Cisco Prime Network Analysis Module Software 5.1 for ISR G2 SRE

Q. What is Cisco Prime Network Analysis Module for ISR G2 SRE?

A. Cisco Prime Network Analysis Module for ISR G2 SRE is a software option for Cisco Integrated Services Routers (ISR) Generation Two (G2) Services Ready Engine (SRE) Service Module (SM). Cisco Prime NAM software is a performance monitoring solution that delivers unparalleled insight into the operational performance of the borderless access network to help improve the delivery of applications and services to end users. It combines a rich set of embedded data collection capabilities with a remotely accessible, web-based management and performance reporting console, all of which reside on a service module that is installed into Cisco 3900 and Cisco 2900 Series routers. Cisco Prime Network Analysis Module for ISR G2 SRE is supported on SRE SM 700-series and 900-series for ISR G2 2900 and 3900 routers. The graphical user interface (GUI) includes pre-packaged reports, workflows and contextual drill-downs to expedite problem resolution and optimization decisions.

Q. What are the key features and benefits of Cisco Prime Network Analysis Module for ISR G2 SRE?

A. Table 1 lists the key features and benefits.

Table 1. Key Features of Cisco Prime Network Analysis Module for ISR G2 SRE

Feature	Benefit
LAN and WAN monitoring in one solution	Obtain performance visibility into traffic from local and remote switches and routers for comprehensive traffic monitoring.
Detailed Flow- and Packet-based traffic analytics	View short- and long-term performance data on hosts, conversations, and applications that use critical network resources.
Deep, insightful packet captures	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. In addition, utilize external storage to collect extensive packet captures for offline analysis.
Application performance intelligence	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.
Comprehensive voice quality monitoring and real-time troubleshooting	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 prepackaged dashboards to improve end-user service levels.
Historical analysis	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.
Visibility into WAN-optimized networks	Demonstrate how Cisco Wide Area Application Services (WAAS) has improved application delivery.
Pre- and post-deployment metrics	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.
Secure solution	Use TACACS+, Secure Sockets Layer (SSL), and Secure Shell (SSH) Protocol - based security.
Standards-based northbound interface	Ease NAM configuration and export of computed NAM data using standards-based APIs (REST/XML for configuration, NetFlow v9 for data export). Facilitate integration with customer in-house managed applications or third-party reporting application of choice.
Anytime, anywhere access	Access Cisco NAM 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.

Q. What are the business benefits of deploying Cisco Prime NAM for ISR G2 SRE?

A. Table 2 summarizes the business benefits.

Table 2. Business Benefits of Cisco Prime NAM for ISR G2 SRE

Benefit	Description
Improve operational efficiency with faster problem resolution and greater productivity	• Rapid problem isolation with pre-packaged reports, visual correlation, contextual drill-downs and one-click packet captures • "Packet Capture Scan" feature highlights observed protocol/packet level anomalies, accelerating complex root cause analysis • Combined packet and flow analysis reduces time to noteworthy and actionable information to expedite troubleshooting • Remote management eliminates the need to travel to remote sites
Enhance service levels with consistent application performance visibility across the network	• Accurate characterization of performance with advanced analytics for Voice and TCP applications • Consistent application recognition using new application classification architecture • Improved end-user experience with effective use of control and optimization techniques such as QoS and Cisco WAAS • Preemption of performance issues with threshold-based proactive alerts reduces downtime and failures
Reduce total cost of ownership	• As a software option for Cisco ISR G2 Service Ready Engine (SRE), NAM delivers reduced network footprint, lower operational cost and simplified manageability • NAM form-factors offer cost-effective options and deployment flexibility to address location-specific network instrumentation needs • Open standards-based API preserves investment in existing management assets

