restrictive. |

*Table 13 Resolved Anomalies in NAM 5.1 (continued)*

| Bug ID | Description |
|---|---|
| **CSCtk62819** | Exported sets of NDE records contain extra (additional) records with IP address values not present in the traffic. The internal NAM's database contains records with MAC addresses instead of IP addresses, and these MAC addresses incorrectly fall into the category of exported records. |
| **CSCtn82203** | In the NAM, the **Analyze > Managed Device > Health > Crossbar Switching Fabric** page shows incorrect information for switch 2 in the NAM 5.0 VSS setup.<br>The workaround is to use snmpwalk to query the MIB information. For example, this query looks for dropped packets from switch 2:<br>`snmpwalk -c public@chassis-2 -v2c vssIP .1.3.6.1.4.1.9.9.217.1.3.1.1.5`<br>`query dropped packets from switch 1`<br>`snmpwalk -c public@chassis-1 -v2c vssIP .1.3.6.1.4.1.9.9.217.1.3.1.1.5`<br><br>`The list of fabric MIBs`<br>`activeSlot = ".1.3.6.1.4.1.9.9.217.1.2.1.0";`<br>`backupSlot = ".1.3.6.1.4.1.9.9.217.1.2.2.0";`<br>`busOnlyMode = ".1.3.6.1.4.1.9.9.217.1.1.2.0";`<br>`truncatedMode = ".1.3.6.1.4.1.9.9.217.1.1.3.0";`<br>`switchMode = ".1.3.6.1.4.1.9.9.217.1.2.3.1.2";`<br>`channelModStatus = ".1.3.6.1.4.1.9.9.217.1.2.4.1.3";`<br>`channelFabStatus = ".1.3.6.1.4.1.9.9.217.1.2.4.1.4";`<br>`channelSpeed = ".1.3.6.1.4.1.9.9.217.1.2.4.1.5";`<br>`stats = ".1.3.6.1.4.1.9.9.217.1.3.1.1";`<br>`inErr = ".1.3.6.1.4.1.9.9.217.1.3.1.1.3";`<br>`outErr = ".1.3.6.1.4.1.9.9.217.1.3.1.1.4";`<br>`dropped = ".1.3.6.1.4.1.9.9.217.1.3.1.1.5";`<br>`inUtil = ".1.3.6.1.4.1.9.9.217.1.3.1.1.6";`<br>`outUtil = ".1.3.6.1.4.1.9.9.217.1.3.1.1.7";` |
| **CSCtn48283** | The EtherChannel SPAN session does not show LACP channel mode as data source.<br>The setup has 2 ether channel bundles. When both are configured with PAgP mode, both channels would be shown as data sources in SPAN Session EtherChannel. When one channel is configured with LACP mode, it is not being shown as a data source. |
| **CSCtl57213** | Back plane, modem and Baud show wrong values on **Analyze > Managed Device > Health**, "Chassis Information" or "Managed Device Information", and then based on the NAM platform from the drop down list. |
| **CSCtn15413** | When configuring SNMPv3, the NAM is not showing error message if SNMPv3 Auth and Priv password is less than 8 characters. |
| **CSCtn05962** | Cannot decode a capture file from NFS directory from the **Capture > Sessions** page. Same file decode does work from **Capture > Files** page with a captured file to the NFS directory. |
| **CSCtn03774** | Decoding a captured file made using memory wraparound mode shows malformed packets. Upon decoding the captured packet, the decode window will stop at a malformed packet when there is not any malformed packets among the NAM data ports traffic. |
| **CSCtn69286** | On these NAM screens:<br>**Analyze > Hosts**<br>**Analyze > DSCP screens**<br>**Analyze > NDE Interface > Group view > Top N Host**<br>Cumulative Data is displayed even when the Rate is selected. |
| **CSCtn21318** | Entering VLAN of 0 is not allowed in the software filter dialog, but a setting of VLAN 0 was done when triggering capture from the Capture context menu item. |

