

Cisco Application Performance Assurance Network Module 2.0

Product Overview

Enterprise customers face a growing need to track application use, manage network bandwidth resources, and identify malicious and otherwise unwanted traffic.

Unlike controlled Systems Network Architecture (SNA) environments, IP-based environments lack the structure to make sure that applications behave appropriately. Mission-critical applications contend for available bandwidth with noncritical applications, and many applications are subjected to network latency and jitter characteristics that impede their ability to function appropriately. With between 50 percent and 60 percent of enterprise bandwidth now being consumed by peer-to-peer (P2P) traffic, the productivity of the network is significantly compromised.

The issue is significantly worse in specific environments. Large Digital Imaging and Communications in Medicine (DICOM) images impede other network traffic in healthcare environments, financial institutions wrestle with the impact of "webification" of specialized time-sensitive applications (for example, teller applications, trading applications), and the efficiency of manufacturing operations computer numerical control (CNC) machinery, purchasing, and inventory operations is reduced by the transfer of large CAD images. In such environments, the IT department requires a solution that is able to identify the impact of these applications on overall network traffic. Cisco® Application Performance Assurance (APA) Network Module is designed to provide detailed application visibility in an Integrated Services Router (ISR) integrated form factor.

Residing in the 2800 Series or 3800 Series Integrated Services Router, Cisco APA Network Module facilitates the detection of virtually any network application, including enterprise resource planning (ERP) applications, multimedia streams, broadband voice, web browsing, instant messaging, and forms of unwanted and malicious traffic such as P2P. Once this traffic has been identified, the network administrator is able to utilize APA Network Module to establish control policies with the router, thereby helping to ensure that the required quality of service (QoS) policies to control and prioritize the traffic are put in place. The result is overall reduction of network congestion, improved application performance, and the ability to plan more effective network bandwidth upgrades.

Features and Benefits

Stateful Deep Packet Inspection

Instead of processing packets as individual events, Application Performance Assurance Network Module fully reconstructs individual traffic flows and the Layer 7 state of each individual application flow. Using Layer 7 signatures and attributes in addition to behavioral classification algorithms, Cisco APA Network Module readily identifies applications that employ dynamically assigned port numbers and tracks applications that involve multiple interrelated or spanned flows commonly found in voice over IP (VOIP) or multimedia streaming protocols.

Programmability

Cisco Application Performance Assurance Network Module is programmable and extensible, helping to ensure that the solution can be readily adapted to new protocols and IP traffic management requirements. SML, a programming language specifically developed for service delivery, can adapt Application Performance Assurance Network Modules to the dynamic requirements of application-level analysis while helping enable the system to identify and manage complex protocols such as Session Initiation Protocol (SIP) and Real Time Streaming Protocol (RTSP). The programmability of Application Performance Assurance Network Module helps ensure that enterprise accounts can adapt their traffic optimization infrastructure to meet the evolving needs dictated by new and emerging protocols and business applications.

Router-Integrated

Application Performance Assurance Network Module is designed for insertion in a 2800 Series or 3800 Series Router. This helps ensure the full value of per user application visibility in a contained form factor, simplifying deployment and ongoing management.

Traffic Management

Application Performance Assurance Network Module works in conjunction with a 2800 Series or 3800 Series Router to jointly provide traffic management and policing. The advanced capabilities of the APA Network Module's inspection and marking capabilities work seamlessly with the router's Cisco IOS® Software-based QoS functionality to provide advanced application prioritization and control. The result is nonessential applications are blocked or given low bandwidth, while mission-critical applications are given prioritization and guaranteed bandwidth, greatly enhancing their performance.

Analysis and Reporting

Cisco Application Performance Assurance Network Module provides granular analysis and reporting of application traffic on a per user basis. Data records generated over a 24-hour period are stored locally on the resident hard drive and then offloaded to a central reporting server. Although the nature of the records and frequency with which they are generated are largely dependent on the type of information being collected, the device can store data records collected at one-minute increments for the full 24-hour period. Provisions for data collection are available in the event of device failure.

Management and Integration

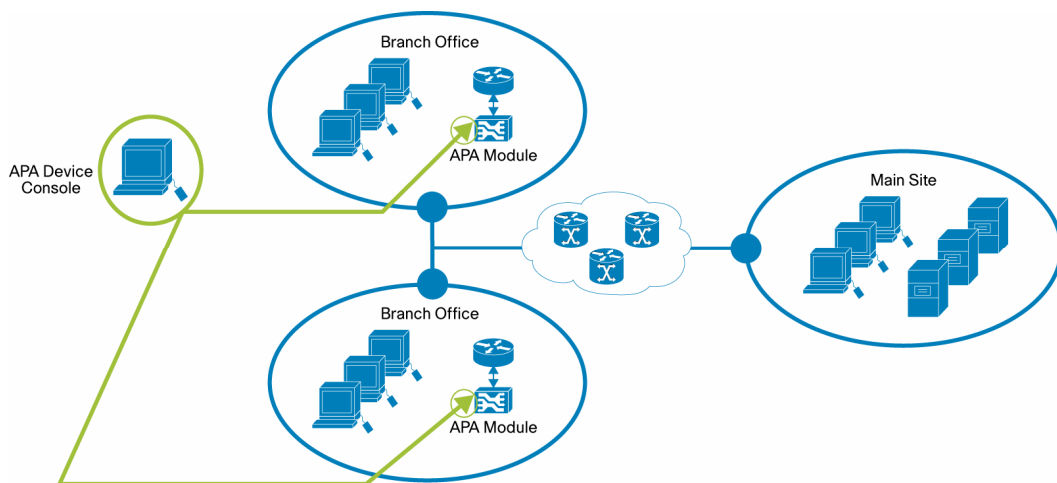
Management of Cisco Application Performance Assurance Network Module is facilitated through a dedicated GUI-based application, Application Performance Assurance Device Console (APADC). This application allows full device configuration and management, user management, and report generation through a single interface.

