

WAN Optimization Helps Engineering Firm With Collaboration

Cisco Wide Area Application Services gives RS&H LAN-like performance, increased productivity, and minimized bandwidth cost.

EXECUTIVE SUMMARY

RS&H

- Architectural and Engineering Consulting
- 10 offices in Florida and more than 10 others in United States
- Number of Employees: 760

BUSINESS CHALLENGE

- Improve productivity and collaboration by providing geographically dispersed teams with convenient access to engineering files at all sites
- Allow each team to retain control of their source files on the local servers
- Avoid infrastructure buildout or increased WAN bandwidth costs

NETWORK SOLUTION

Cisco Application Networking Services, including:

- Optimize performance of applications across the WAN with Cisco Wide Area Application Services (WAAS), which combines application acceleration technologies with WAN optimization techniques
- Preserved integrity of traffic information (no required changes to clients or servers)

BUSINESS RESULTS

- No changes to business process (transparent solution)
- Cost avoidance (no bandwidth increases or costly infrastructure buildout)
- LAN-like performance over the WAN for all TCP-based applications

Business Challenge

With numerous sites spread across the country, the architectural and engineering firm RS&H faced the challenge of helping collaborative teams of consultants and clients access and share information. Local servers gave each project team the ability to store and manage its intellectual property consisting of very large design and drawing files. A highly distributed, full-mesh network tied together all of the sites and offices. For years, the company had struggled with the WAN latencies that slowed mission-critical CAD applications whenever remote access of engineering files was required. The company's success and continued growth finally brought them to a point where a WAN acceleration and optimization solution was essential.

With a firmly entrenched company culture and work style, RS&H engineering teams adamantly opposed any changes to business processes. Similarly, management had no desire to restructure its network or move towards a consolidated data center approach. "Individual teams wished to retain control of their engineering assets," says Harold Hamm, vice president of information technology at RS&H.

"We also needed to avoid any costly network buildout or the purchase of additional high-speed bandwidth. Since our IT organization is already resource-constrained, we had to have a solution that did not place any more burden on the staff." The challenge was focused on the acceleration of content delivery while minimizing impact on the existing clients, servers, network, IT staff, and users.

Network Solution

During the company's evaluation of potential solutions, it became clear that some acceleration products were too intrusive in the network. RS&H wanted to avoid the deployment of any overlay networks or the use of tunneling that could interfere with the existing network operation, particularly the quality of service (QoS) technology supporting the voice over IP (VoIP) phone deployment. When Cisco® discussed possible solutions with the IT team, it became clear that a Cisco

Application Networking Services platform could overcome these challenges. In particular, the Cisco Wide Area Application Services (WAAS) platform appeared to be a perfect solution.

As a WAN optimization solution for branch offices, Cisco WAAS accelerates any TCP-based application including e-mail, enterprise resource planning (ERP), and web portals. To increase performance of applications and file transfers, and to reduce WAN bandwidth usage, Cisco WAAS incorporates best-in-class application acceleration and WAN optimization techniques including compression, redundancy elimination, transport optimizations, caching, and content distribution. These techniques help to overcome the bandwidth, throughput, and latency limitations associated with TCP/IP and application protocols. Cisco WAAS applies optimization at three separate layers:

- Latency and bandwidth reduction at Layer 7, using application-specific optimizations that suppress unnecessary messages, perform message and operation batching, and employ sophisticated caching techniques to minimize data transfers across the WAN.
- Bandwidth and throughput improvement at Layer 4, using techniques such as Data Redundancy Elimination (DRE), LZ Compression, and Transport Flow Optimization (TFO) based on extended TCP standards.
- Transparent network integration at Layers 3/4, allowing WAAS to take advantage of traffic classification, QoS, policy-based routing, high-availability, load balancing, and other network policies.

RS&H was so confident in the Cisco solution that it became a beta test site and deployed Cisco WAAS to accelerate application and file delivery between two offices. The ease of installation and the immediate performance improvements led the firm to expand testing to include multiple sites, including the company's two largest offices in Florida. Application and file delivery was transparently accelerated and optimized from one site to another, without requiring any user or system changes. "Our engineers now see LAN-like performance for large file transfers after initial access, regardless of the physical location of the files being accessed by the engineering applications," says Hamm.

"Our teams of engineers depend on a highly distributed network to complement their work style. Cisco Wide Area Application Services gives us a comprehensive solution to our business problems while saving costs that would result if we had to deploy a major network buildout or change our existing servers. Transparently storing and accelerating content, while minimizing traffic and latencies, addresses the business challenges without adding significant cost or time delays."

—Harold Hamm, Vice President of Information Technology, RS&H

Business Results

"If it is not broken, do not fix it." The engineers and professionals at RS&H take this motto to heart, and are pleased that the solution to the performance and productivity problems was achieved without forcing disruptive changes into the company's existing processes. Teamwork and

collaboration among geographically separated colleagues have been visibly improved, and the choice of engineering applications has been protected with the move to Cisco WAAS.

Cisco WAAS gives the RS&H IT group a very easy-to-manage solution, and a platform that can easily integrate into its network and scale to thousands of nodes as the company adds employees or opens new offices. Auto discovery, predefined application policies, and central management and control save time and increase IT's ability to oversee and secure vital corporate intellectual property. The solution is an example of applying technology to solve a business problem, without forcing the company to make unwanted changes to their technology practices and business operations.

PRODUCT LIST

**Cisco Application Networking Services:
Application Acceleration, WAN optimization**

- Cisco WAAS

“Although many companies are moving towards consolidation, our company would not benefit from this approach,” says Hamm. “Our teams of engineers depend on a highly distributed network to complement their work style. Cisco Wide Area

Application Services gives us a comprehensive solution to our business problems while saving costs that would result if we had to deploy a major network buildout or change our existing servers. Transparently storing and accelerating content, while minimizing traffic and latencies, addresses the business challenges without adding significant cost or time delays.”

Next Steps

Due to RS&H's success with Cisco WAAS so far, they can now look forward to deploying this solution at all company sites to accelerate content delivery.

For More Information

To find out more about Cisco Wide Area Application Services, go to:

<http://www.cisco.com/go/waas>.

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