Cisco Catalyst 6500 Series Network Analysis Module (NAM-3) with Software 6.1

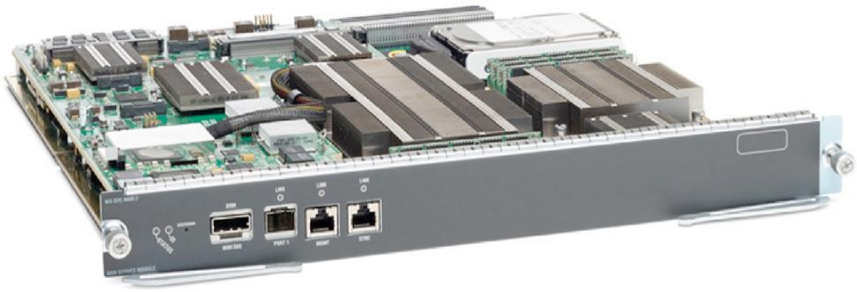
Visibility into the network. You know it's needed. Especially today, when the pace of change facing IT departments is accelerating as new applications from cloud and mobile environments become key business enablers. Do you know how your network is being used? What applications are running on it? How they are performing? This knowledge is vital. It forms the very foundation of a resilient, scalable, and secure network. One that will enable you to meet today's evolving IT and business challenges.

Product Overview

The Cisco® Catalyst® 6500 Series Network Analysis Module (NAM-3) provides pervasive visibility. It gives you deep application awareness to identify the applications running on your network, insightful traffic usage statistics to learn who is using them, extensive performance analytics to understand how they are performing, and granular troubleshooting to rapidly solve performance issues. So, you can get control over the network. And stay ahead of the rapidly changing IT landscape.

The Cisco NAM-3 (Figure 1) is purpose-built to meet the rigorous performance demands of multi-Gigabit Ethernet enterprise campus, data center, and WAN environments. It takes advantage of leading-edge processing and packet acceleration technologies onboard to deliver comprehensive visibility in real time and over time. It is also integrated with Cisco Catalyst 6500 Series and Catalyst 6807 Switches, simplifying deployment, improving power management, and saving rack space.

Figure 1. Cisco Catalyst 6500 Series Network Analysis Module (NAM-3)



The Cisco NAM-3 comes with a remotely accessible web-based management and reporting console that runs the Cisco Prime™ Network Analysis Module Software (Figure 2). The software includes prepackaged dashboards that provide an immediate view of network performance and workflows that streamline troubleshooting and optimization decisions.

Figure 2. Cisco Prime NAM Traffic Summary Dashboard

Extending Cisco AVC to the Campus Backbone and Data Center

With Cisco Prime NAM 6.1, the NAM just got richer. NAM 6.1 implements Cisco Network-based Application Recognition 2 (NBAR2), a Cisco technology included in Cisco Application Visibility and Control (AVC) solutions that performs deep packet inspection (DPI) to automatically recognize and classify applications to Layer 7. With it, NAM can provide visibility into the performance of your business-critical applications - no matter where they are hosted or how they are distributed. It can tell you whether transaction times are fast or slow. It can give you information on who's accessing the apps, which ones, how much, and when. And with these insights, it can help you prioritize those that the business depends on and throttle those that are business irrelevant. It enables more efficient and more economical operations. And all of it is now natively in Cisco NAM.

Cisco Catalyst 6500 Series NAM-3 Features and Benefits

The NAM-3 offers an extensive set of features (Table 1), all in one solution. They provide a multidimensional view of network performance to help you navigate the labyrinth of application delivery challenges in today's hyperconnected world.

Table 1. Cisco Catalyst 6500 Series NAM-3 Features and Benefits

Feature	Benefit
Infrastructure integration	Take advantage of backplane integration. Cisco NAM-3 provides greater investment protection, lower total cost of ownership, and a reduced footprint, saving premium rack space. Backplane integration allows collection of packets right from the source, helping to ensure high reliability and precision analytics.
Application performance intelligence	Characterize the end-user experience for TCP-based applications and isolate application response time problems to the network, server, or application, minimizing the triage process.
DPI	Get rapid visibility into how your business-critical applications are performing.

