Product Brief

Next-Generation Cisco WAAS

Date: December 2011 **Authors:** Bob Laliberte, Senior Analyst and Perry Laberis, Research Associate

Abstract: *Cisco recently unveiled its next-generation Wide Area Application Services (WAAS) solutions, delivering a significant upgrade over its previous versions. The improvements address the demand for a WAN solution capable of scaling to deliver web-based software applications and rich media content across networks with improved performance. In order to realize market traction, Cisco will need to drive awareness of WAAS's new capabilities to its customers and educate its sales and channel partners on the improvements.*

Overview

As organizations continue to consolidate data centers and deliver rich media and web-based applications to a growing number of geographically dispersed remote and branch offices, Cisco has announced its next generation of Wide Area Application Services (WAAS) appliances. The next-gen WAAS includes:

- **Improved performance and scalability**—Cisco, which designed the next-gen WAAS specifically to improve scalability and performance, claims these new solutions provide up to five times the bandwidth (10 Gb ingest, 2 Gb WAN-side), four times the virtual services support, and up to three times the number of TCP connections as the previous generation. It is all contained in a smaller footprint, which Cisco claims is easier to deploy.
- **Second-generation family of appliances**—Cisco's Wide Area Virtualization Engine (WAVE) family of solutions has been expanded to include a greater range for both the branch office and the data center. The family includes 294, 594, and 694 appliances for remote and branch offices (ROBOs), and 694, 7541, 7571, and 8541 appliances for large ROBOs and data centers.
- **Better network management capabilities**—Cisco's Network Analysis Module (NAM) and WAAS offer organizations visibility into network performance via the WAAS Central Manager, providing improved optimization and troubleshooting capabilities.
- **Optimized video and desktop virtualization**—Cisco WAAS v4.4 software, announced in October, brings together application intelligence with data redundancy elimination (DRE) to enable a greater number of video and virtual desktop sessions from a single system without decreasing performance. Its Context-Aware DRE enables unidirectional traffic, such as VDI screen refreshes, to be stored on the WAAS appliance at the ROBO, minimizing round trips to the data center. Cisco WAAS v4.5 software, made available in November, enables Cisco WAN optimization to natively accelerate virtual desktops using Citrix XenApp and XenDesktop and provide an enhanced virtual desktop experience.

These next-generation Cisco appliances are managed via the Cisco WAAS Central Manager and support integrated reporting. All products are currently available.

ESG Analysis

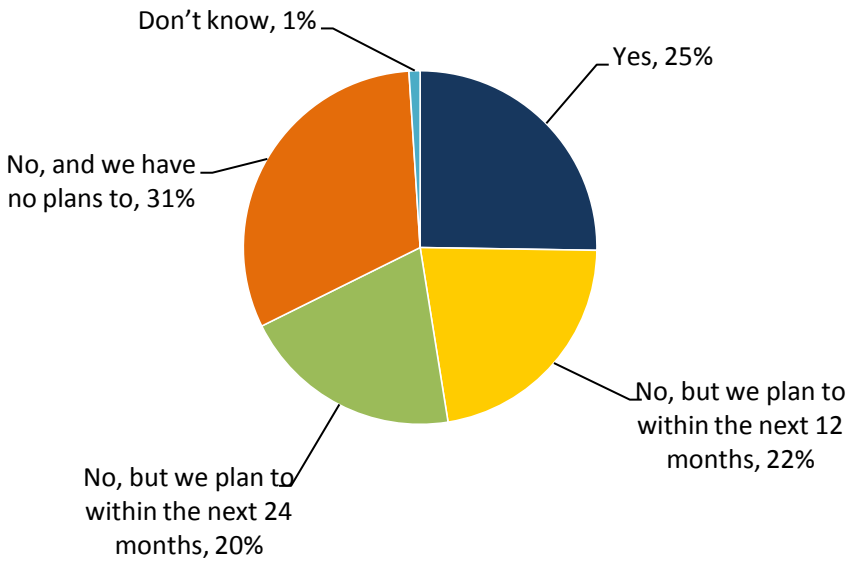
Data continues to grow, and new IT initiatives—such as widespread use of video and desktop virtualization—are expanding their presence in global organizations. There will be more pressure on wide area networks to deliver the requisite performance at scale. Hence the need for next-generation WAN optimization solutions that can address:

