# Quick Start Guide for the Cisco Branch Router Series Network Analysis Module, Release 3.5

**Revised: June 19, 2006, OL-8404-01**

## Network Analysis Module Overview

The Network Analysis Module (NM-NAM) is a network module installed in the following models of Cisco 2600, 2600XM, 2800, 3660, 3700, and 3800 Series routers that monitors and analyzes network traffic:

- Cisco 262xXM
- Cisco 265xXM
- Cisco 2691 Multiservice Platform
- Cisco 2811 Integrated Services Router
- Cisco 2821 Integrated Services Router
- Cisco 2851 Integrated Services Router
- Cisco 3660 Multiservice Platform
- Cisco 3725 Multiservice Access Router
- Cisco 3745 Multiservice Access Router
- Cisco 3825 Integrated Services Router
- Cisco 3845 Integrated Services Router

The NAM Traffic Analyzer is software embedded in the NAM that gives you browser-based access to the monitoring features of the NAM. You use this software to troubleshoot and monitor network availability and health.

In this document you will find:

- Package contents, including links for accessing online documentation.
- Hardware and software requirements.
- Installation and configuration procedures for getting the NAM and Traffic Analyzer running.

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**Corporate Headquarters:**
**Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA**

- Pointers to additional documentation that provides detailed procedures for installing and using the product.
- Information about ordering documentation and contacting Cisco Systems for additional assistance.

## Package Contents

The following items are included in the package:

- NM-NAM module
- *Documentation Guide for the Cisco Network Analysis Module, Release 3.5*
- Only available for spare NM-NAM orders.
- Cisco Network Modules and Interface Cards Regulatory Compliance and Safety Information.
- *Copyright Notices for the Network Analysis Module Release 3.5.*

# Software and Hardware System Requirements

This section provides NAM Traffic Analyzer software and hardware requirements. Table 1 describes the software requirements for installing and using the NAM Traffic Analyzer.

***Table 1 Software Requirements***

| Module | Application Image | Cisco IOS Software |
|---|---|---|
| NM-NAM | 3.5 or later (pre-installed) | 12.1(5)<br>12.3(4)XD<br>12.4(5)a<br>12.4(7) or later |

## Browser Requirements

Table 2 describes the browser requirements for all platforms.

***Table 2 Browser Requirements***

| Browser | Version | Platform | Java Plug-In Support[1] |
|---|---|---|---|
| Internet Explorer (recommended) | 6.0 | Windows<br>Windows XP Professional | JRE Version 5.0 Update 6 |
| Mozilla | 1.7 | Windows<br>Windows XP Professional<br>Solaris | |
| Firefox | 1.5 | Windows<br>Windows XP Professional<br>Solaris<br>Linux (Redhat, SuSe) | |

1. Although Traffic Analyzer does not require a Java plug-in, one 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.

# Installing the NAM

For information on physically installing the NAM into the router, see the *Cisco Network Modules Quick Start Guide* and the "Connecting Cisco Network Analysis Modules" chapter of *Cisco Network Modules Hardware Installation Guide*.

http://cco/univercd/cc/td/doc/product/access/acs_mod/cis2600/hw_inst/nm_inst/nm-doc/index.htm

# Setting Up the NAM

The NAM has three interfaces for communication (Figure 1):

- Analysis-Module Interface—Associated with the router.
- Internal NAM Interface—Associated with the NAM.
- External NAM Interface—Associated with the NAM.

This document shows you how to configure the Analysis-Module interface and internal NAM interface for managing and monitoring traffic. Alternatively, you can use the external NAM interface for managing and monitoring. However, this document does not cover that configuration. For more information on using the external NAM interface, see the *Network Analysis Module (NM-NAM)* feature module or the *User Guide for the Network Analysis Module Traffic Analyzer Release 3.5*.

