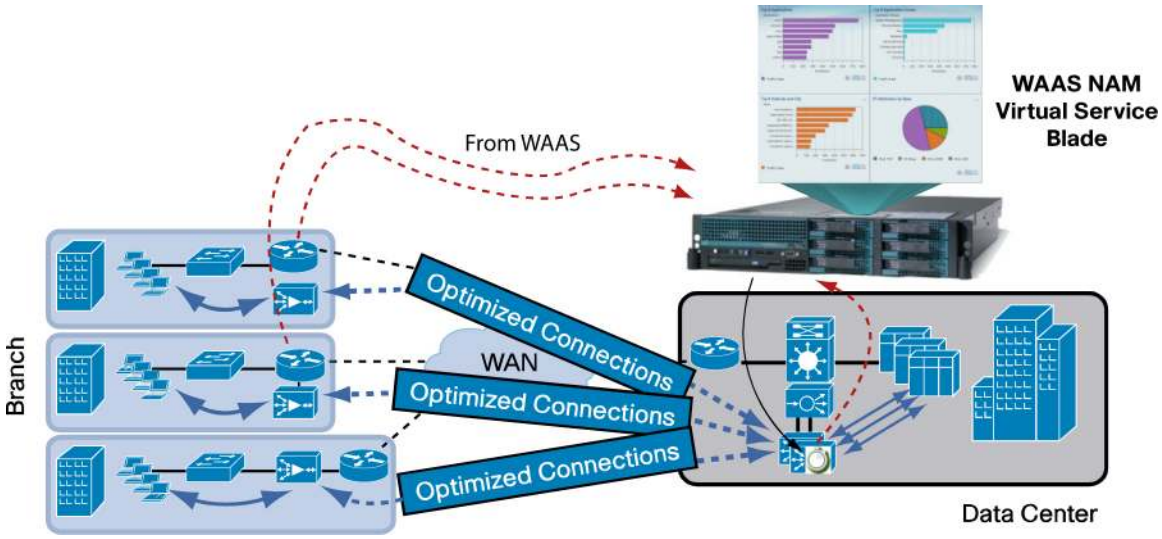
Cisco WAAS Network Analysis Module Virtual Service Blade Software 5.0

Network administrators need multifaceted visibility into the network and application to help ensure consistent and cost-effective delivery of service to end users. Knowing how traffic over the network is being used and how it is performing is the foundation for managing and improving the delivery of your business-critical applications. It is the foundation for establishing and verifying quality of service (QoS) policies, undertaking WAN optimization projects, and rolling out voice over IP (VoIP).

Product Overview

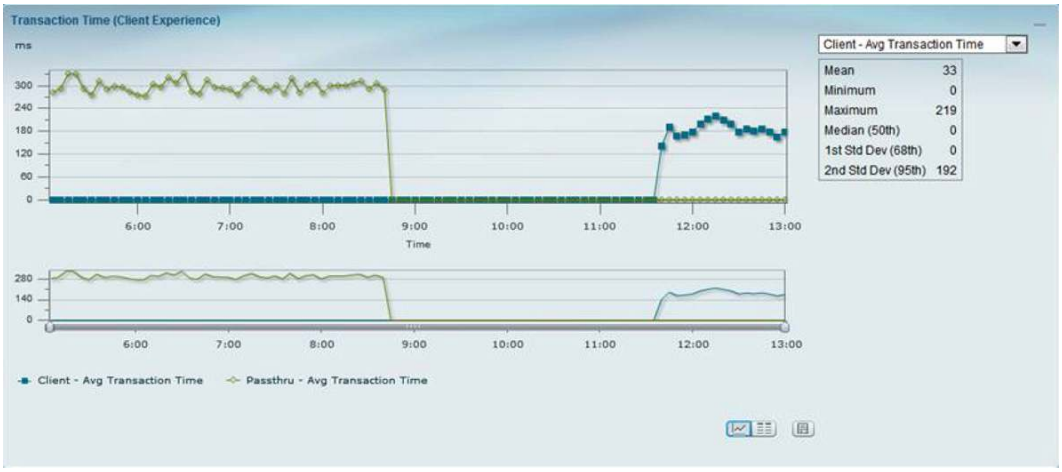
The Cisco® Network Analysis Module (NAM) family of products offer combined network and application visibility that empower network administrators to optimize network resources, troubleshoot performance issues, and provide a consistent end-user experience. Cisco Wide Area Application Services (WAAS) is a comprehensive WAN optimization solution that accelerates applications over the WAN, delivers video to the branch office, and provides local hosting of branch-office IT services.