*Table 13 Resolved Anomalies in NAM 5.1 (continued)*

| Bug ID | Description |
|---|---|
| CSCtl78163 | In Analysis dashboards, the metric summary table to the right of the over-time line charts confuses users into thinking they are seeing very small Mean, Minimum and Maximum traffic values when the metric name is Bytes, and the line chart is showing the numbers in Kilobytes or Megabytes or Gigabytes units.<br>Most Analysis dashboards show several metrics in an over-time line chart. To the right of the over-time line chart is a single metric summary table which shows info like Max, Mean, and Median for only one metric at a time.<br>There is a drop-down UI widget above that metric summary which allows the user to choose which single metric to show in the summary table.<br>It may seem that the metric name being shown in the drop down UI widget above the metric summary is the unit for the numbers being shown in the metric summary. For example, if the metric name is "Bytes" and an entry in the metric summary is "Max 23.42", the user may think the Max value in the line chart is 23.42 Bytes, when the Max data in the line chart may be 23.42 Gigabytes per second.<br>With other metric names like "Average Network Time" and "Number of Round Trips," the confusion is not as great.<br>In 5.1, for traffic-related metrics like "Bits" and "Bytes," the unit of Megabytes per second has been added to each entry in the metric summary. |
| CSCtn03951 | Capture file is overwritten during Rename, Merge, or Convert operations. It occurs when a user enters a filename that already exists in the file system during the Rename, Merge or Convert operations. |
| CSCtn29686 | On **Analyze > Top Application Traffic**, the applications shown that ignore the Site and/or Data Source settings in the Interactive Filter settings. |
| CSCtn26452 | On the Traffic Summary dashboard, data is showing as cumulative instead of rate when the user has "cumulative" currently set, but selects a saved filter with a setting of "rate." |
| CSCtk96845 | If a capture session with a software filter is created with a user-defined application, the software filter is not editable after deleting the user-defined application, but it is still seen in the capture session.<br>If a Netflow Export template is created with user-defined application filter, after deleting the user-defined application, the template application filter gets changed to "Any."<br>In the **Monitor > Overview > Alarm Summary** page, the deleted application ID is seen for the deleted application. |
| CSCtn24068 | On **Analyze > WAN Optimization > Conversation Multi-segments**, sometimes the "server traffic volume (bytes)" column is displayed twice. |
| CSCtn59902 | When a user creates a site using **Setup > Network > Sites**, and the site already exists, then new site is not created but no error is displayed. |

*Table 13 Resolved Anomalies in NAM 5.1 (continued)*

| Bug ID | Description |
|---|---|
| CSCtj95419 | These activities are not recorded in Audit Trail:<br>• Create/Delete Managed Device<br>• Create/Delete Data Source<br>• Add/Delete NDE Interface Capacity<br>• Update of **Setup > Classification > Encapsulations**<br>• Update of **Setup > Monitor > Aggregation Intervals**<br>• Update of **Setup > Monitoring > WAAS Servers** |
| CSCtn15522 | After creating a capture-to-disk capture session with ERSPAN as the traffic source, the capture session is created successfully. However, upon editing the session, the traffic source is always data ports. There is not any way to make it ERSPAN traffic source. This happens to capture to disk with ERSPAN source only. |
| CSCtl04843 | The NAM-2 blade with memory upgrade runs out of disk space in data partition after an upgrade from 4.x to 5.0. This happens for NAM-2 blades which user previously installed the memory upgrade kit. |
| CSCtn63347 | NAM 5.0 shows incorrect interface traffic statistic. Report shows NDE interface statistic always being zero in one direction. This happens for interface statistics from Netflow data sources only. |
| CSCtl64105 | In the NAM, navigate to **Analyze > Managed Device Health** page and select Chassis Information. The Power Redundancy Mode section sometimes display information wrong or missing information. This defects may appear in 4.x and 5.x releases in both standard and VSS system. |
| CSCtn95078 | Whenever the NAM is restarted, the Call Signal Monitoring will be enabled automatically even if the option was disabled. Whenever the NAM restarts or reboots, the Voice Call Signal Monitoring is reenabled. |
| CSCtn81398 | A process on the NAM (md_poller) occasionally restarts, causing gaps and missing statistics in the managed device interface statistics. This occurs with long interface names. |
| CSCtn27543 | The values for the disk partition sizes are not parsed and formatted correctly. |
| CSCtl86625 | On the **Setup > SPAN Sessions** page, after clicking on Create and selecting RSPAN VLAN, the NAM does not show any RSPAN VLAN configured on the SUP. |

# Documentation

## Cisco Prime Network Analysis Module Software 5.1

This section provides a list of the Cisco Prime Network Analysis Module Software 5.1 software documentation. You can find links to all NAM software documentation at the following URL:

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

The following is a list of the documentation, in the order in which you should address it.