Feature	Benefit
Detailed traffic analytics	View short- and long-term traffic data on the hosts, conversations, and applications using critical network resources.
Deep, insightful packet captures	Solve complex performance issues with triggered or scheduled captures, display filters, decodes, and error scan features. Packet captures can be triggered based on performance thresholds, allowing you to focus on issues of interest. In addition, utilize external storage to collect extensive packet captures for offline analysis.
Granular reporting	Eliminate distortions that may arise from longer update intervals. NAM gives you the option to obtain updates every three seconds, when needed, to help design and troubleshoot your network.
CAPWAP traffic analytics	Get visibility into CAPWAP tunnels and improve service delivery over the wireless access network. Quickly identify network bottlenecks and application performance issues on a per access point or per endpoint basis.
Virtual Switching System (VSS) monitoring	Monitor both virtual switches in VSS environments, reducing management overhead while improving operational efficiency.
WAN-optimized network visibility	Obtain end-to-end proof points demonstrating how Cisco Wide Area Application Services (WAAS) has improved application delivery (for example, decreased application transaction times, improved WAN bandwidth utilization). Accelerate the return on investment (ROI) by assessing the best site and application candidates for optimization as part of a phased rollout plan.
IEEE 1588 hardware time-stamping	Facilitate high precision application response time, jitter, and packet capture analysis with IEEE 1588 hardware time stamps.
Historical analysis	Look back to the past with the embedded Performance Database to understand what happened when an event that affects network performance occurred. Accelerate root-cause analysis and prevent any reoccurrence. Use historical analysis for advancing optimization and capacity decisions.
Pre- and postdeployment analysis	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.
Open interface	Ease NAM configuration and export of computed NAM data using REST/XML-based APIs.
Anytime, anywhere access	Access the 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.
Cisco Prime Infrastructure integration	Manage the NAM from a single, centralized console. Collect and view NAM statistics from across the network to get a big picture view of network performance.

Product Specifications

Table 2 lists the product specifications.

Table 2. Product Specifications

Feature	Description
NAM-3 architecture	• Two high-performance CPUs with hardware-based packet acceleration offering greater than 10 Gigabit Ethernet monitoring performance, 24 GB RAM, 600 GB SATA hard disk drive, mini SAS, and 10 Gigabit Ethernet external storage interface, and 1 Gigabit Ethernet management interface • 20 gigabit interface to backplane for Switched Port Analyzer (SPAN)/VLAN access control list (VACL) capture data sources, NetFlow, encapsulated remote SPAN (ERSPAN), and Cisco WAAS Flow Agent data sources
Supported platforms	• NAM-3 can be deployed in a slot in Cisco Catalyst 6500-E or Catalyst 6807 Switches with Supervisor Engine 2T (supported part numbers: VS-S2T-10G, VS-S2T-10G-XL) or Cisco Catalyst 6500-E Switches with Supervisor Engine 720 (supported part numbers: WS-SUP720-3B, WS-SUP720-3BXL, VS-S720-10G-3C, VS-S720-10G-3CXL) • Supported with Cisco IOS® Software 12.2(33)SXJ1(minimum) for Supervisor Engine 720 and Cisco IOS Software release 15.0(1)SY1 (minimum) for Supervisor Engine 2T
Supported topologies and data sources	• LAN: SPAN, RSPAN, ERSPAN, VACL-based captures, NetFlow (versions 5 and 9), and Cisco WAAS Flow Agent • WAN: NetFlow (versions 5 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
Supported communication protocols	• HTTP and HTTPS with embedded web-based Cisco Prime NAM Software • Simple Network Management Protocol Version 1 (SNMPv1) and Version 2c, with standards-based applications
Cisco Prime Network Analysis Module Software	• Cisco Prime NAM Software 6.1 • Web-based: Requires Microsoft Internet Explorer 10 or later or Mozilla Firefox ESR 24 or later • Supports Secure Sockets Layer (SSL) security with up to 256-bit encryption • Role-based user authorization and authentication locally or using TACACS+ • Supported with Cisco IOS Software Release 12.2(33) SXJ1 (minimum). Refer to the Cisco Prime NAM 6.1 Release Notes for more details regarding supported system software.