Figure 1. Cisco WAAS NAM Virtual Service Blade Typical Deployment



Using the existing Cisco WAAS footprint, the Cisco WAAS NAM Virtual Service Blade (VSB) provides an integrated solution for application and network performance visibility in WAN optimized deployments. The WAAS NAM VSB utilizes the built-in instrumentation on WAAS devices as a data source for visibility into optimized and pass-through application traffic flows. WAAS devices provide information about packet streams of interest traversing through both their LAN and WAN interfaces. Traffic of interest include specific servers and types of transactions to be monitored. NAM uses the information received from the WAAS devices in the data center as well as the remote sites (Figure 1) to compute performance metrics, such as application response time, WAN bandwidth usage, and LAN and WAN data throughput, that are essential for assessing the performance improvements as a result of optimization (Figure 2).

Figure 2. Impact of WAN Optimization on Application Transaction Time Improving the End-User Experience



NAM monitors performance metrics across the client, WAN, and the server segments to present a detailed multisegment view for end-to-end application performance analysis (Figure 3). The view further helps to quickly assess the impact of optimization on each of the three segments and isolate any latency issue due to a specific segment.

Figure 3. Conversation Multi-Segment WAN Optimization View

Multi-Segment

Filter

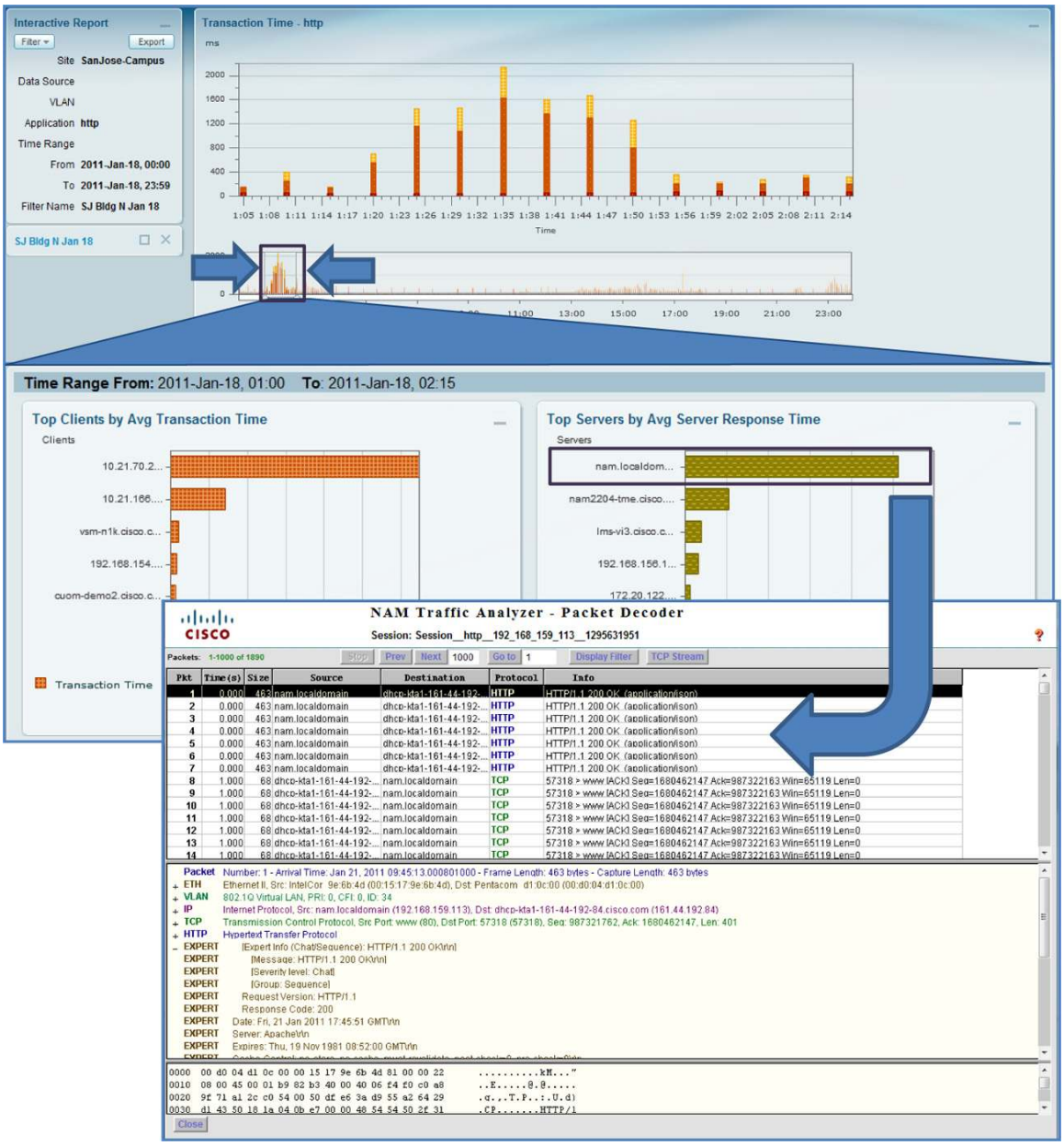
Client	Client Site	Server	Server Site	Application	Average Client Network Time (ms)	Average WAN Network Time (ms)	Average Server Network Time (ms)	Average Server Response Time (ms)	Average Transaction Time (ms)	Max Transaction Time (ms)	Client Traffic Volume (bytes/sec)	WAN Traffic Volume (bytes/sec)	Server Traffic Volume (bytes/sec)
20.1.10.36	WAAS Client	21.1.10.1	WAAS Server	http	20	0	20	15	90,670	151,791	595.45	15.45	575.68
20.1.10.54	WAAS Client	21.1.10.2	WAAS Server	http	20	0	20	13	90,834	157,847	595.39	15.33	575.43
20.1.10.36	WAAS Client	21.1.10.4	WAAS Server	http	20	0	20	27	89,746	156,781	595.30	15.40	575.40
20.1.10.54	WAAS Client	21.1.10.1	WAAS Server	http	20	0	20	13	90,259	153,776	595.12	15.43	575.27
20.1.10.36	WAAS Client	21.1.10.2	WAAS Server	http	20	0	20	34	90,331	166,971	595.10	15.53	575.53
20.1.10.36	WAAS Client	21.1.10.3	WAAS Server	http	20	0	20	17	90,985	152,785	595.01	15.38	575.40
20.1.10.17	WAAS Client	21.1.10.1	WAAS Server	http	20	0	20	13	90,383	147,790	594.99	15.42	575.17
20.1.10.36	WAAS Client	21.1.10.5	WAAS Server	http	20	0	20	27	90,585	162,888	594.84	15.52	575.17
20.1.10.54	WAAS Client	21.1.10.4	WAAS Server	http	20	0	20	20	89,017	145,597	594.82	15.46	574.58
20.1.10.66	WAAS Client	21.1.10.3	WAAS Server	http	20	0	20	20	89,993	154,838	594.69	15.42	574.59
20.1.10.64	WAAS Client	21.1.10.2	WAAS Server	http	20	0	20	17	90,429	175,056	594.60	15.36	574.79
20.1.10.54	WAAS Client	21.1.10.3	WAAS Server	http	20	0	20	10	90,811	154,786	594.58	15.34	574.81
20.1.10.54	WAAS Client	21.1.10.5	WAAS Server	http	20	0	20	15	90,199	150,966	594.52	15.47	574.58