- *Cisco Prime Network Analysis Module Software 5.1 Release Notes*
- *Cisco Prime Network Analysis Module Software 5.1 User Guide*

- *Cisco Prime Network Analysis Module Software 5.1 Command Reference*
- *Cisco Prime Network Analysis Module Software 5.1 API Programmer Guide*
- *Cisco Prime Network Analysis Module Software 5.1 Third Party and Open Source Copyright Notices*

## Cisco Prime Network Analysis Module Software 5.1 Release Notes

**OL-24399-01**

The *Cisco Prime Network Analysis Module 5.1 Release Notes* provide a collection of information including software and hardware compatibility and information about new features, requirements, and anomalies that might exist.

http://cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.1/release/notes/nam51note.html

## Cisco Prime Network Analysis Module Software 5.1 User Guide

**OL-24410-01**

The *Cisco Prime Network Analysis Module 5.1 User Guide* describes how to use the Cisco Prime Network Analysis Module and NAM 5.1 user software.

http://cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.1/user/guide/nam51_ug.html

## Cisco Prime Network Analysis Module Software 5.1 Command Reference

**OL-24400-01**

The *Cisco Prime Network Analysis Module 5.1 Command Reference* provides information about how to use the NAM command-line interface to manage the NAM devices supported by NAM 5.1 software, including:

- Cisco NAM 2204 Appliances
  - NAM2204-RJ45
  - NAM2204-SFP
- Cisco NAM 2220 Appliance
  - NAM2220
- Cisco 6500 Series Switches and Cisco 7600 Series Routers
  - WS-SVC-NAM-1
  - WS-SVC-NAM-1-250S
  - WS-SVC-NAM-2
  - WS-SVC-NAM-2-250S
- Cisco Branch Routers
  - NME-NAM-80S
  - NME-NAM-120S
- Cisco SRE NAM
  - SM-SRE-700

  - SM-SRE-900
- Cisco WAAS NAM Virtual Service Blade
  - WAVE-574
  - WAE-674
- Cisco Nexus 1010 Virtual Services Appliance
  - N1K-C1010

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.1/command/reference/guide/cmdref.html

## Cisco Prime Network Analysis Module Software 5.1 API Programmer Guide

**OL-24408-01**

The *Cisco Prime Network Analysis Module 5.1 API Programmer Guide* describes APIs that are available to connect to the NAM system. The NAM API provides a mechanism for provisioning and retrieving data from the NAM servers using an eXtensible Markup Language (XML) interface. The API utilizes REpresentational State Transfer (REST) methodology to execute requests (web services) over HTTP or HTTPS by sending the XML data to the API server.

The developers who use the APIs should have an understanding of a high-level programming language such as Java or an equivalent.

The *Cisco Prime Network Analysis Module 5.1 API Programmer Guide* is available on the Cisco NAM Technology Center. The Cisco NAM Technology Center is an online resource for additional downloadable Cisco NAM support content, including help for developers who use Cisco NAM application programming interfaces (APIs). The website provides information, guidance, and examples to help you integrate your applications with Cisco NAM. It also provides a platform for you to interact with subject matter experts. To view the information on the Cisco NAM Technology Center website, you must have a Cisco.com account with partner level access, or you must be a Cisco NAM licensee. You can access the Cisco NAM Technology Center at http://developer.cisco.com/web/nam/home.

## Cisco Prime Network Analysis Module Software 5.1 Third Party and Open Source Copyright Notices

**OL-24409-01**

The *Cisco Prime Network Analysis Module 5.1 Third Party and Open Source Copyright Notices* provides a listing of all copyright notices for the open source third-party software used in NAM 5.1.

http://cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.1/copyright/notice/3rd_copy.html

# Cisco Prime NAM for ISR G2 SRE Documentation

**OL-24407-01**

*The Cisco Prime Network Analysis Module (NAM) for ISR G2 SRE Installation and Configuration Note* provides detailed steps to install the NAM on an ISR G2 SRE and configure the NAM.

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.1/sm_sre/SM_SRE_incfg_5_1.html

# Cisco 2200 Series NAM Appliance Documentation

This section describes the Cisco 2200 Series NAM Appliance documentation.

