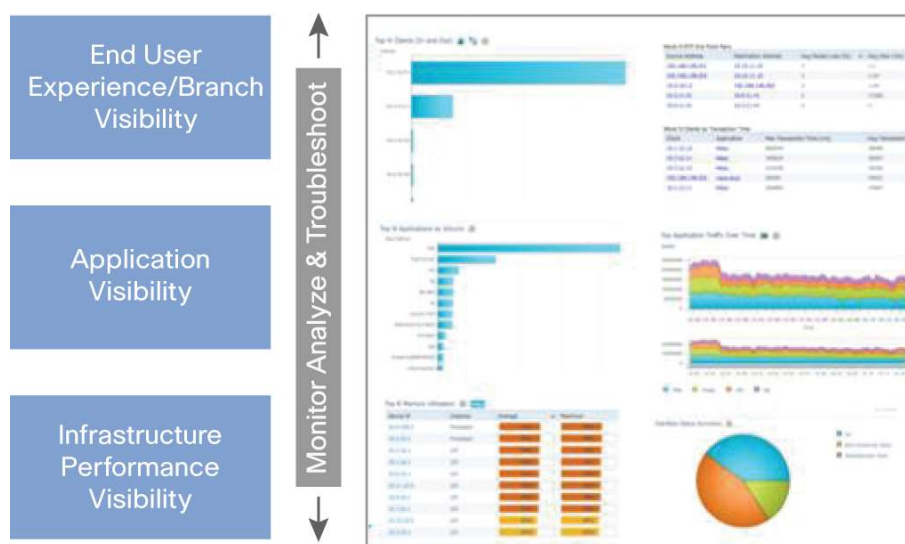# Cisco Prime Assurance Manager

Business critical applications and services are increasingly becoming highly correlated with the business operations, processes, and employee productivity at an enterprise. Network managers responsible for managing such services and applications face the difficult challenge of ensuring an optimal user experience in a dynamic and unpredictable network environment. Understanding network behavior through visibility of key performance characteristics "end-to-end" is the cornerstone of assuring a quality user experience and improved application and service delivery across the enterprise. This has made the requirement of having a solution that can give end-to-end visibility into application and service delivery, tightly aligned with the lifecycle management of the network, very critical.

Cisco Prime Assurance Manager (Prime AM) is a new product that takes the guesswork out of understanding and improving the end-user experience for applications and services. Prime AM allows network managers to do network-based proactive monitoring of services, gain visibility into application health and the end-user experience for faster and more effective problem resolution. It does this by normalizing and correlating data across multiple sources of embedded performance instrumentation and by providing monitoring, analysis and troubleshooting workflows that allow network managers to look at health of services and applications in context of the health of the underlying infrastructure. See Figure 1.

Figure 1.   Cisco Prime Assurance Manager Provides Network-Based End-to End Application, End User Experience and Infrastructure Health Visibility

Cisco Prime Assurance Manager uses embedded technologies and standards such as NetFlow, Medianet, Performance Agent and Simple Network Management Protocol (SNMP) to provide network-wide end-to-end application visibility, WAN optimization visibility, troubleshooting, and quality of experience workflows, abstracting the complexity involved in setting up and collecting data. Integration with Cisco Prime Network Analysis Module provides visibility, analytics, and advanced packet-level troubleshooting for fast time to resolution and granular analysis of performance data.

Features and Benefits

Cisco Prime Assurance Manager provides the following features and benefits. Also see Table 1.

- Gain network-based end-to-end Application, Network Performance and End User Experience visibility
  - Single pane of glass provides visibility into branches, end-to-end applications, and end-user experience for simplified troubleshooting. See fig 2 below
  - Customizable dashboards to look at the health of business-critical applications and networks and their key performance indicators (KPIs) from various perspectives such as; a branch office, an application, an end user for more efficient root cause analysis
  - Visual correlation of related performance and usage data collected from across multiple data sources for efficient root cause analysis
  - Ability to choose different sets of dashlets from a list of available options provides the flexibility of putting together the right set of data to monitor and analyze
  - Minimal clicks to get to actionable information leads to faster time to resolution of issues impacting business critical applications

