

Cabinetry Manufacturer Centralizes Remote Servers through WAN Optimization

Norcraft Companies implements Cisco WAAS to consolidate branch office servers into the main data center.

EXECUTIVE SUMMARY
<p>NORCRAFT COMPANIES</p> <ul style="list-style-type: none"> • Industry: Wood Manufacturing • Location: Eagan, MN • Number of Employees: 4000.
<p>BUSINESS CHALLENGE</p> <ul style="list-style-type: none"> • High capital expenses to refresh branch office servers • High operating expenses to manage branch office servers • WAN bandwidth limitations prevented server centralization
<p>NETWORK SOLUTION</p> <ul style="list-style-type: none"> • Optimize WAN bandwidth to consolidate branch office servers while maintaining LAN-like user experience
<p>BUSINESS VALUE</p> <ul style="list-style-type: none"> • Avoided US\$75,000 capital expense of 12 new servers and ongoing server patch management • Maintained LAN-like application performance at remote locations • Reduced data redundancy over the WAN by 84 percent for Microsoft SQL • Reduced print traffic over the WAN by 68 percent

Business Challenge

Norcraft Companies is the fifth largest cabinetry manufacturer in the United States. With headquarters in Eagan, Minnesota, Norcraft provides a versatile cabinetry offering, quality construction, and exceptional service at an affordable price. The company has three manufacturing facilities and multiple service centers geographically located in North Carolina, Minnesota, Kansas, Virginia, South Dakota, and Manitoba, Canada.

Norcraft operates IT out of 3 of its 15 locations, with six IT staff managing all of the company's workstations and servers. The three locations with IT staff are Eagan, MN; Sioux Falls, SD; and Liberty, NC. IBM iSeries AS-400s, Microsoft SQL Database Server, and Citrix Presentation servers are used at these three locations. The company runs a Friedman enterprise resource planning (ERP) application package on iSeries that manages inventory for floor shops and general ledger. Norcraft also uses a front-end application called Virtual Systems, which is

typically used by wood manufacturers to help them manage everything from efficient creation, product distribution, and manufacturing information to order and financial accounting .

For its 12 remote locations, employees use Microsoft Access, Excel, Word, and a variety of image files that were formerly operated through local Windows-based file servers. These file servers were also used for print function, e-mail, and credential authentication.

As these 12 remote servers reached end of life, the IT team began exploring cost-effective options to replace them. According to Darin Wipf, network manager for Norcraft Companies, because of the small size of the IT team, Norcraft needed a solution that did not require any onsite IT for each remote location.

"We came to a decision that if there was no regular IT support at a particular site, then we didn't want to have a server there. Each server costs US\$5,000 for the hardware, US\$1,000 for the operating system, and about US\$250 for the backup software. For 12 servers, the new capital expenditure would mean US\$75,000," says Wipf. "That decision drove us to explore solutions that

did not require this type of capital investment every three to four years along with ongoing patch management.”

Cisco WAAS showed significant acceleration benefits for our Microsoft SQL and print traffic over the WAN that enabled us to confidently remove local servers from each location and reduced ongoing patch management. Our deployment confirmed that Cisco WAAS is the most integrated and easiest-to-deploy solution.”

—Darin Wipf, Network Manager, Norcraft Companies

According to Wipf, he and his team began evaluating a number of vendors for the purpose of replacing the aging servers. Wipf and the team realized that they also needed to upgrade their backup system prior to upgrading the servers with the goal of moving from tape backup to disk at three of their sites to ultimately perform a full mesh replication back and forth between sites. As the team looked at available backup solutions, they became concerned.

“As we investigated our options, we became aware that our overall bandwidth, especially at some of our more remote locations, was going to be an issue with the aging servers and our existing tape system,” says Wipf. “We looked at pricing for some of the WAN acceleration offerings presented to us and thought they were way too costly for what we wanted to do. The WAN offerings also seemed complicated, and we knew implementing them would require more effort from the team on an ongoing basis than we were prepared to give.”

Network Solution

A local vendor suggested the Cisco® WAN optimization solution named Cisco Wide Area Application Services (WAAS), which enables branch server centralization by optimizing the WAN, maintaining LAN-like user experience in the remote location, and hence eliminating the need to run a server locally.

“We had already been using Cisco for our routing needs and knew how it worked,” says Wipf. “Prior knowledge of how easy Cisco was to manage and how our team was already trained on the fixes, ASAs [Adaptive Security Algorithms], routers, and switches was compelling, and we decided on Cisco to optimize our WAN.”

