

## Cisco Catalyst 6500 Series and Cisco 7600 Series Network Analysis Module with Software 5.1

It all comes down to knowing. Knowing who is using the network, knowing what applications are running on the network, knowing how the network is performing, knowing how traffic over the network is being used and how it is performing are the foundation 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.

### Product Overview

The Cisco® Catalyst® 6500 Series and Cisco 7600 Network Analysis Modules (NAM-1 and NAM-2) provides unparalleled network and application visibility, analyzing traffic flows between users and their critical applications to help you ensure that the network performs to the rigorous demands of the business. And, when there's a problem, the Cisco NAM can help you find it fast, reducing the time it takes to resolve it from days to just minutes.

**Figure 1.** Cisco Catalyst 6500 Series and Cisco 7600 Series Network Analysis Modules, NAM-1 and NAM-2



As a member of the Cisco NAM family of products, the Cisco Catalyst 6500 Series and Cisco 7600 Series NAM (Figure 1) delivers granular traffic analysis, rich application performance metrics, comprehensive voice analytics, and deep insightful packet captures to help you manage and improve the operational effectiveness of Cisco Borderless Networks and the Cisco data center. Its unique design combines embedded data collection and analysis capabilities with a remotely accessible, web-based management and reporting console, all of which reside on a single blade that is installed into the Cisco Catalyst 6500 Series Switch or the Cisco 7600 Series Router.

**Figure 2.** Cisco NAM Traffic Summary Dashboard



The Cisco Catalyst 6500 Series and Cisco 7600 Series NAM includes a snappy graphical user interface (GUI) with dashboards (Figure 2) to give you an immediate view of network performance and workflows to help you simplify problem detection and resolution. It also uses a rich set of Cisco infrastructure features as sources of data, such as Switched Port Analyzer (SPAN) packet data and NetFlow, giving you more ways to see and understand what’s happening on your network. And, with an array of vital features and functions, such as a new embedded Performance Database, which preserves historical data, allowing you to understand what happened in the past when a network event that affected performance occurred, the Cisco NAM makes it easier than ever before to manage and improve network and application performance anytime and anywhere.

The Cisco Catalyst 6500 Series and Cisco 7600 Series NAM can be deployed wherever your Cisco Catalyst 6500s and Cisco 7600s are deployed, for example, in the campus, data center, and WAN edge. The Cisco NAM is the glue binding your Cisco Borderless Network deployments, providing application visibility between and within disparate places in the network. Deployed within your Cisco data center, they help drive application delivery consistency and efficiency in both physical and virtual environments.

**Cisco Catalyst 6500 Series and Cisco 7600 Series NAM Features and Benefits**

The Cisco NAM offers an extensive set of features (Table 1) that provide a multilayer view of network performance to help you successfully navigate the labyrinth of application delivery challenges in today’s hyperconnected world. They provide the foundation of knowing, giving you the edge in managing and improving network and application performance. Detailed description of software feature and benefits can be obtained from Cisco Prime NAM [Software Datasheet](#).

**Table 1.** Cisco Catalyst 6500 Series and Cisco 7600 Series NAM Features and Benefits

Feature	Benefit
<b>Infrastructure integration</b>	Deployed in the Cisco Catalyst 6500 Series switch and the Cisco 7600 Series Router, the Cisco NAM provides greater investment protection, lower total cost of ownership, and a reduced footprint to save premium rack space.
<b>Application performance intelligence</b>	Characterize the end-user experience for TCP-based applications and isolate application response time problems to the network, server, or the application minimizing any triage process.
<b>Comprehensive voice quality monitoring and real-time troubleshooting</b>	Gather real-time reports on Mean Opinion Score (MOS) and other key performance indicators (KPIs) such as jitter and packet loss to understand and improve how the end user experiences the delivery of voice services. MOS is computed based on ITU-T Recommendations G.107 offering accurate characterization of voice quality. Combine monitoring with real-time troubleshooting using pre-packaged dashboards to improve the end-user service levels.
<b>WAN optimized networks visibility</b>	Obtain end-to-end proof points demonstrating how WAAS has improved application delivery (for example, decreased application transaction times, improved WAN bandwidth utilization). Accelerate the ROI for your investment by assessing the best site and application candidates for optimization as part of the phased roll-out plan.
<b>Detailed traffic analytics</b>	View short- and long-term performance data on hosts, conversations, and applications that use critical network resources.