***Figure 1 NAM Network Interfaces***

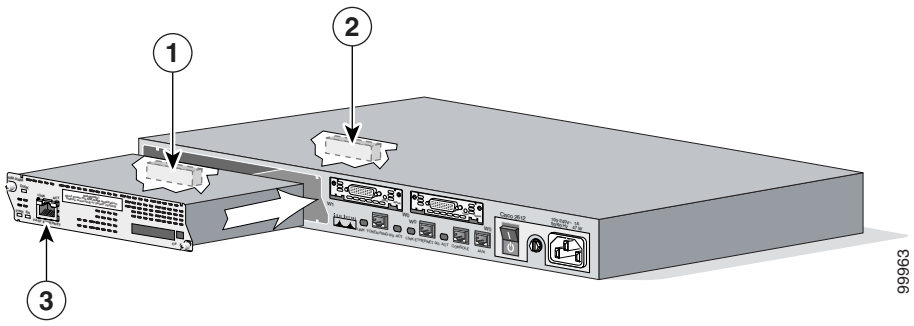


***Table 3 NAM Network Interfaces***

| Figure 1 Callout | Interface | Interface type | Location | Configure and manage from |
|---|---|---|---|---|
| 1 | Internal NAM interface | FastEthernet | NM-NAM internal | NAM CLI |
| 2 | Analysis-Module interface | FastEthernet | Router internal | Cisco IOS CLI |
| 3 | External NAM interface | FastEthernet | NM-NAM faceplate | NAM CLI |

The NM-NAM does not have an external console port. To access the NAM console, open a NAM console session from the router or use Telnet or SSH over the network. The lack of an external console port on the NM-NAM means that the initial boot configuration is possible only through the router.

After you install the NAM, you must do the following to begin using the Traffic Analyzer application:

- Configuring the Analysis-Module Interface on the Router, page 4

# Configuring the Analysis-Module Interface on the Router

To configure the Analysis-Module interface on the router CLI:

**Step 1** Enter the interface configuration mode for the NAM.

**interface analysis-module slot/port**

**Step 2** Assign an IP address by using the ip unnumbered command or by configuring a routable IP address and subnet mask on the internal interface.

**a.** If you use the ip unnumbered command:

**ip unnumbered FastEthernet slot/port**

**b.** If you use a routable IP address and subnet mask:

**ip address 172.18.12.2 255.255.255.0**

**Note** For the **ip unnumbered** command, make sure that a static route is configured on the router CLI for the NAM IP address that you configure through the NAM CLI in Step 2 of the "Configuring the NAM Management Network Parameters" section on page 6.

**Note** The following is a sample configuration:
**ip route <nam-ip-address> 255.255.255.255 Analysis-Module slot/0**

**Note** On the NAM, the IP address must belong to the subnet of the parent interface for the Analysis-Module slot/0 (such as fa0/0). The NAM default gateway should be the parent interface IP.

**Note** For a detailed explanation, see: *Configuring a Static Route to the NAM Through the Analysis-Module Interface* at:
**http://www.cisco.com/en/US/products/sw/iosswrel/ps5413/products_feature_guide09186a00801d6096.html#wp1046001**

**Step 3** Activate the NAM interface.

**no shutdown**

# Enabling Packet Monitoring

When you use the internal NAM interface for monitoring traffic, you must enable NAM packet monitoring on each router interface that you want to monitor. NAM packet monitoring uses Cisco Express Forwarding (CEF) to send a copy of each packet that is received in or sent out of the router interface to the NAM.

**Step 1** Enable the CEF switching path.

**ip cef**

**Step 2** Select an interface to configure.

**interface type slot|wic-slot|port**

**Step 3** Enable NAM packet monitoring on the router interface.

**analysis-module monitoring**

**Step 4** Repeat Step 2 and Step 3 for each interface the NAM should monitor.

# Accessing the NAM CLI

The NM-NAM does not have an external console port. Console access to the NAM is established when you enter **service-module analysis-Module *slot*/0 session** in privileged EXEC mode on the router. The lack of an external console port on the NM-NAM means that the initial boot configuration can only be made through the router.

**Step 1** Establish a console session with the NAM.

**service-module analysis-module slot/0 session**

**Note** If the Connection refused by remote host message is displayed, you must clear the existing session.

**service-module analysis-module slot/0 session clear**

**Step 2** At the login prompt, enter **root** to log in to the root account.

**Step 3** If you have not changed the password from the factory-set default, enter **root** as the root password.

**Step 4** Perform the required tasks in the NAM CLI. For information on NAM CLI tasks, see the "Configuring the NAM Management Network Parameters" section on page 6. When you want to end the NAM console session and return to the Cisco IOS CLI, enter **exit**.

**Note** If you are in a subcommand mode, continue to enter the exit command until you see the NAM login prompt.

**Step 5** Hold **Ctrl-Shift** and press **6**. Release all keys, then press **x** to suspend and close the Telnet session.