Product Architecture

Deployed in a branch office, Cisco APA Network Module facilitates the detection of virtually any network application, including enterprise resource planning applications, multimedia streams, broadband voice, web browsing, instant messaging, distance learning, and forms of unwanted and malicious traffic such as P2P (See Figure 1). Once this traffic has been identified, the network administrator is able to control and prioritize the traffic. The result is overall reduction of network

congestion, improved application performance, and the ability to plan more effective network bandwidth upgrades.

Figure 1. Topology



Product Specifications

Table 1 gives specifications for Cisco APA Network Module. Table 2 lists management station requirements.

Table 1. Product Specifications

Specification	Description
Router platforms	Cisco 2811, 2821, 2851, 3825, and 3845 Routers
Cisco IOS Software (on router)	Cisco IOS Software Release 12.4(11)XW2
Cisco APA software	Cisco APA 1.0.0.0 or later
External interfaces	<ul style="list-style-type: none"> • 10/100/1000 Gigabit Ethernet • 1 USB v2.0 • LED for product status
Internal network interfaces	10/100/1000 Gigabit Ethernet connectivity to router backplane
RAM	1 GB
Hard disk	80 GB SATA
Flash memory	64 MB Compact Flash memory
Physical characteristics	<ul style="list-style-type: none"> • Dimensions (H x W x D): 1.55 x 7.10 x 7.2 in. (3.9 x 18.0 x 18.3 cm) • Weight: 1.5 lb (0.7 kg) maximum
Operating environment	<ul style="list-style-type: none"> • Operating temperature: 41 to 104°F (5 to 40°C) • Nonoperating and storage temperature: -40 to 158°F (-40 to 70°C) • Operating humidity: 5 to 85% (noncondensing) • Operating altitude: -197 to 6000 ft (-60 to 1800m)
Power consumption	25 Watts

Compliance	
Safety	<ul style="list-style-type: none"> • UL 60950-1, Safety of Information Technology Equipment – Safety – Part 1: General Requirements (USA); plastic materials that are exposed to the end user shall meet the requirements of fire enclosure (UL94V-1) as defined in UL 60950 • CSA 60950-1, Second Edition, Safety of Information Technology Equipment – Safety – Part 1: General Requirements (Canada) • IEC 60950-1, Second Edition, Safety of Information Technology Equipment – Safety – Part 1: General Requirements, including all national deviations as specified in the current CB Bulletin • EN 60950-1, Second Edition, Safety of Information Technology Equipment – Safety – Part 1: General Requirements (European Union) incorporating all deviations, as applicable • GB 4943-95, Safety of Information Technology Equipment (Including Electrical Business Equipment) (standard for China, equivalent to IEC 60950) • AS/NZS 60950.1 Information technology equipment, Safety Part 1: General requirements (Australia)
EMC	<ul style="list-style-type: none"> • Emission: <ul style="list-style-type: none"> ◦ 47 CFR Part 15 Class A ◦ CISPR22 Class A ◦ EN300386 Class A ◦ EN55022 Class A ◦ EN61000-3-2 ◦ EN61000-3-3 ◦ SD/EMI (India) ◦ KN22 (Korea) ◦ VCCI Class I ◦ AS/NZS CISPR 22 Class A • Immunity: <ul style="list-style-type: none"> ◦ CISPR24 ◦ EN300386 ◦ EN50082-1 ◦ EN55024 ◦ SD/EMI (India) ◦ KN22 (Korea) ◦ EN61000-6-1

Table 2. Management Station Requirements

Hardware	<ul style="list-style-type: none"> • Intel Pentium-4, 3.0 GHz • 60 GB hard drive • 1 GB RAM • Microsoft Windows XP
Software	<ul style="list-style-type: none"> • Windows XP Professional – Internet Explorer 7.x • Red Hat Linux 8.0 / 9.0 – Mozilla/Firefox 2.0.0.x

Ordering Information

To place an order, visit the [Cisco Ordering Homepage](#). To download software, visit the [Cisco Software Center](#). Table 3 gives ordering information.

Table 3. Ordering Information

Part Number	Name
NME-APA-E2	Cisco Application Performance Assurance Network Module (for 2800 Series ISR)
NME-APA-E3	Cisco Application Performance Assurance Network Module (for 3800 Series ISR)
APA-R3-VO	Cisco Application Performance Assurance Network Module View Only License (for both 2800 and 3800 Series ISR)
APA-E2-CC	Cisco Application Performance Assurance Network Module View and Control License (for 2800 Series ISR)
APA-E3-CC	Cisco Application Performance Assurance Network Module View and Control License (for 3800 Series ISR)

Service and Support

Using the Cisco Lifecycle Services approach, Cisco and its partners provide a broad portfolio of end-to-end services and support that can help increase your network's business value and return on investment. This approach defines the minimum set of activities needed, by technology and by network complexity, to help you successfully deploy and operate Cisco technologies and optimize their performance throughout the lifecycle of your network.

For More Information

For more information about Cisco Application Performance Assurance Network Module visit <http://www.cisco.com/go/apam> or contact your local sales representative.



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