# Cisco Prime Network Analysis Module Software 6.1 for Cisco Nexus 1100 Series

As mission-critical workloads migrate to virtual servers, visibility into the virtual switching infrastructure becomes critical to manage end-to-end service delivery. The virtual switching layer extends the network to the virtual servers. In addition, the fluidity of the virtual infrastructure, in terms of workload-driven dynamic resource allocation or virtual server migrations, poses a new set of management challenges. Lack of insight into this layer affects the ability to effectively manage the delivery of applications and services.

## Product Overview

Cisco Prime™ Network Analysis Module (NAM) for Cisco Nexus® 1100 Series (Figure 1) allows network administrators to extend visibility into Cisco Nexus 1000V Switch deployments. The Cisco Nexus 1000V Switch is a software switch on a server that delivers Cisco® Virtual Network Link (VN-Link) services to virtual machines (VMs) hosted on that server. This distributed switch has two major components: the Virtual Ethernet Module (VEM) and the Virtual Supervisor Module (VSM), which manages the VEMs. A VSM can itself be deployed as a virtual machine; as an alternate deployment scenario, the Cisco Nexus 1100 Series Virtual Services Appliances can host multiple VSMs along with a number of Virtual Service Blades (VSBs) such as Cisco Prime NAM and Cisco Virtual Security Gateway (VSG).

**Figure 1.**     Cisco Prime NAM for Cisco Nexus 1100 Series
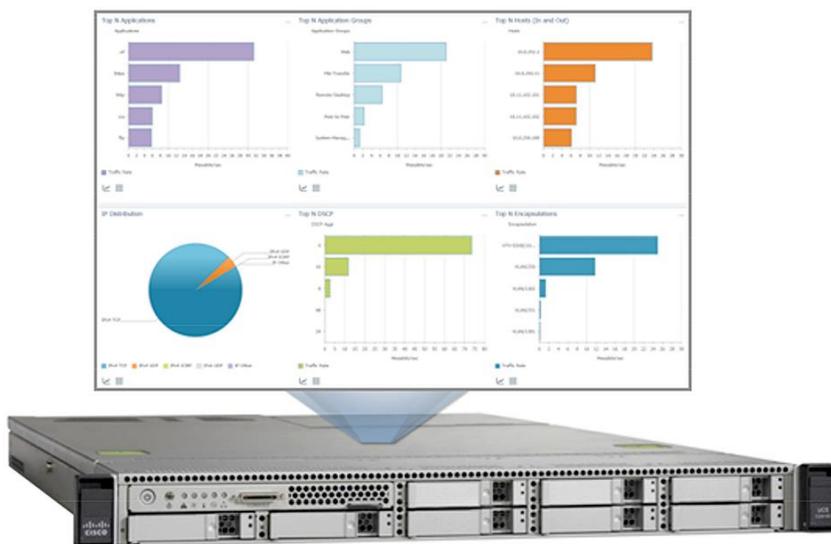
Integrated with the Cisco Nexus 1100 Series, the Cisco Prime NAM for Cisco Nexus 1100 Series offers combined network and application performance visibility essential to address service delivery challenges in next-generation data centers. The Cisco Prime NAM allows you to use embedded management features, such as Encapsulated Remote Switched Port Analyzer (ERSPAN) and NetFlow, on the Cisco Nexus 1000V Switch to:

- Gain Layer 4 through Layer 7 visibility using Cisco Network-based Application Recognition 2 (NBAR2) natively to rapidly identify business-critical applications
- Analyze network usage behavior by application, host/VM, and conversation to identify traffic behavior that may affect performance and availability
- Troubleshoot performance issues with extended visibility into VM-to-VM traffic, virtual interface statistics, and application response times
- Assess impact on network behavior due to changes such as VM migration, new application deployment, and port profile update
- Improve the efficiency of your virtual infrastructure and distributed application components with detailed traffic analysis

## Extending Cisco AVC to the Data Center

With Cisco Prime NAM 6.1, the NAM just got richer. NAM 6.1 implements Cisco Network-based Application Recognition 2, 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 Prime NAM for Cisco Nexus 1100 Series Features and Benefits

Cisco Prime NAM Software 6.1 for Cisco Nexus 1100 Series helps you to quickly access critical network information to accelerate performance troubleshooting and advance optimization decisions. The key features are described in Table 1.

**Table 1.**     Key Features in Cisco Prime NAM Software 6.1 for Cisco Nexus 1100 Series

| Feature | Benefit |
| --- | --- |
| Application performance analytics | Characterize the end-user experience for TCP-based applications and isolate application response-time problems to the network, server, or the application, to accelerate troubleshooting. |
| DPI with NBAR2 | Get rapid visibility into how your business-critical applications are performing. Cisco Prime NAM with NBAR2 allows classification of IPv4, IPv6, and v6 transition techniques, evasive applications such as Skype and Tor, business applications such as Microsoft Lync, cloud applications such as Office 365, and even mobile applications such as FaceTime using advanced classification techniques. Protocol Packs make updates timely and smooth. |
| Voice quality analytics | 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. |
| Detailed traffic analysis | View short- and long-term performance data on hosts, conversations, and applications that use critical network resources. |
| Insight into encapsulation and overlay technologies | Optimally design overlay networks for efficient delivery of applications. Supported protocols include OTV, LISP, VXLAN, CAPWAP, and others. |

| Feature | Benefit |
|---|---|
| Cisco TrustSec® policy validation | Validate the Cisco TrustSec policy using security group tags (SGTs) and evaluate the endpoints or hosts, applications, and conversations participating in one or more security groups. |
| Deep, insightful packet analysis | Solve complex performance problems with trigger-based captures, filters, decodes, and error scan features. Packet captures can be triggered based on performance thresholds, allowing you to focus on specific performance problems. In addition, use external storage to collect extensive packet captures for offline analysis. |
| Interface monitoring | Gain visibility into traffic statistics for both virtual and physical interfaces on the select managed device to troubleshoot application performance issues. |
| Open interface | Preserve investment in existing management assets through integration based on a standards-based REST/XML) API. |
| Cisco Prime Infrastructure integration | Manage NAMs from a single, centralized console. Collect and view NAM statistics from across the network to get a big picture view of network performance. |