The Cisco WAAS NAM Virtual Service Blade is installed using the Cisco WAAS Central Manager (CM) software. The WAAS CM copies the NAM VSB ISO image from an FTP server to a physical disk on the host WAAS Appliance and installs the NAM VSB.

NAM 5.0 Software Features

- **Redesigned GUI simplifies monitoring and troubleshooting:** The Cisco NAM's redesigned GUI includes preconfigured dashboards that provide a comprehensive graphical overview of network performance so you can immediately grasp whether all is well or whether a problem is emerging. It also includes workflows with helpful features such as contextual navigation, interactive reports, and one-click packet captures (Figure 4). The NAM's GUI facilitates quick access to critical network information to accelerate problem resolution or advance optimization decisions.

Figure 4. Application Performance Troubleshooting Workflow



- **NetFlow and packet data in one box offer unprecedented levels of breadth and depth:** NetFlow and packet data complement each other to provide a powerful monitoring solution, all in one box. With expanded NetFlow reporting capabilities, and the ability to perform packet capture on an Encapsulated Remote Switched Port Analyzer (ERSPAN) data source, Cisco WAAS NAM VSB can offer an extensive view of traffic usage information that can be combined with packet-based data to perform a “deeper dive” to quickly spot and address issues that affect performance.
- **A Performance Database lets you flash back to the past:** The Cisco NAM’s new Performance Database stores computed, historical data so you can flash back to the past to learn what happened on your network when a particular event occurred. The data is available to troubleshoot unanticipated performance issues or to analyze optimization needs.

- **NetFlow Version 9 Data Export extends network reporting:** By exporting analytics in a standardized format, this new capability allows you to use computed NAM data to feed in-house or third-party reporting applications that you already own, building up additional value and building out existing investments.
- **Site-based monitoring delivers reporting flexibility:** This feature allows you to view network and application performance by logical groupings or sites that you can create to mirror your network topology. For example, you can create sites by geographic locations, departments, or even managed customer networks and view performance data on a per site basis. The feature facilitates tracking site-specific service-level objectives, resolving performance issues, or applying optimization.
- **Packet Capture with Error Scan finds problems fast:** Ability to perform packet captures using ERSPAN traffic source along with the new Packet Capture Error Scan feature highlights packet-level anomalies to accelerate root-cause analysis and avoid having to inspect manually the packet data to find the "needle in the haystack."

