IT Services Firm Improves Data Center and Branch Performance

Sycor leverages WAAS solution to bolster central WAN security and control, restore branch application performance

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EXECUTIVE SUMMARY

SYCOR

- Industry: IT services, including ERP consulting, e-commerce solutions, network services, hosting, and application server positioning
- Location: Principal offices in Germany, with branches in Asia and the Americas
- Employees: 4500

BUSINESS CHALLENGE

- Largest network services customer suffered issues related to Internet and file server access and other WAN performance at branch offices
- Sub-par mobile access deployment limited access and productivity for remote employees
- TM1 management information system (MIS) was barely usable for teleworkers

NETWORK SOLUTION

- Integrated accelerator technology to optimize WAN performance at and between branches and data centers
- Deployment of mobile solution for optimized access

BUSINESS RESULTS

- Enhanced performance of branch applications, combined with centralized security and application control
- Increased productivity among telecommuting and traveling employees
- Broad opportunity to offer high-performance wide area application services to additional WAN customers

Business Challenge

Offering a full spectrum of information and communications technology solutions, international IT services provider Sycor specializes in enterprise resource planning (ERP), voice over IP (VoIP), and e-commerce services as well as custom network design and management. Headquartered in Europe, with remote offices in Asia and the Americas, Sycor runs a global network of more than 100 WANs and delivers optimized, industry-specific solutions, often including Cisco® Unified Communications services, mostly to medical and other select manufacturers and financial services companies.

Sycor was in the midst of redesigning the entire network of one of its biggest customers, which has some 4500 employees spread across a central facility/data center and 80 branch offices, all tied together by a wide area network. This customer had been having trouble with a particular web-based application, and although it was used by only one person in each branch, the application was critically important to keeping the company's consolidated data assets up to date. Then, as the redesign was in progress, several of the customer's branches started to experience performance lapses in Internet and server access across multiple web, file-sharing, and other applications. It was time to address the customer's growing WAN performance problems.

Network Solution

Even before the network redesign began, Sycor had been working on the problem of the underperforming web-based application used by one person at each of the customer's branches. Sycor engineers had tuned the central database with which the application communicated, as well as the website used to access it. They were considering a dedicated data terminal solution that would operate separately but in parallel with each branch's existing network. But when several branches started reporting performance problems with multiple applications, the scope of the problem expanded, and the case for a total, integrated solution grew stronger.

It was clear that the branch applications (Common Internet File System, HTTP, HTTPS, Outlook/MAPI, Printing, AD), which depend on access to the Internet and to Microsoft file servers, needed more bandwidth. But simply adding bandwidth was not a viable solution, for two reasons: adding bandwidth does not help to improve Microsoft file server access, and in any case, the affected branches were also facing network latency problems as well.

Installing a local server in each of the branches was a possibility. But those servers would raise overhead and require additional maintenance at the branch level, undercutting at least one advantage of the customer's centralized data and distributed application infrastructure. In addition, local servers would introduce file redundancy: the same document could be worked on and changed in different ways at different locations. Instead of the collaboration enabled by a centralized document library, the customer would face a potentially massive version control problem.

> "For our many customers using centralized ERP applications, Cisco WAAS offers better control of branches combined with centralized data."
> — **Michael Kunze, head of network operations department, Sycor**

So the Sycor engineers turned to the idea of a WAN accelerator as the solution, and the customer agreed to add such a deployment to its network overhaul, starting with the branches that were experiencing problems. Sycor tested Cisco Wide Area Application Services (WAAS), against a similar product from Riverbed before selecting Cisco WAAS. It was the ideal solution, because it accelerates applications, optimizes bandwidth, and reduces latency. It can be deployed inline or via Web Cache Communication Protocol (WCCP), in a hardware or software form factor, in a dedicated appliance or router-integrated. It would also, of course, integrate smoothly into Sycor's existing Cisco infrastructure.