Q. Why deploy Cisco Prime NAM for ISR G2 SRE in the branch?

A. The value propositions of deploying Cisco Branch Routers Series NAM include:

- Characterizing the end-user experience in the borderless access network, the place in the network closest to the end users. Deployed in the branch, Cisco NAM can provide visibility into the traffic entering or leaving the branch, offering comprehensive views of how users are experiencing the delivery of voice, video, and TCP-based applications.
- Profiling traffic in and out of the branch to help plan for and verify changes in network resources, such as new application rollouts, WAN optimization, server consolidation, VoIP and video deployments, and so on. Cisco NAM deployed in the branch singularly offers visibility into both branch-to-data-center traffic and branch-to-branch traffic.
- Performing VoIP quality and video stream analysis. Deployed in the branch, Cisco NAM analyzes both Real-time Transport Protocol (RTP) streams and associated signaling traffic to facilitate both timely and comprehensive reporting of voice and video quality.
- Troubleshooting application performance issues. The Cisco Branch Routers Series NAM provides extensive packet capture features, including trigger-based captures, decodes, error scans, and filters, to help quickly pinpoint and resolve problem areas. The feature can be used remotely to troubleshoot a branch from a centralized location, eliminating the need to send personnel to the branch or haul large amounts of data over WAN links to a central site.

Q. How does Cisco Prime NAM for ISR G2 SRE work?

A. Cisco Prime NAM for ISR G2 SRE receives copies of packets in a passive or promiscuous mode from the router backplane or from an external Gigabit Ethernet interface. The NAM parses the packets to gather relevant data and then stores the processed information in the Performance Database. The database stores valuable traffic information on voice, video, and data traffic, VLANs, DiffServ configurations, hosts, conversation pairs, application usage, and application response times. The information is presented in the NAM's GUI in easy-to-read interactive reports. It can also be exported to third-party or in-house reporting applications using NetFlow v9.

It uses features of both local and remote switches and routers to provide combined visibility into WAN and LAN traffic in the borderless access network. Traffic from selected WAN ports can be copied by the router using a special packet-monitoring feature in Cisco IOS® Software and then sent by an internal backplane interface to Cisco NAM for analysis. Traffic from LAN ports in the router or from nearby switches can be sent to Cisco NAM through an external Gigabit Ethernet interface. By using the web-interface in Cisco NAM, network managers can perform remote traffic analysis, performance monitoring, and troubleshooting without having to send personnel to remote offices or haul large amounts of data across the WAN to the central site.

The Cisco NAM offers an intuitive web-based graphical user interface (GUI) that includes pre-packaged reports, workflows and contextual drill-downs to expedite problem resolution and optimization decisions. The GUI also provides quick access to the configuration menus and interactive performance reports on voice, video, and TCP-based traffic. In addition, Cisco NAM has an embedded web server that enables remote access from anywhere so that network performance can be viewed, managed, and improved at any time, eliminating the need to travel to remote sites or haul large amounts of data over WAN links to a central site.

Q. How does the router send traffic to the Cisco Prime NAM for ISR G2 SRE internal interface?

A. The host router forwards traffic from user-selected interfaces to Cisco NAM using the router's internal bus. Both inbound and outbound traffic are forwarded to Cisco NAM.

Q. Can Cisco Prime NAM for ISR G2 SRE monitor traffic on multiple LAN or WAN interfaces simultaneously?

A. Yes, it can be used to monitor traffic from multiple interfaces within the router. Traffic statistics are processed and displayed using the following data sources on the module: NetFlow-based data sources and the two Cisco NAM interfaces - internal and external.

Q. Can packets be sent to the NAM before the traffic is encrypted (that is, IP Security [IPsec]) on the interface that I wish to monitor?

A. Yes. Packets are copied to the NAM by Cisco Express Forwarding. If the router is the endpoint of the IPsec tunnel, the packets will be decrypted before they reach Cisco Express Forwarding; the outgoing packets will be processed by Cisco Express Forwarding before they're encrypted. In this scenario Cisco Express Forwarding can copy the decrypted packets to the NAM for analysis.

Q. Is Cisco Prime NAM for ISR G2 SRE restricted to a particular SRE SM slot in the branch router chassis?

A. No. Cisco Prime NAM will run on any SM SRE properly installed in an ISR G2. Only one Cisco NAM copy is supported in each chassis.

Q. Is Cisco Prime NAM for ISR G2 SRE compatible with all other Service Module software for the ISR G2?

A. Yes. Cisco Prime NAM is compatible with other software offered for the Cisco 2900 and 3900 Series Routers Service Modules.

Q. Should Cisco Prime NAM for ISR G2 SRE fail, will network traffic be affected?

A. No. Failure of Cisco Prime NAM will not affect network traffic.

Q. What are the hardware specifications of Cisco Prime NAM for ISR G2 SRE?

A. Cisco Prime NAM for ISR G2 SRE is a software product that runs on SM SRE. See the SM SRE data sheet for hardware specification.