- **Future desktop virtualization deployments**—In terms of the future steps organizations will take to improve their ability to deliver applications and services over the WAN, their plans to deploy desktop virtualization

technology fall just behind their plans to upgrade network equipment. ESG research[1] indicates that as many as 25% of respondents are already using desktop virtualization in their remote offices (see Figure 1), and more than 40% report they will be adding it within the next two years. Ensuring the sufficient performance of these environments will be critical to the adoption rate and eventual success of these projects. Cisco recognizes this and has added functionality to enable better performance, like the Context-Aware DRE. In October, Cisco announced a strategic alliance partnership with Citrix to jointly test, validate, support, and verify WAAS as a Citrix-ready solution. The WAAS software v4.5 release, validated as a Citrix-ready solution, natively interoperates with Citrix encryption and compression to provide the best user experience for Citrix XenDesktop and Citrix XenApp over the WAN. These are all efforts meant to enable its customers to reduce the bandwidth necessary to deploy virtual desktops over a WAN.

Figure 1. Use of Desktop Virtualization In ROBOs

Is your organization currently using desktop virtualization technology to replace ROBO employees' local desktop/laptop PCs with virtual desktops running in a central location, such as a corporate data center? (Percent of respondents, N=454)



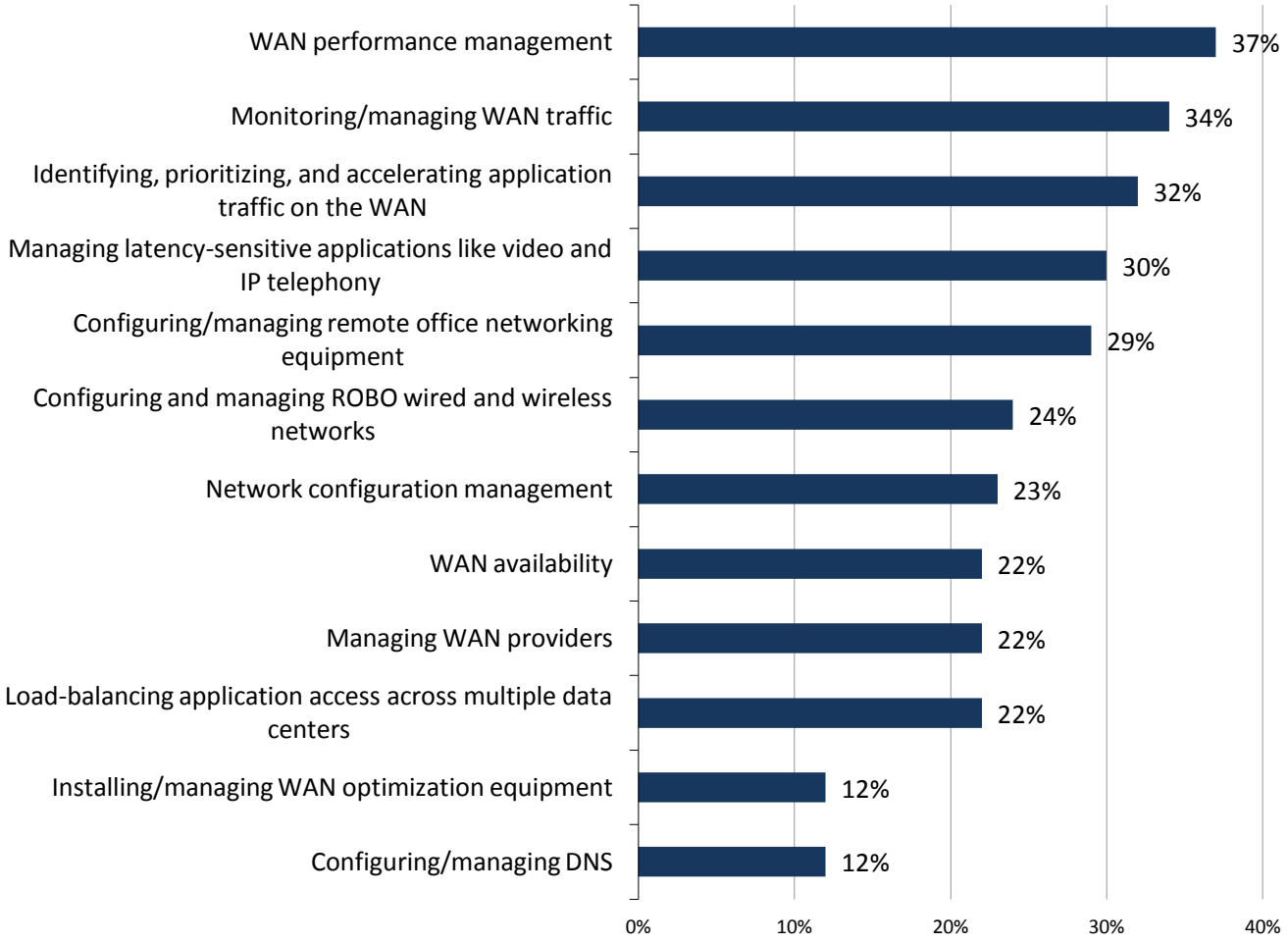
Source: Enterprise Strategy Group, 2011.