Figure 2.   Branch, Application and Interface Visibility

- Unlock next-generation Wide Area Network (WAN) and Maximize benefits of embedded instrumentation
  - Turnkey application-aware network performance monitoring leads to easy adoption of embedded technologies in Cisco's next generation platforms
  - Has the ability to collect performance data from a wide variety of data sources ranging from Cisco's integrated solutions such as NAM to solutions embedded in Cisco operating systems, such as Medianet, Performance Agent, Wide Area Application Services (WAAS) Flow Agent, Network Based Application Recognition 1/2 (NBAR1/2), Application Visibility and Control (AVC), NetFlow, Flexible NetFlow, SNMP, and syslogs
  - Predefined application classification definitions covering hundreds of applications, including those defined and identified by NBAR1/2, allows for quick discovery of applications on the network
- Resolve service degradation issues faster
  - Integrated offering with lifecycle management of applications, services, and network offers a complete picture for more efficient troubleshooting of issues impacting business critical applications
  - Cisco Prime Assurance Manager, together with Cisco Prime NCS, helps ensure smooth on-boarding and tracking of users, efficient troubleshooting of user sessions, end-to-end application visibility, and proactive monitoring of end-user experience for applications and services in wired and wireless networks. By using and aggregating information from rich performance data sources and presenting it in ubiquitous and intuitive UI concepts, such as the Cisco Prime 360-degree view, Cisco Prime AM delivers real-time visibility and analytical data to quickly isolate and troubleshoot applications and end-user issues, while never losing context of network health
- Extend and Maximize your NAM Investment: Multiple NAM management
  - Central discovery, configuration, reporting, and troubleshooting using multiple NAMs in the enterprise network at various points in the network (PINs)
  - Contextual and seamless cross-launch into NAMs for more granular data
  - Central and seamless management of hundreds of NAMs of varying form factors installed across the enterprise
  - Central packet capture on multiple NAMs makes for a very powerful workflow in identifying and resolving issues across the enterprise from one central application
- Monitor Optimized WAN
  - Provides performance insight into WAAS deployments to measure and monitor optimization gains
  - Uses NAM integration with Wide Area Application Engine (WAE) devices, correlated with data feed to Performance Agent from multiple NAMs for performance visibility
  - Configures WAAS server list on one or more NAMs for on demand optimization of key applications