Cisco WAAS NAM VSB Features and Benefits

The Cisco WAAS NAM VSB offers an extensive set of features that provide in-depth insight into Cisco WAAS deployments to effectively use WAN optimization to improve end-user experience. It offers a multilayer view of network performance to help you successfully navigate the labyrinth of application delivery challenges. Cisco NAM provides you access to critical network information to advance optimization decisions, monitor performance improvements, and troubleshoot any latency issues.

Table 1. Key Features and Benefits

Feature	Benefit
Deployment flexibility	As a software solution integrated with WAAS devices, Cisco WAAS NAM VSB offers ease of installation and reduces hardware footprint. It extends the NAM portfolio, offering deployment flexibility to meet specific network traffic loads and deployment requirements. As examples, Cisco WAAS NAM VSB is ideal for small data center deployments (fewer than 4000 optimized connections) or for proof-of-concept/pilot phases of WAAS deployments. In the latter case, it helps to accelerate the WAN optimization rollouts.
Visibility into WAN optimized networks	Provides end-to-end proof points demonstrating how WAAS has improved application delivery (Figure 2), for example, decreased application transaction times, improved WAN utilization. In the predeployment phase, Cisco NAM helps you to assess which applications and sites are good candidates for optimization. In addition, it provides real-time visibility for ongoing optimization improvements and to troubleshoot any performance-degradation issues.
Granular traffic analytics	Identifies what applications are running over the network, how much network resources are consumed, who is using these applications. Provides real-time and historical reports offering traffic statistics related to applications, hosts, conversations, differentiated services code point (DSCP), and VLANs.
Historical analysis with embedded Performance Database	Takes you back to the past using the Cisco NAM's Performance Database to understand what happened when an event that affected network performance occurred to accelerate problem resolution or advance optimization decision.
Open interface	Ease NAM configuration and export of computed NAM data using standards-based APIs (XML/REST for configuration, NetFlow Version 9 for data export).

Cisco NAM Virtual Service Blade Licensing

Cisco NAM Virtual Service Blade licensing is based on Cisco Software Licensing. Additional details can be obtained at http://www.cisco.com/go/clm. The Cisco NAM Virtual Service Blade provides for a 60-day evaluation license. Existing customers of supported WAAS platforms can download the NAM Virtual Service Blade at Cisco Software Center.

System Requirements

Table 2 lists the appliances that support Cisco NAM Virtual Service Blade. Note that WAAS NAM Blade is positioned for deployments in data centers only even when the supported WAAS appliances can be deployed in both data center and branch offices.

Table 2. Virtualization-Capable Cisco WAAS Appliances

Platform	Hardware	Deployment Scenarios	Images
Cisco WAVE-574	• 3 or 6 GB DRAM • 500 GB hard disk drive • RAID-1 optional • 2- and 4-port inline card options • Cisco WAAS Software 4.1.3 and later	• Edge deployments at enterprise branch offices • Core deployments at small data centers	
Cisco WAE-674	• 4 or 8 GB DRAM • 600 GB hard disk drive • RAID-5 optional • 4-port inline card optional • WAAS Software 4.1.3 and later	• Edge deployments at large enterprise branch offices • Core deployments at medium-sized data centers	

Notes:

- More information on the Cisco WAE-674 appliance can be found at http://www.cisco.com/en/US/prod/collateral/contnetw/ps5680/ps6474/product_data_sheet0900aecd80329e39.html.
- More information on the Cisco WAVE-574 appliance can be found at http://www.cisco.com/en/US/prod/collateral/contnetw/ps5680/ps6474/data_sheet_c78-495801.html.

Ordering and Upgrade Information

Cisco WAAS NAM VSB on the WAAS appliances 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 and upgrade information for Cisco WAAS NAM VSB.

Table 3. Ordering and Upgrade Information

Product	Part Number
Cisco NAM Virtual Blade on WAAS appliances (Top Level)	NAM-WAAS-VB
Cisco NAM Software 5.0 for WAAS 574/674	WAAS-VB-NAM-5.0
Cisco NAM Virtual Blade on WAAS appliances (eDelivery Top Level)	L-NAM-WAAS-VB
Cisco NAM Software 5.0 for WAAS 574/674 (eDelivery License Only)	L-WAAS-VB-NAM-5.0
Cisco NAM Software Upgrade from 4.x to 5.0 for WAAS 574/674	WAAS-VB-NAM-50UP=
Cisco NAM Software Upgrade from 4.x to 5.0 for WAAS 574/674 (eDelivery License Only)	L-WAAS-VB-NAM-50UP

Cisco Services

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 NAM Virtual Service Blade on the WAAS, 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.

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Printed in USA C78-642318-00 01/11