- **Increased use of video and VoIP communications**—In order to better communicate and collaborate with employees, partners, and suppliers, organizations are increasing their use of VoIP and video. Corporate communications, training, and educational videos are being broadcast globally. However, for these communications to be effective, there needs to be adequate network performance. This is not always the case. In fact ESG research indicates that managing latency-sensitive voice and video applications is a top-five network-related challenge (see Figure 2). The second-generation Cisco WAAS appliances are designed to improve the performance of unified communications over a WAN. Also, with up to 150,000 TCP connections, WAAS enables organizations to greatly scale delivery, providing an improved end-user experience to a much larger audience. This is important: ESG research shows that user dissatisfaction ranks as the top business challenge organizations face in delivering applications and services over a WAN.

[1] Source: ESG Research Report, *Remote Office Branch Office Technology Trends*, June 2011.

Figure 2. Biggest ROBO Networking Challenges

What would you consider to be the biggest networking challenges your organization faces when it comes to supporting IT requirements for ROBO locations? (Percent of respondents, N=412, multiple responses accepted)



Source: Enterprise Strategy Group, 2011.

- **Networking challenges resulting from data center consolidation**—Centralizing the resources of remote and branch offices and distributing them over a WAN enhances flexibility, but it also demands greater data-center-to-data-center connectivity, which can create network challenges. According to ESG research (see Figure 2), the top networking challenges facing IT organizations supporting ROBO locations are WAN performance management (37%), monitoring and managing WAN traffic (34%), and identifying, prioritizing, and accelerating application traffic on the WAN (32%). In terms of delivering corporate applications and IT services over a WAN, organizations predominantly struggle with poor application performance, slow file transfer speed, and the cost of WAN bandwidth. Cisco's NAM and WAAS solutions provide network and application performance visibility on WAAS Central Manager for improved traffic visibility, baselining, and monitoring. These tools allow users to assess (and optimize) application performance and network utilization.

To Do

Cisco has long been a market leader in unified communications and networking, but WAAS demonstrates Cisco's rededication to and presence in the WAN optimization space. In order to realize market traction, Cisco must first:

- **Look for opportunities to bundle the technology.** Cisco needs to leverage its strength and marketing muscle to focus on new opportunities derived from voice, video, and desktop virtualization solutions. In fact, if Cisco can leverage its partnerships with EMC, NetApp, and VMware, it could potentially deliver WAAS as part of a turnkey VDI solution with VCE Vblock platforms or NetApp FlexPods. By embedding WAAS technology into larger solution bundles, Cisco could greatly accelerate WAAS sales.
- **Amplify its WAAS marketing message.** Cisco must ensure that all go-to-market channels fully understand and can articulate the value of WAAS. As the leading provider of network infrastructure, Cisco has an enviable advantage, and it needs to exploit that advantage even more. With new performance and scalability capabilities, this second-generation WAAS should be very competitive in proof-of-concept evaluations. Publicizing customer wins will help to validate the technology and accelerate the sales process.

The Bigger Truth

Cisco's next-generation WAAS offerings mark a significant step in Cisco's presence in the WAN optimization space. ESG research indicates user satisfaction is the top impact organizations have faced when it comes to the delivery of applications and services over a WAN, due in large part to the growing number of latency-sensitive applications being transmitted over these networks. An outcome of Cisco's combined expertise in rich media and networking, its next-generation WAAS appliances along with the new WAAS software releases address these concerns and offer a scalable, high-quality solution with greater bandwidth and visibility than their predecessors.

Cisco WAAS appliances offer support for both ROBO and data center deployments of all sizes. Cisco's recent alliance with Citrix positions it favorably to seize marketplace mindshare as organizations continue to deploy desktop virtualization and other rich media content across their networks. If backed by a solid go-to-market campaign, WAAS should generate renewed interest with end-users.