- *Quick Start and Documentation Guide for the Cisco 2200 Series NAM Appliance*
- *Installation and Configuration Guide for the Cisco NAM 2204 Appliance*
- *Installation and Configuration Guide for the Cisco NAM 2220 Appliance*
- *Regulatory Compliance and Safety Information for the Cisco NAM 2200 Series Appliances*

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

**78-18440-01**

The *Quick Start and Documentation Guide for the Cisco 2200 Series NAM Appliance* is available online at the following URL:

http://www.cisco.com/en/US/products/ps10113/products_documentation_roadmaps_list.html

This document contains a description of the documentation for the NAM appliance and NAM software and information about how to get started with the NAM appliance.

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

**OL-24404-01**

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/5.1/2204/instcfg2204.html

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

**OL-24403-01**

The *Installation and Configuration Guide for the Cisco NAM 2220 Appliance* provides information to help you install and configure the 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/5.1/2220/installation/guide/instcfg2220.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* is a printed document that ships with the NAM appliance and is also available online at the following URL:

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

The *Regulatory Compliance and Safety Information for the Cisco 2200 Series NAM Appliances* contains regulatory compliance and safety information for the Cisco 2200 Series NAM appliances.

## Cisco Prime Network Analysis Module for Virtual Services Blades Documentation

The following URL provides links to product support, additional product literature, software, and other helpful information for the Cisco WAAS NAM Virtual Blade:

http://www.cisco.com/en/US/products/ps10506/index.html

The following URL provides links to product support, additional product literature, software, and other helpful information for the Nexus 1010 NAM Virtual Blade:

http://www.cisco.com/en/US/products/ps10846/tsd_products_support_series_home.html

### Cisco Prime Network Analysis Module for WAAS VB Installation and Configuration Guide, 5.1

**OL-24405-01**

The *Cisco Prime Network Analysis Module (NAM) for WAAS VB Installation and Configuration Guide, 5.1* provides detailed steps to install the NAM VSB on a WAAS appliance and configure the NAM VSB.

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_virtual_blade/5.1/install/guide/waas/waas51install.html

### Cisco Prime Network Analysis Module (NAM) for Nexus 1010 Installation and Configuration Guide, 5.1

**OL-24406-01**

The *Cisco Prime Network Analysis Module (NAM) for Nexus 1010 Installation and Configuration Guide, 5.1* provides detailed steps to install the NAM VSB on a Nexus 1010 switch and configure the NAM VSB.

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_virtual_blade/5.1/install/guide/nexus/nx51_instcfg.html

## Related Documentation

This section provides information about other documentation related to the Network Analysis Module and NAM 5.0 software.

### NAM-1 and NAM-2

*Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation Note, 5.1*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.1/switch/configuration/guide/switchcfg.html

*Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation Note, 5.0*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.0/switch/configuration/guide/switchcfg.html

*Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation Note, 4.2*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.2/switch/configuration/guide/65_76cfg42.html

*Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation Note, 4.1*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.1/switch/configuration/guide/swconfig.html

*Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation Note, 4.0*

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

*Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation Note, 3.6*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/3.6/switch/configuration/guide/swconfig.html

*Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation Note. 3.5*

http://www.cisco.com/en/US/docs/interfaces_modules/services_modules/nam/nam_3_5/hw_install/78_17286.html

### NME-NAM

*Cisco Branch Routers Series Network Analysis Module (NME-NAM-120S) Installation and Configuration Note, 5.1*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.1/branch_router/configuration/guide/BRincfg_51.html

*Cisco Branch Routers Series Network Analysis Module (NME-NAM-120S) Installation and Configuration Note, 5.0*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/5.0/branch_router/configuration/guide/BRincfg_50.html

*Cisco Branch Routers Series Network Analysis Module (NME-NAM-120S) Installation and Configuration Note, 4.2*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.2/branch_router/configuration/guide/BRincfg_42.html

*Cisco Branch Routers Series Network Analysis Module (NME-NAM-120S) Installation and Configuration Note, 4.1*

http://www.cisco.com/en/US/docs/net_mgmt/network_analysis_module_software/4.1/branch_router/configuration/guide/BRincfg_120S.html

*Cisco NAM Enhanced Network Modules*

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

*Installing Cisco Network Modules and Service Modules*

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

*Cisco 3800 Series Hardware Installation*

http://cisco.com/en/US/docs/routers/access/3800/hardware/installation/guide/hw.html

*Cisco 3700 Series Routers Hardware Installation Guide*

http://www.cisco.com/en/US/docs/routers/access/3700/hardware/installation/guide/3700hig.html

*Installing Network Modules in Cisco 2800 Series Routers*

http://www.cisco.com/en/US/docs/routers/access/2800/hardware/installation/guide/08_hw.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.