## Licensing

Cisco Prime NAM for Cisco Nexus 1100 Series licensing is based on Cisco Software Licensing. Additional details can be obtained at http://www.cisco.com/go/clm. The Cisco Prime NAM for Cisco Nexus 1100 Series is available preloaded on the Cisco Nexus 1100 Series Appliances with a 60-day evaluation license. Customers can also download the Cisco Prime NAM for Cisco Nexus 1100 Series at Cisco Software Center.

## Product Specifications

Table 2 provides the specifications for the Cisco Prime NAM for Cisco Nexus 1100 Series.

**Table 2.**     Product Specifications

| Feature | Description |
|---|---|
| Supported platforms | Cisco Prime NAM for Cisco Nexus 1100 Series can be installed on the Cisco Nexus 1100 Series Appliances. For more information on the Cisco Nexus 1100 Series Appliances, please refer to http://www.cisco.com/en/US/products/ps12752/index.html. |
| Supported data sources | • ERSPAN<br>• NetFlow (versions 5 and 9) |
| Supported interfaces | • HTTP/HTTPS with embedded web-based Cisco Prime NAM Software<br>• Simple Network Management Protocol Version 1 (SNMPv1) and SNMPv2c, with standards-based applications |
| Performance | • Using the ERSPAN data source, traffic monitoring throughput of up to 520 Mbps has been characterized at an average packet size of 512 bytes for the Cisco Prime NAM Software installed on Cisco Nexus 1100 Series Virtual Services Appliances. Your monitoring performance may differ based on factors such as packet size, traffic burstiness, and collections enabled on the NAM. Contact your Cisco sales representative to obtain further information about Cisco Prime NAM for Cisco Nexus 1100 Series performance characteristics |
| Cisco Prime Network Analysis Module | • Cisco Prime NAM Software 6.1<br>• Web-based: Requires Microsoft Internet Explorer 10+ or Firefox ESR 24+<br>• Supports Secure Sockets Layer (SSL) security with up to 256-bit encryption<br>• Role-based user authorization and authentication locally or using TACACS+ |
| MIBs | The Cisco Prime NAMs are standards compliant and support the following major MIB groups:<br>• MIB-II (RFC 1213) - All groups except Exterior Gateway Protocol (EGP) and transmission<br>• Cisco Discovery Protocol<br>• EntityMIB (RFC 2737) |

| Feature | Description |
|---|---|
| Protocols | The Cisco Prime NAM for Cisco Nexus 1100 Series 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. Supported protocols include, but not limited to: <br> • TCP and User Datagram Protocol (UDP) over IP including IPv6 <br> • HTTP and HTTPS <br> • Voice over IP (VoIP) including H.323, Skinny Client Control Protocol (SCCP), Real-Time Protocol/Real-Time Control Protocol (RTP/RTCP), Media Gateway Control Protocol (MGCP), and Session Initiation Protocol (SIP) <br> • SIGTRAN protocols <br> • Mobile IP protocols including General Packet Radio Service (GPRS) Tunneling Protocol (GTP) <br> • Storage area network protocols <br> • Database protocols <br> • Peer-to-peer protocols <br> • Switch and router protocols <br> • Cisco proprietary protocols <br> • Unknown protocols by TCP/UDP ports, Remote Procedure Call (RPC) program numbers, and so on |
| 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. |

## Warranty Information

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

## Ordering Information

Cisco Prime NAM for Cisco Nexus 1100 Series is available for purchase through regular Cisco sales and distribution channels worldwide. To place an order, visit the Cisco Ordering Homepage. To download software, visit the Cisco Software Center. Table 3 provides ordering information for Cisco Prime NAM.

**Table 3.**     Ordering Information for Cisco Prime NAM for Cisco Nexus 1100 Series

| SKU | Description |
|---|---|
| N1K-C1110NAM61-K9 | Cisco Prime NAM Software 6.1 for Cisco Nexus 1100 Series |
| R-N1KC11NAM6.1-K9= | Cisco Prime NAM Software 6.1 for Cisco Nexus 1100 Series (eDelivery) |
| R-N1KC11NAM6UP-K9= | Cisco Prime NAM Software Upgrade from 5.1 to 6.1 for Cisco Nexus 1100 Series (eDelivery) |

## Services from Cisco and Our Partners

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 help 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 services available for NAM for Cisco Nexus 1100 Series.

**Table 4.**     Cisco Technical Services

| Technical Services |
| --- |
| **Cisco Software Application Support plus Upgrades (SASU)** |
| • Access to application software maintenance and minor updates, and major software application upgrades |
| • Around-the-clock, global access to Cisco Technical Assistance Center (TAC) engineers with specialized application software expertise |
| • Unrestricted access to the extensive Cisco.com resources, communities, and tools |

## For More Information

For more information about Cisco Prime NAM for Cisco Nexus 1100 Series, visit http://www.cisco.com/go/1000nam, contact your local account representative, or email the Cisco Prime NAM product marketing group at nam-info@cisco.com. For additional information about the Cisco Nexus 1000V Series, visit http://www.cisco.com/go/nexus1000v. For more information about the Cisco Prime NAM product family, visit http://www.cisco.com/go/nam.

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