**Step 6** Enter **disconnect** to disconnect the line.

**Note** Some IOS versions require a session ID in the disconnect command, as in **disconnect <*session_id*>,** to disconnect the line.

# Configuring the NAM Management Network Parameters

When you configure the internal NAM interface as the management interface, the IP address must be in the same subnet as the IP address of the Analysis-Module interface configured on the router CLI.

**Step 1** Specify the internal NAM interface for handling management traffic.

**`ip interface` internal**

**Step 2** Configure the NAM system IP address and subnet mask.

**ip address ip-address subnet-mask**

**Step 3** Configure the NAM system broadcast address.

**ip broadcast *`broadcast-address`***

**Note** This step is optional.

**Step 4** Configure the NAM system default gateway address.

**ip gateway *`ip-address`***

**Step 5** Set the NAM system domain name.

**ip domain *`name`***

**Step 6** Set the NAM system host name.

**ip host *`name`***

**Step 7** Set one or more NAM system name servers.

**ip nameserver *`ip-address`***

**Note** This step is optional but highly recommended. Unexpected delays can occur if a name server is not set.

**Step 8** Optionally check the connectivity to the device by pinging an external host or address.

**ping *`host`***

*or*

**ping** *ip-address*

**Step 9** Verify that the device is properly configured.

**show ip**

**Step 10** Enable the NAM Traffic Analyzer application.

**ip http server enable**

**Step 11** Enter a web username and password.

**Step 12** To access Traffic Analyzer, open a web browser and enter the NAM system IP address as the URL.

# Where to Go Next

After you install the module and perform the necessary post-installation tasks, you are ready to use Traffic Analyzer. For more information, see the following documentation:

- *Release Notes for the Cisco Network Analysis Module, Release 3.5*

  http://www.cisco.com/en/US/products/sw/cscowork/ps5401/prod_release_note09186a00806adcc5.html

- *User Guide for the Network Analysis Module Traffic Analyzer, Release 3.5*

  http://www.cisco.com/en/US/products/sw/cscowork/ps5401/products_user_guide_book09186a00806ad84a.html

- *Network Analysis Module Command Reference Release 3.5*

  http://www.cisco.com/en/US/products/hw/switches/ps708/products_command_reference_book09186a00805e081d.html

You can find documentation for all releases of the Cisco Network Analysis Module here:

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

# Related Documentation

**Note** Although every effort has been made to validate the accuracy of the information in the printed and electronic documentation, you should also review the documentation on Cisco.com for any updates.

For information about installing, troubleshooting, and using the product, see the sources of information in Table 4:

*Table 4 Related Documentation*

| To learn more about... | See this document | In the product package? | On Cisco.com? | In the online help? |
|---|---|---|---|---|
| The known product bugs (DDTSs) | *Release Notes for the Network Analysis Module Analyzer 3.5* | No | Yes | No |
| Installing the NM-NAM | Catalyst 6500 Series Switch and Cisco 7600 Series Router Network Analysis Module Installation Note | Yes | Yes | No |
| | Cisco Network Modules Quick Start Guide | No | Yes | |
| Features, tasks, and troubleshooting | *Network Analysis Module (NM-NAM) User Guide for the Network Analysis Module Traffic Analyzer Release 3.5* | No<br>No | Yes<br>Yes | No<br>Yes |
| | *Network Analysis Module Command Reference Release 3.5* | No | Yes | No |

# Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

## Cisco.com

You can access the most current Cisco documentation at this URL:

http://www.cisco.com/techsupport

You can access the Cisco website at this URL:

http://www.cisco.com

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

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

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

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170 West Tasman Drive
San Jose, CA 95134-9883

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From this site, you will find information about how to:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

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

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

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- For Emergencies only—security-alert@cisco.com

  An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- For Nonemergencies—psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532

**Tip** We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.*x* through 9.*x*.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

The link on this page has the current PGP key ID in use.

If you do not have or use PGP, contact PSIRT at the aforementioned e-mail addresses or phone numbers before sending any sensitive material to find other means of encrypting the data.

# Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

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http://www.cisco.com/techsupport

Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

http://tools.cisco.com/RPF/register/register.do

**Note** Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

# Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

http://www.cisco.com/techsupport/servicerequest

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)
EMEA: +32 2 704 55 55
USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL:

http://www.cisco.com/techsupport/contacts

# Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—An existing network is down, or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of the network is impaired, while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

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- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

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- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

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

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  http://ciscoiq.texterity.com/ciscoiq/sample/

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

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