Wipf and his team chose Cisco WAAS Network Module 502 embedded in Cisco Integrated Services Routers (ISR) 2811 Series, and Cisco Wide Area Application Engine (WAE) 512 and 612 appliances.

“We put Cisco WAE 512s in our larger manufacturing plants and the Cisco WAE 612s in Eagan for a redundant, load-balancing core,” says Wipf. “The distribution centers and retail sites that are as small as four or five users all the way up to 25 to 30 received the ISR units with a mixture of the WAE 502 and 512 appliances. We felt the ISRs were the best solution.”

Wipf says the installation of the new appliances was so easy that the nontechnical end users at the remote sites were able to perform upgrades on their own without having a member of the IT team present.

“The modules that we ordered came preconfigured, and all the end users at the sites had to do was unhook a couple of wires, plug the cross-over cable that we sent them into the module, and power-on the device,” says Wipf. “We instructed them with what to do over the phone. It was an inline deployment that they performed themselves. Most of our IT, including all of the senior network administration, is in Sioux Falls, SD, and we all travel quite a bit to the different sites. We aren’t exactly a large company and need to squeeze as much efficiency out of our solutions as possible. If the end users at our remote sites can deploy solutions without us having to be there in person, it’s all the better.”

Dramatically improved, LAN-like performance was the initial result that the team began seeing from the newly optimized WAN.

“Within three or four days, we started seeing gains,” says Wipf. “Excel files that are on average 20 MB in size had previously been extremely slow over the old WAN. But after upgrading to the WAAS, there were no more complaints about the slowness. Files are now referenced in a central location in Eagan and have a LAN-like performance.”

According to Wipf, many of the users at the sites who were not made aware of the upgrade commented on the noticeably improved performance.

“So far, users at our sites don’t even realize that we’ve made a major upgrade,” says Wipf. “I’ve heard great things such as how much better the servers are running. Many don’t know that the ISRs are sitting in their closets.”

Business Results

Wipf credits the newly optimized WAN for improving Norcraft’s overall application performance, including print functionality. He also says Cisco WAAS has dramatically reduced bandwidth for the Microsoft SQL database.

“Cisco WAAS showed significant acceleration benefits for our Microsoft SQL and print traffic over the WAN that enabled us to confidently remove local servers from each location and reduced ongoing patch management, says Wipf. “Our deployment confirmed that Cisco WAAS is the most integrated and easiest-to-deploy solution.”

Wipf estimates that data redundancy for Norcraft’s Microsoft SQL database has been reduced by 84 percent since implementing Cisco WAAS; in practical terms, this means that users retrieving data from the SQL database, for example 100 MB of data, are only sending 16 MB, resulting in a 68 percent traffic reduction. Simply eliminating data redundancy and local print servers, enabled by WAN optimization, has significantly reduced traffic at Norcraft.

According to Wipf, the reduced bandwidth and LAN-like performance resulting from implementing Cisco WAAS was the obvious benefit. But the overall efficiency that the optimized WAN has brought to Norcraft in terms of ease of deployment, scalability, and manageability has been a top selling point because it has eliminated the need for ongoing IT support at remote locations.

“We’re a company that carefully watches how we spend money and don’t have an IT staff remotely that can configure and implement products,” says Wipf. “When it comes to demonstrating a better way to conduct business through strategic IT spends that are going to carry us further down the road, we tend not to shy away from that. Cisco WAAS lowered the requirement for onsite support for our team, which means we can spend more time in the office concentrating on other orders of business.”

Next Steps

As Wipf looks ahead at future IT needs, he and his team are looking into storage.

“We’ve already achieved great results from Cisco on the switching end and now the WAN,” says Wipf. “When the lease on our current SAN expires, we’re seriously looking at the Cisco MDS Directors to fulfill that need. We love how easy Cisco is to manage and are impressed with the results that we’ve achieved so far. It seems like an easy, obvious acquisition.”

PRODUCT LIST

Cisco Application and Storage Networking Services:

- Cisco Wide Area Application Services Network Module 502
- Cisco Integrated Services Routers (ISR) 2811 Series
- Cisco Wide Area Application Engine (WAE) 512 Appliances
- Cisco Wide Area Application Engine (WAE) 612 Appliances

For More Information

Find out more about Cisco WAAS solutions, please visit <http://www.cisco.com/go/waas>.



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