Feature	Benefit
<b>Historical analysis</b>	Look back to the past with the embedded Performance Database to understand what happened when an event that affects network performance occurred to accelerate root-cause analysis and prevent any reoccurrence. Use historical analysis for advancing optimization and capacity decisions.
<b>Deep, insightful packet captures</b>	Solve complex performance issues with trigger-based captures, filters, decodes and Packet Capture Error Scan features. Packet captures can be triggered based on performance thresholds allowing you to focus on specific performance issues.
<b>Monitor Virtual Switching System (VSS) deployments</b>	Monitor both virtual switches in VSS environments, reducing management overhead while improving operational efficiency.
<b>Cisco Nexus® 1000V deployment visibility</b>	Simplify the operational management of Cisco Nexus 1000V switch environments by gaining visibility into the virtual machine (VM) network including interactions across virtual machines and virtual interfaces. Monitor the VMs uninterrupted by vMotion operations.
<b>Pre- and postdeployment metrics</b>	Glean valuable before and after traffic analytics to help plan for and verify changes in network resources, such as introducing new applications, establishing QoS policies, consolidating servers, and deploying VoIP.
<b>Open interface</b>	Ease NAM configuration and export of computed NAM data using standards-based APIs (XML/REST for configuration, NetFlow Version 9 for data export).
<b>Anytime, anywhere access</b>	Access the embedded web interface from any desktop, eliminating the need to send personnel to remote sites or haul large amounts of data over WAN links to the central site.

## Product Specifications

Table 2 lists the product specifications.

**Table 2.** Product Specifications

Feature	Description
<b>NAM-1 hardware architecture</b>	<ul style="list-style-type: none"> <li>High-performance dual processor architecture offering sub-Gigabit Ethernet monitoring performance, 2 GB RAM, and a 250 GB SATA hard disk drive</li> <li>Two data-collection interfaces to backplane (one for SPAN/VLAN access control list (VACL) capture data sources, one for NetFlow, Encapsulated Remote SPAN (ERSPAN), and WAAS Flow Agent data sources)</li> <li>Second-generation fabric-enabled platform with interface to both bus- and crossbar-based architectures</li> </ul>
<b>NAM-2 architecture</b>	<ul style="list-style-type: none"> <li>Extra high-performance dual processor architecture with hardware-based packet acceleration offering up to Gigabit Ethernet monitoring performance, 2 GB RAM, and a 250 GB SATA hard disk drive</li> <li>Three data-collection interfaces to backplane (two for SPAN/VACL capture data sources, which can be used independently or together, and one for NetFlow, ERSPAN, and WAAS Flow Agent data sources)</li> <li>Second-generation fabric-enabled platform with interface to both bus- and crossbar-based architectures</li> </ul>
<b>Supported platforms</b>	<ul style="list-style-type: none"> <li>NAM-1 and NAM-2 can be deployed in a slot in Cisco Catalyst 6500 and 6000 Series Switches and Cisco 7600 Series Routers</li> <li>Supported with Cisco IOS® Software or Cisco Catalyst Operating System</li> </ul>
<b>Supported topologies and data sources</b>	<ul style="list-style-type: none"> <li>LAN: SPAN, RSPAN, ERSPAN, VACL-based captures, NetFlow (versions 1, 5, 6, 7, 8, and 9) and WAAS Flow Agent</li> <li>WAN: NetFlow (versions 1, 5, 6, 7, 8, and 9) from local and remote devices, VACL-based captures for FlexWAN/Optical Service Module (OSM) and Shared Port Adapter (SPA) interfaces, and WAAS Flow Agent</li> </ul>
<b>Supported interfaces</b>	<ul style="list-style-type: none"> <li>HTTP/HTTPS with embedded web-based Cisco NAM</li> <li>Simple Network Management Protocol Version 1 (SNMPv1) and Version 2c, with standards-based applications</li> </ul>