Still, the integration offered some challenges. The customer's consolidated data assets reside at Sycor's data center in addition to its own center 30 km away. So it was necessary to deploy WAAS at both data centers, with branch access to both, as well as at the branches themselves. This is where the Cisco solution's flexibility of deployment proved crucially important.

"We had lots of discussions about our integration strategy," says Michael Kunze, project manager and head of Sycor's network operations department, "because the branches and the data centers required different deployments of the technology."

The Sycor team tested the inline and WCCP versions of the Cisco WAAS solution to see how each behaved and to get some experience with configuration and troubleshooting. After that, deployment was quite straightforward. On the branch side, where no redundant user links existed, WAAS was integrated inline with no risk and minimal disruption of service. At the two data centers, where both Sycor and the customer rely on redundant links and load sharing, and where Sycor serves more than one customer, a WCCP deployment was required, and that took a bit more time. But it also offered several added advantages, from load balancing and scaling to fault tolerance and service assurance.

The final piece of the WAAS deployment was on the mobile side, where Sycor installed Cisco WAAS Mobile 3.5, with a special application profile for the TM1 MIS application. The solution smoothly integrates VPN, voice, and other data applications for Sycor employees worldwide.

Since deployment, all the WAAS components have been stable and trouble-free, even through subsequent software updates, and require very little maintenance.

Business Results

In addition to providing optimal application performance for end users at the customer's branch offices, Cisco WAAS has also strengthened the customer's Internet access security by routing all access through a central security infrastructure with all compliance protocols built in. And, by providing a single sharepoint for the customer's intranet, Cisco WAAS has improved not only security but performance across the entire network, not just at the branches that were having problems.

On the mobile side, the customer's telecommuters and employees on the road now have fully productive access to network resources. In Europe, where most residences are limited to asymmetric DSL connections, employees did not have the wired bandwidth to work on large documents or files such as PowerPoint presentations from home; now they can.

For the customer at the center of this story, Sycor will continue to build out the deployment of WAAS (inline or via WCCP for Services Ready Engine modules) at additional branches; a large branch in Europe that will employ 400 users is currently in the planning stages. Also planned: testing backup over WAN for some branches with local servers, which would enable automatic off-site backup storage, eliminating the need for local IT staff to maintain backup tapes.

Meanwhile, for Sycor itself, having WCCP-based Cisco WAAS at its central data center has opened a world of opportunity. Sycor has already helped two more customers complete WAAS-based data center consolidations, and the company is now planning to upgrade the WAAS appliance at its own data center. The WAAS Central Manager has already been migrated to Cisco Virtual WAAS (vWAAS). This arrangement will enable the service provider to offer and logically deploy WAN optimization to multiple customers using policy-based on-demand orchestration, lowering operating expenses for customers that are migrating their applications to the cloud.

PRODUCT LIST

Branches
- Cisco Wide Area Virtualization Engine 474, 294 and 594 devices
- Cisco Services Ready Engine 900 (WCCP deployment)

Data Center
- Cisco Wide Area Virtualization Engine 694 devices
- Cisco IOS Software (WCCP deployment)
- Cisco Catalyst 6500 Series Switches (WCCP deployment)
- Cisco Central Manager: vWAAS

Security and VPN
- Cisco VPN, MPLS, and site-to-site VPN
- Cisco ASA 5500 Series Adaptive Security Appliances
- Cisco VPN Client

Services
- Cisco SMARTnet

Voice and IP Communications
- Cisco WAAS Mobile V 3.5 with 350 named and 75 concurrent users
- Cisco Unified Communications Manager

Next Steps

Sycor's Kunze believes the firm's WAAS installations will double in the next year or two. "For our many customers using centralized ERP applications, Cisco WAAS offers better control of branches combined with centralized data," he says. "As more and more customers become familiar with the advantages of WAAS, I think it will become integral to more and more of our network designs."

For More Information

To find out more about the Cisco Wide Area Application Services (WAAS), go to: http://www.cisco.com/go/waas.