

## Manufacturer Boosts Engineering Productivity and Operating Profits

WAN Optimization Helps ADC Decrease Time to Market with Faster CAD Application Downloads and Lower Bandwidth Costs

EXECUTIVE SUMMARY
<p><b>ADC</b></p> <ul style="list-style-type: none"> <li>• Manufacturing</li> <li>• Minneapolis, MN</li> <li>• 8500 employees</li> </ul>
<p><b>BUSINESS CHALLENGE</b></p> <ul style="list-style-type: none"> <li>• Productivity declines and time to market increases</li> <li>• 20-30 minutes of work day consumed for each CAD download</li> <li>• 100 percent WAN utilization and potential US\$6000 per month to increase bandwidth</li> </ul>
<p><b>NETWORK SOLUTION</b></p> <ul style="list-style-type: none"> <li>• WAAS appliances for primary data center and two remote locations to accelerate applications and reduce bandwidth</li> <li>• WAAS modules for three additional remote locations</li> </ul>
<p><b>BUSINESS RESULTS</b></p> <ul style="list-style-type: none"> <li>• Improved productivity by 10-15 percent by decreasing CAD download times</li> <li>• Return on investment of three months for WAAS deployments in five engineering offices</li> <li>• 500 percent faster downloads and 50 percent savings in bandwidth utilization</li> </ul>

### Business Challenge

Since ADC was founded in 1935, it has become a world leader in providing products and services that enable the profitable delivery of Internet, video, data, and voice services to residential, business and mobile subscribers worldwide. With 2006 fiscal year sales of \$1.3 billion into more than 130 countries, ADC now employs approximately 8500 professionals worldwide.

Success with global customers—such as Bank of England, Deutsche Telekom, and Reliance Infocom—and strategic overseas acquisitions have driven international employee growth in locations like Bangalore, Berlin, Mexico City, and Singapore. Yet the increasing dependence of remote engineers on slow information technology applications and data retrieval from the company’s headquarters in the United States was causing productivity to decline, slowing time to market, and impeding the continued success of ADC.

In Juarez, Mexico, where over 40 engineers design new products, sluggish applications and time-consuming downloads of CAD drawings were hurting employee productivity and morale, and thus company success. At the start of the workday, or upon commencing a new project, each engineer accesses electronic drawing files as large as 300 MB, tying up their PC for 20 to 30 minutes. Often connections timed out, and a user’s PC would stall. The most affected staff members downloaded drawings five times a day.

The T1 connection from Juarez to Minnesota was at 100 percent capacity, and frustration mounted as downloads by engineers at headquarters took only 30 seconds. Yet the US\$6000 ongoing monthly cost of increasing bandwidth for this and other similar facilities would greatly affect ADC’s operating costs. Thus the ADC IT team was charged with finding alternative solutions to improve declining productivity, increase times to market, and support company growth.

## Network Solution

To tackle the application download issues, the IT team at ADC investigated the benefits of the latest application acceleration and WAN optimization solutions and quickly concluded these solutions could resolve such issues at a much cheaper cost than adding bandwidth, and likely could provide many ancillary benefits to improve ADC's operations.

The team narrowed the search to two products including the Cisco® Wide Area Application Server (WAAS), and after evaluations were completed, ADC selected Cisco for the following three reasons:

- Advanced technology
- Lower total cost of ownership
- World-class service and support

**“The three-month return on investment for WAAS has been met with great approval by ADC. Likewise, our Juarez staff is elated with the 500 percent increase in application acceleration.”**

—Dave Brady, vice president of IT, ADC

### Advanced Technology

In addition to showing strength in all product features—such as compression, redundancy elimination, transport optimizations, caching, and content distribution—WAAS clearly excelled in network transparency. ADC found other vendors' products would interfere with their already established network-monitoring routines.

“Other vendors hide the network traffic behind the IP address of the compression box itself,” says Jeff Levy, network and telecom services manager at ADC. “The Cisco solution does not change anything, because the data passes through it; thus the integrity of the monitoring statistics is maintained.”

### Lower Total Cost of Ownership

ADC found the total cost of ownership of WAAS to be superior when compared to other vendors' products for three reasons:

- Fewer devices—the option of purchasing WAAS as a network module for existing Cisco routers in small and medium-sized offices yields one less device to operate and support contract to pay, and space and power savings
- Lower training costs—training time and costs decrease with the WAAS solution because of familiarity with operating Cisco equipment
- Fewer vendors—the addition of another vendor to manage is contrary to ADC and industry trends to consolidate suppliers

“Technology buying trends have changed in the last couple of years. We are now looking to fewer trusted vendors to reduce IT cost and complexity. Already trained on Cisco product interfaces, we look to

them first when considering new network products,” says Dave Brady, vice president of IT at ADC. “And the option of one fewer device in our remote offices clearly lowers company operating costs.”