Table 1.   Features and Benefits

Feature	Benefit
Category	
Network-based end-user experience monitoring	• Dedicated dashboards and views to present high-level and granular analytical data to monitor end-user experience of business critical applications • Site-based tracking of users' endpoints • Dedicated dashboard to present contextual data for a given user endpoint. Operators can set up rules to assign incoming endpoints to physical locations such as a remote branch or a site • Rich set of dashlets to track health of key KPIs, especially those of rich media applications • Time-based filtering of data lets users narrow the issue down to a particular timeframe or to look at related network/application events given a timeframe in which the problem was observed
Configuration of data sources	• Predefined command-line interface (CLI) templates to configure such data sources as Medianet, Performance Agent, and NetFlow • User does not have to worry about the complexities involved in setting up data sources using traditional interfaces (CLI/SNMP, and so on) to Cisco platforms
Flexible NetFlow Version 9 support and advanced troubleshooting	• Support for collecting Flexible NetFlow templates and raw records, which network engineers use for troubleshooting • Support for standard NetFlow fields with ability to update/add new ones based on heuristics • Trigger packet captures on multiple NAMs based on common software filters • All-encompassing solution integrated with Cisco platforms to simplify operational manageability • Access to packets, flows, and MIBs for exhaustive granular analysis
Consolidated alarms and events browser	• Consolidated alarms and events browser, which shows network and application health data side by side, gives network operators and engineers views for richer and more contextual analysis
Open interfaces	• Allows partners and customers to use Prime Assurance Manager as a rich source of performance information and allows workflow integration with enterprise management applications • Eliminates need for redundant data collection mechanisms, reducing network load and improving scalability of management solutions
Configuration/monitoring templates	• Predefined collection plans to collect application response time, traffic analysis, and Real-time Transport Protocol (RTP) metrics • Option to extend predefined collection plans by including more metrics coming in as part of NetFlow records • Predefined device/interface health templates to collect KPI for monitoring health of network elements • Threshold templates to monitor key indicators and alert the operator/engineer of any anomalies • Removes the complexity involving setting of complex data sources and collecting the right KPIs • Good categorization of metrics into device health, application health, and thresholds helps the user in organizing and planning for data collection more efficiently
High-level customizable dashboards with navigation into detailed views	• Dashboard-style reporting interface with contextual navigation into interactive analysis views for network optimization and troubleshooting • Configurable context filters supporting data mining by attributes such as enterprise branches, end users, applications, devices, interfaces, reporting time interval, and so on • Dedicated dashboards for key entities just as voice/video, endpoints, and applications with contextual switching between dashboards • User has the option of customizing the content of a particular dashboard by picking and choosing from a list of dashlets (portlets) depending on the problem at hand • Overtime views to analyze performance/usage trends and patterns • Zoom/pan mechanism to focus on time interval of interest • Gives instant and actionable content summarized at various levels (branch, application, user)
Dedicated dashboard for voice, video monitoring and analysis	• Analysis of voice, video and real-time transport protocol (RTP) traffic in general at branch or individual user level • Multiple data sources for voice video analysis, including Network Analysis Module and Medianet • Monitor RTP conversations at branch and client levels
Integrated quick views	• Compelling and ubiquitous UI to present device health, device inventory, and related applicative information in a integrated and very easy to access fashion • Network operators/engineers can see the top most utilized interfaces of a device and the top applications on those in one easy step • These integrated views become a launch point into other detailed analysis views and dashboards for more granular and complex analysis
Summary reports	• Prepackaged summary reports for site, application, devices, and end-user experience • Operator can schedule report generation on an ad hoc or recurring basis

Feature	Benefit
	• Can save/export/email generated reports

Product Specifications

Prime Assurance Manager can be delivered as a virtual appliance of varying specs depending on the scale of the network to be supported.

Table 2 gives product specifications for Cisco Prime Assurance Manager.

Table 2.   System Requirements for Cisco Prime Assurance Manager 1.1

Item	Specification
VMware ESXi Version	VMware ESXi 4.1
Minimum Server Requirements for Deploying Virtual Appliances	Small Virtual Appliance • Minimum RAM: 8 GB • Minimum Hard Disk Space Allocation: 200 GB • Processors: 4 virtual CPUs at 2.93 GHz or faster
Browsers	Internet Explorer 8.0; Firefox 7.0, 8.0
Supported Devices	• Cisco 850, 860, 870, 880, 890 Series Integrated Services Routers • Cisco 1800, 1900 Series Integrated Services Routers • Cisco 2800, 2900 Series Integrated Services Routers • Cisco 3800, 3900 Series Integrated Services Routers • Cisco 1000 Series Aggregation Services Routers • Cisco Catalyst 2900, 3000, 3500, 3700, 4500, 6500 Series Switches
Supported Data Sources	• NetFlow (v5, v9, IPFIX) • NBAR-2 • Performance Agent (Requires Performance Agent licenses) • Medianet Media monitoring - IOS Performance Monitor • SNMP traps and syslog collection • NAM data sources • AVC 1.0 on ASR 1K
Northbound API	Following performance data can be accessed using north bound REST APIs • Application Response Time • RTP Conversations • Client Server conversations

Ordering Information

To place an order, visit the Cisco Ordering Homepage. To download software, visit the Cisco Software Center.