Feature	Description
<b>Cisco Prime Network Analysis Module Software</b>	<ul style="list-style-type: none"> <li>• NAM Software 5.1</li> <li>• Web-based: Requires Microsoft Internet Explorer 8.0+ or Firefox 3.6+; Supports both English and Japanese versions</li> <li>• Supports Secure Sockets Layer (SSL) security with up to 256-bit encryption</li> <li>• Role-based user authorization and authentication locally or using TACACS+</li> <li>• Supports the following Cisco Catalyst 6500 Series and Cisco 7600 Series NAMs: <ul style="list-style-type: none"> <li>• NAM-1: WS-SVC-NAM-1 with MEM-C6KNAM-2GB=</li> <li>• NAM-1: WS-SVC-NAM-1-250S</li> <li>• NAM-2: WS-SVC-NAM-2-250S</li> <li>• NAM-2: WS-SVC-NAM-2 with MEM-C6KNAM-2GB=</li> <li>• NAM-2: WS-SVC-NAM-2</li> </ul> </li> <li>• Supported with Cisco IOS Software Release 12.2(18) SXF (minimum) or Cisco Catalyst Operating System 8.2(1) (minimum). Refer to the NAM 5.1 Release Notes for more details regarding supported system software</li> </ul>
<b>MIBS</b>	<p>The Cisco NAMs are standards compliant and support the following major MIB groups:</p> <ul style="list-style-type: none"> <li>• MIB-II (RFC 1213) - All groups except Exterior Gateway Protocol (EGP) and transmission</li> <li>• RMON (RFC 2819) - Alarm and Event groups only</li> <li>• RMON2 (RFC 2021) – trapDest Table only</li> <li>• Cisco Discovery Protocol</li> <li>• EntityMIB (RFC 2737)</li> </ul>
<b>Protocols</b>	<p>Cisco NAM identifies hundreds of unique protocols and automatically detects unknown protocols. The NAM also allows customization of the protocol engine by defining protocols on a single port or on a range of ports. Protocols supported include (this list is not all-inclusive):</p> <ul style="list-style-type: none"> <li>• TCP and User Datagram Protocol (UDP) over IP including IPv6</li> <li>• HTTP and HTTPS</li> <li>• VoIP including Skinny Client Control Protocol (SCCP), Real-Time Protocol/Real-Time Control Protocol (RTP/RTCP), Media Gateway Control Protocol (MGCP), and Session Initiation Protocol (SIP)</li> <li>• SigTran protocols</li> <li>• Mobile IP protocols including General Radio Packet Service (GPRS) Tunneling Protocol (GTP)</li> <li>• Storage area network protocols</li> <li>• Database protocols</li> <li>• Peer-to-peer protocols</li> <li>• Switch and router protocols</li> <li>• Cisco proprietary protocols</li> <li>• Unknown protocols by TCP/UDP ports, Remote Procedure Call (RPC) program numbers and so on</li> </ul>
<b>Physical dimensions</b>	<p>Dimensions (H x W x D): 1.2 x 14.4 x 16 inches (3.0 x 35.6 x 40.6 centimeters); occupies one slot in the chassis</p>
<b>Operating environment</b>	<ul style="list-style-type: none"> <li>• Operating temperature: 32 to 104 degrees F (0 to 40 degrees C)</li> <li>• Nonoperating and storage temperature: -40 to 158 degrees F (-40 to 70 degrees C)</li> <li>• Operating relative humidity: 10% to 90% (noncondensing)</li> <li>• Nonoperating relative humidity: 5% to 95% (noncondensing)</li> <li>• Operating and nonoperating altitude: Sea level to 10,000 feet (3050 meters)</li> </ul>

Feature	Description
Approval and compliance	Regulatory: <ul style="list-style-type: none"> <li>• CE Marking (89/366/EEC and 73/23/EEC)</li> </ul> Safety: <ul style="list-style-type: none"> <li>• UL 1950</li> <li>• CAN/CSA-C22.2 No. 950</li> <li>• EN60950</li> <li>• IEC 60950</li> <li>• AS/NZS 60950</li> </ul> EMC: <ul style="list-style-type: none"> <li>• 47CFR part 15 Class A (FCC regulations)</li> <li>• AS/NZS CISPR22 Class A</li> <li>• EN300 386</li> <li>• EN55022 Class A</li> <li>• ICES003 Class A</li> <li>• VCCI Class A</li> <li>• EN50082-1</li> <li>• EN61000-6-1</li> <li>• EN55024</li> <li>• EN61000-3-2</li> <li>• EN61000-3-3</li> <li>• CISPR22 Class A</li> </ul>

### Warranty Information

Find warranty information on Cisco.com at the [Product Warranties](#) page.

### Ordering Information

To place an order, visit the [Cisco Ordering Home Page](#). See Table 3 for part numbers. To download software, visit the [Cisco Software Center](#).

For new Cisco NAM customers, please select NAM Software 5.1, part number SC-SVC-NAM-5.1, as the software option when ordering your Cisco NAM and it'll be delivered to you preloaded on your NAM hardware. For current Cisco NAM customers, NAM Software 5.1 can be downloaded from the Cisco.com Software Center at no charge using your Cisco SMARTnet<sup>®</sup> contract access privileges.

**Table 3.** Ordering Information

Product Information	Part Number
Cisco Catalyst 6500 Series and Cisco 7600 Series Network Analysis Module-1 (Spare)	WS-SVC-NAM-1-250S(=)
Cisco Catalyst 6500 Series and Cisco 7600 Series Network Analysis Module-2 (Spare)	WS-SVC-NAM-2-250S(=)
Cisco NAM Software 5.1	SC-SVC-NAM-5.1-K9

### Cisco Services

#### Services from Cisco and Our Partners

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Table 4 shows the technical support services available for Cisco Network Analysis Module. Cisco Application Support plus Upgrades provides technical support services, including updates and upgrades for any Cisco software application running on the SRE SM module.

**Table 4.** Cisco Technical Services for Cisco Network Analysis Module

Technical Services
<p><b>Cisco Software Application Support plus Upgrades (SASU)</b></p> <ul style="list-style-type: none"> <li>• Access to application software maintenance and minor updates, and major software application upgrades</li> <li>• Around-the-clock, global access to Cisco TAC engineers with specialized application software expertise</li> <li>• Unrestricted access to the extensive Cisco.com resources, communities, and tools</li> </ul>

### For More Information

For more information about Cisco Catalyst 6500 Series and Cisco 7600 Series NAM, visit <http://www.cisco.com/go/nam>, contact your local account representative, or email the Cisco NAM product marketing group at [nam-info@cisco.com](mailto:nam-info@cisco.com).



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