### World-class Service and Support

Vendor service and support were also primary reasons for selecting Cisco. “You know what you are getting with Cisco—strong local sales and sales engineer support, and a great post-sale team—which, compared to the competition, is very good,” says Levy.

Confident in their choice of Cisco, ADC first deployed WAAS at their Juarez site and their Minneapolis headquarters site, where one terabyte of engineering drawings are located in their PTC Pro/INTRALINK storage enabled by Oracle Database. The symmetrical deployment in these two locations resulted in immediate improvements in application performance and bandwidth usage.

“Both download times and network utilization dropped right away,” says Levy. “Our engineers in Juarez were getting large files in about 5 minutes versus 30 minutes before we installed WAAS and smaller files in a few seconds versus half a minute, with no other changes to their daily work. And WAAS integrated transparently with our existing Cisco network.”

Due to the rapid success at Juarez, and low average deployment cost of US\$15,000 per location including labor, WAAS solutions were purchased for four other locations with a large concentration of engineers—WAAS appliances for Bangalore, India and Berlin, Germany, and modules in Brno, Czech Republic and Cheltenham, United Kingdom. These deployments are scheduled for the first half of 2007. After those installations, ADC’s plans call for deploying WAAS in many other locations around the world with a priority on those with call centers.

### Business Results

“Productivity has increased about 10 to 15 percent since the WAAS installation in Juarez, primarily because large CAD file downloads are a great deal faster. Timeouts have disappeared, and each engineer is getting back 20 to 50 minutes of their day,” says Alfonso Dena, director of Juarez Engineering at ADC. “As a result, I strongly encouraged deploying WAAS at all our other engineering sites, and now these deployments are underway.”

#### PRODUCT LIST

##### Application Networking Solutions

- Cisco Wide Area Application Engine (WAE) Appliances
- Cisco Wide Area Application Services (WAAS) SoftwareBroadband Cable

These productivity increases in Juarez were driven by 15 times less network traffic for engineering drawings passing over the WAN due to compression, caching, and transport optimizations, thus driving download times on average from 30 to 5 minutes.

WAAS is also leading to bandwidth utilization decreases from 100 to 50 percent. Now more individuals can access their PTC Pro/ENGINEER application drawings from the PRO/INTRALINK vault in Minneapolis at the same time, and bandwidth is opened up for additional applications.

And as important as productivity increases, ADC no longer needs to purchase additional bandwidth for Juarez at US\$6000 per month. “The three-month return on investment for WAAS has been met with great approval by ADC. Likewise, our Juarez staff is elated with the 500 percent increase in application acceleration,” says Dave Brady, vice president of IT at ADC.

## Next Steps

To further improve engineering productivity, ADC plans two additional initiatives, both enabled by WAAS:

- Mirror Pro/INTRALINK storage—WAAS gives ADC the flexibility to efficiently mirror the drawings database in some engineering offices to drop download times from 5 minutes to 30 seconds, as experienced by the Minneapolis engineers located in the same facility as the Pro/INTRALINK vault
- Centralized servers—WAAS gives ADC the ability to consolidate FTP servers from engineering and manufacturing locations back to the Minneapolis headquarters, which would result in both lower operating costs due to consolidating the administration of servers, and lower capital costs as server utilization rates increase with consolidation

ADC also plans to take advantage of three ancillary benefits of the WAAS deployment:

- Accelerated IP communications—ADC can now realize further advantages and operational savings from their 800-unit Cisco IP communications deployment, further utilizing voice over IP between remote locations, and investigating bringing audio conferencing in house
- E-Mail, file transfer, and portal acceleration—ADC can now explore acceleration of other applications such as Microsoft Exchange, Microsoft Office file transfers, and web portals
- Small office bandwidth savings—deploying WAAS for smaller remote offices that have not yet increased to T1 WAN connections can delay additional bandwidth operating costs

“We are extremely pleased with this solution as it resolved the primary driver of application acceleration and WAN optimization with a three-month ROI, and we are getting multiple additional uses that we did not expect, leading to even more operating and capital cost savings,” says Brady.

## For More Information

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

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

To learn more about Application Networking Services, go to

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



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