Table 3.   Ordering Information

PID	Description
PAM-1.1-BS15-K9	Cisco Prime Assurance Base Flow License for 15 Interfaces, 5 NAMs. Requires at Least 50 Interfaces for Unlimited NAM
PAM-1.1-BS50-K9	Cisco Prime Assurance Base Flow License for 50 Interfaces, Unlimited NAM ("Assurance 1.1 Base Lic for 50 Interfaces & Unlimited NAMs")
PAM-1.1-BS100-K9	Cisco Prime Assurance Base Flow License for 100 Interfaces, Unlimited NAM
PAM-1.1-BS500-K9	Cisco Prime Assurance Base Flow License for 500 Interfaces, Unlimited NAM
PAM-1.1-BS1K-K9	Cisco Prime Assurance Base Flow License for 1000 Interfaces, Unlimited NAM
PAM-1.1-BS5K-K9	Cisco Prime Assurance Base Flow License for 5000 Interfaces, Unlimited NAM

PID	Description
L-PAM-1.1-ADD	Cisco Prime Assurance Add-On Aggregate (Dummy) License
L-PAM-1.1-ADD-50	Cisco Prime Assurance Add-On Flow License for 50 Interfaces
L-PAM-1.1-ADD-100	Cisco Prime Assurance Add-On Flow License for 100 Interfaces
L-PAM-1.1-ADD-500	Cisco Prime Assurance Add-On Flow License for 500 Interfaces
L-PAM-1.1-ADD-1K	Cisco Prime Assurance Add-On Flow License for 1000 Interfaces
L-PAM-1.1-ADD-5K	Cisco Prime Assurance Add-On Flow License for 5000 Interfaces

Cisco Services

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. The following service SKUs are associated with the Cisco Prime Assurance Manager.

Service SKU	Product
CON-SAS-LPAM11AD	L-PAM-1.1-ADD
CON-SAS-PAM11BS1	L-PAM-1.1-ADD-100
CON-SAS-PAMBS1	L-PAM-1.1-ADD-1K
CON-SAS-PAM11BS	L-PAM-1.1-ADD-50
CON-SAS-PAM1BS5	L-PAM-1.1-ADD-500
CON-SAS-PM11BS5K	L-PAM-1.1-ADD-5K
CON-SAS-PAM11BS1	PAM-1.1-BS100-K9
CON-SAS-PAM11BS5	PAM-1.1-BS15-K9
CON-SAS-PAMBS1	PAM-1.1-BS1K-K9
CON-SAS-PAM1BS5	PAM-1.1-BS500-K9
CON-SAS-PAM11BS	PAM-1.1-BS50-K9
CON-SAS-PM11BS5K	PAM-1.1-BS5K-K9
CON-SAS-PAM11BS1	R-PAM-1.1-BS100-K9
CON-SAS-PAM11BS5	R-PAM-1.1-BS15-K9
CON-SAS-PAMBS1	R-PAM-1.1-BS1K-K9
CON-SAS-PAM1BS5	R-PAM-1.1-BS500-K9
CON-SAS-PAM11BS	R-PAM-1.1-BS50-K9
CON-SAS-PM11BS5K	R-PAM-1.1-BS5K-K9

Cisco Prime

Cisco Prime™ for Enterprise is an innovative strategy and portfolio of management products that empower IT departments to more effectively manage their networks and the services they deliver. Cisco Prime is built upon a network services management foundation and a set of common attributes. It delivers an intuitive workflow-oriented user experience across Cisco architectures, technologies, and networks. Cisco Prime simplifies network management, improves operations efficiency, reduces errors, and makes the delivery of network services more predictable.

Cisco Prime Assurance

Cisco Prime Assurance is a solution, which provides network managers the tools to manage application delivery over their network. It consists of the following:

- Cisco Prime Assurance Manager (AM): Aggregates real-time information across multiple networks to deliver application-aware network performance visibility and troubleshooting.
- Cisco Prime Network Analysis Module (NAM): Provides application and performance visibility to optimize network resources, troubleshoot performance problems, and help ensure a consistent user experience.

For More Information

Please visit

http://www.cisco.com/go/prime

http://www.cisco.com/go/primeassurance

http://www.cisco.com/go/pam

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http://www.cisco.com/en/US/products/svcs/ps3034/ps2827/ps2993/serv_group_home.html

For queries and evaluation license requests, please send an email to: prime-am-info@cisco.com

For more information about the Cisco Prime Assurance Manager, visit http://www.cisco.com/go/primeassurance or contact your local account representative.

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