Feature	Description
MIBs	The Cisco NAMs are standards compliant and support the following major MIB groups: • MIB-II (RFC 1213) - All groups except Exterior Gateway Protocol (EGP) and transmission • RMON (RFC 2819) - Alarm and Event groups only • RMON2 (RFC 2021) - trapDestTable only • Cisco Discovery Protocol • EntityMIB (RFC 2737)
Protocols	The Cisco Catalyst 6500 Series NAM-3 supports two protocol classification modes, DPI (NBAR2) and Classic. A list of the NBAR2 protocols supported in NAM 6.1 can be found at: http://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_nbar/prot_lib/config_library/pp710/nbar-prot-pack710.pdf. NBAR2 Protocol Packs for NAM can be found, when available, on the Cisco Prime NAM Software support site at: http://www.cisco.com/c/en/us/support/cloud-systems-management/prime-network-analysis-module-software/tsd-products-support-general-information.html. The DPI mode is the default mode. Cisco Prime NAM in Classic mode identifies hundreds of unique protocols (Layers 2 through 4) and automatically detects unknown protocols. It also supports URL-based application definition. Supported protocols include, but are not limited to: • TCP and User Datagram Protocol (UDP) over IP, including IPv6 • HTTP and HTTPS • Voice over IP (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) • SIGTRAN protocols • Mobile IP protocols, including General Packet Radio Service (GPRS) Tunneling Protocol (GTP) • SAN protocols • Database protocols • Peer-to-peer protocols • Switch and router protocols • Cisco proprietary protocols • Unknown protocols by TCP/UDP ports and Remote Procedure Call (RPC) program numbers
Custom applications	Cisco Prime NAM supports custom applications. These applications can be defined on the basis of port, port range, server IP address, server IP address range, or HTTP URL.
Physical dimensions	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
Operating environment	• Operating temperature: 32 to 104 degrees F (0 to 40 degrees C) • Nonoperating and storage temperature: –40 to 158 degrees F (–40 to 70 degrees C) • Operating relative humidity: 10 percent to 90 percent (noncondensing) • Nonoperating relative humidity: 5 percent to 95 percent (noncondensing) • Operating and nonoperating altitude: Sea level to 10,000 feet (3050 meters)

Warranty Information

Find warranty information on Cisco.com at the Product Warranties page.

Ordering Information

To place an order, visit the Cisco Ordering Homepage. See Table 3 for part numbers. To download software, visit the Cisco Software Center.

For new Cisco NAM customers, please select Cisco Prime NAM Software 6.1, part number SC-SVC-NAM3-6.1-K9, as the software option when ordering your Cisco NAM and it will be delivered to you preloaded on your NAM hardware. For current Cisco NAM customers, Cisco Prime NAM Software 6.1 can be downloaded from the Cisco.com Software Center at no charge using your Cisco SMARTnet® contract access privileges.

Table 3. Ordering Information

Product Information	Part Number
Cisco Catalyst 6500 Series Network Analysis Module (NAM-3) (Spare)	WS-SVC-NAM3-6G-K9(=)
Cisco Prime NAM Software 6.1	SC-SVC-NAM3-6.1-K9

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Realize the full business value of your technology investments with smart, personalized services from Cisco and our partners. Backed by deep networking expertise and a broad ecosystem of partners, Cisco Services enable you to successfully plan, build, and run your network as a powerful business platform. Whether you are looking to quickly seize new opportunities to meet rising customer expectations, improve operational efficiency to lower costs, mitigate risk, or accelerate growth, we have a service that can help you. For information about Cisco Services, go to http://www.cisco.com/go/services. Table 4 shows the technical support service recommended for NAM-3.

Table 4. Cisco Technical Services

Technical Services
Cisco SMARTnet Service • Around-the-clock, global access to the Cisco Technical Assistance Center (TAC) • Unrestricted access to the extensive Cisco.com resources, communities, and tools • Next business day (NBD), 8x5x4, 24x7x4, and 24x7x2 advance hardware replacement* and onsite parts replacement and installation available • Ongoing operating system software updates within the licensed feature set** • Proactive diagnostics and real-time alerts on Smart Call Home enabled devices

For More Information

For more information about Cisco Catalyst 6500 Series NAM-3, 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.

* Advance hardware replacement is available in various service-level combinations. For example, 8x5xNBD indicates that shipment will be initiated during the standard 8-hour business day, 5 days a week (the generally accepted business days within the relevant region), with next business day delivery. Where NBD is not available, same day shipping is provided. Restrictions apply; please review the appropriate service descriptions for details.

** Cisco operating system updates include the following: maintenance releases, minor updates, and major updates within the licensed feature set.

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