Q. What release of Cisco IOS Software is required to support Cisco Prime Network Analysis Module for ISR G2 SRE?

A. Table 3 summarizes the minimum Cisco IOS Software requirements to support Cisco Prime NAM for ISR G2 SRE for supported ISR G2 routers.

Table 3. Cisco IOS Software Requirements to Support Cisco Prime NAM for ISR G2 SRE

Cisco Prime NAM for ISR G2 SRE Installed in:	Minimum Cisco IOS Software Version Required
Cisco 3945 ISR	Cisco IOS Software 15.0(1)M
Cisco 3925 ISR	Cisco IOS Software 15.0(1)M
Cisco 2951 ISR	Cisco IOS Software 15.0(1)M
Cisco 2921 ISR	Cisco IOS Software 15.0(1)M
Cisco 2911 ISR	Cisco IOS Software 15.0(1)M

Q. What is the latest software version for Cisco Prime NAM for ISR G2 SRE?

A. The latest version of Cisco Prime NAM for ISR G2 SRE is 5.1. For any questions related to the latest software release, please refer to the Cisco Prime NAM Software Q&A collateral.

Q. Are all of the features included in Cisco Catalyst 6500 Series and Cisco 7600 Series NAMs also included in Cisco Prime NAM for ISR G2 SRE?

A. Cisco Prime NAM Software offers a common user experience, but there are differences because of the capabilities of host platforms and NAM hardware platforms. For example, Remote SPAN (RSPAN) and Encapsulated RSPAN (ERSPAN) configurations are unique to the Catalyst switches and are not supported on the branch routers.

Q. What are the software features and functionality of Cisco Prime NAM for ISR G2 SRE?

A. For any questions related Cisco Prime software functionality, please refer to the Cisco Prime NAM Software Q&A collateral.

Ordering Information

Q. When is Cisco Prime NAM for ISR G2 SRE available?

A. Starting in late April 2011 current Cisco SM SRE customers can purchase **Cisco Prime NAM for ISR G2 SRE. Cisco Prime NAM for ISR G2 SRE** will be available in April 2011 as an option for new ISR G2 SM SRE orders.

Q. What components are required to implement a network monitoring solution with Cisco Prime NAM for ISR G2 SRE?

A. The following are required to implement Cisco Prime Network Analysis Module for ISR G2 SRE:

- Cisco 2900 or 3900 Series ISR running Cisco IOS Software Release 15.0(1)M or later
- Cisco Services Ready Engine Service Module, 700-series or 900-series
- Cisco Prime NAM for ISR G2 SRE Software 5.1 or later, Web browser running English Firefox 3.6+ or Microsoft Internet Explorer 8+ or later (Microsoft Internet Explorer 7 is not supported)
- Voice Monitoring Software license is not required for Cisco Prime NAM for ISR G2 SRE

Q. How can I order Cisco Prime NAM for ISR G2 SRE?

A. The NAM software can be obtained in one of two ways. To obtain Cisco Prime Network Analysis Module for ISR G2 SRE for a new hardware order, order SM-NAM-SW-5.1-K9 when ordering SRE SM hardware. The software will then be delivered preloaded on the hardware.

If you already own an SM SRE, order the software-only option to download the latest software from Cisco.com Software Center.

Table 4 lists the part numbers.

Table 4. Cisco Prime Network Analysis Module for ISR G2 SRE Part Numbers

Product Name	Part Number
Cisco Prime NAM for ISR G2 SRE ordered configured with new SRE SM orders	SM-NAM-SW-5.1-K9
Software-only Cisco Prime NAM for ISR G2 SRE	SM-NAM-SW-5.1-K9=
Cisco Prime NAM for ISR G2 SRE ordered configured with new SRE SM orders e-Delivery	L-SM-NAM-SW-51-K9=

Q. Are maintenance services for Cisco Prime NAM for ISR G2 SRE purchased separately or are they included in the router's maintenance services?

A. Software support for Cisco Prime Network Analysis Module for ISR G2 SRE is covered by purchasing a SAU contract for the SM SRE hardware.

Information Resources

Q. Where is additional information about Cisco Prime NAM for ISR G2 SRE found?

A. For more information about Cisco NAM, visit http://www.cisco.com/go/nam or contact either your local account representative or the NAM product marketing group at nam-info@cisco.com.

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