CASE STUDY

Engineering firm prepares for the future with a reliable connectivity solution — and partner — built for growth

Josh Gowen finds a partner to address critical network bandwidth challenges and support future expansion

Efficiency optimization. Zero energy design. Occupant health and wellness. These are just a few of the many things engineers at CMTA, a consulting and performance contracting firm, must account for as they produce architectural drawings for mechanical, electrical and plumbing systems. These complex diagrams, created using data-intensive, computer-aided design software, generate enormous files that can clock in at hundreds of gigabits. Engineers across the firm's locations collaborate on these files internally before sharing them with architects, building owners and others involved in building construction and remodeling.

When CMTA only had 50 employees and two offices a couple hundred miles apart, they used ISDN internet connections at each site. At the time, this worked for sharing files between locations. But as the firm expanded its existing offices and added new locations throughout the country, the number of files shared across the network multiplied, and their legacy network couldn't handle the increased bandwidth demands. The firm tried new connectivity options like cable and DSL, which performed well until a familiar challenge occurred: As they continued to add more offices, the network couldn't quickly or effectively scale to meet their rising bandwidth needs. Asymmetrical connectivity caused slow file uploads, and the large number of large files being transferred across the network resulted in bottlenecks, especially at the firm's largest locations. "We couldn't even open a file from another office. It would take hours," says Josh Gowen, CMTA's information technology director.

Gowen needed a new connectivity solution that wouldn't have to be replaced as the firm expanded and required more bandwidth. What he found was that Spectrum Enterprise had the solution he needed immediately — and was a partner he could count on to help craft a network built for the future.

> "Files that used to take hours to open now take several minutes... [The Spectrum Enterprise solution] has really made a huge difference in productivity."
>
> — Josh Gowen, information technology director

As CMTA expanded, it required a reliable network that could quickly transmit the growing number of large files generated by its engineers.

Client profile

CMTA

Company
CMTA, Inc.

Industry
Engineering

Services
Ethernet

Overview

- It often took engineers at consulting firm CMTA hours to open large architectural drawing files and share them between office locations using DSL and cable connectivity options
- The engineering firm partnered with Spectrum Enterprise to implement a scalable fiber connectivity solution to ensure fast data transfer between offices

Outcomes

- The time to send, open and receive files was reduced from hours to minutes
- Integrating new locations into the network is faster, easier and less costly
- Acquisitions require less time to activate

Why it matters

- CMTA engineers are more productive and efficient now that they can quickly share and view large files
- The company can easily support plans for nationwide expansion with the ability to rapidly add connectivity at new offices
- The CMTA IT team can spend less time troubleshooting and more time on business-critical initiatives

"The Ethernet solution has made my life a lot easier because I don't have to try and overcome bandwidth limitations while I'm trying to help somebody in a remote office anymore."

— Josh Gowen

CMTA engineers can easily share and view large files with a reliable fiber Ethernet solution from Spectrum Enterprise.

Productivity improvements driven by a fast fiber network

Gowen knew exactly what he needed: a scalable, reliable connectivity solution with symmetrical upload and download speeds that would prevent network bottlenecks by ensuring files could be uploaded just as quickly as they could be downloaded, even during periods of high network traffic.

To create a high-bandwidth network, Gowen started with CMTA's two largest locations because they were experiencing the most connectivity issues. "At the time, we reached out to Spectrum Enterprise to get a fast connection between our two main offices. That's where it all started," he says.

Spectrum Enterprise was able to deliver. The solution provided private point-to-point connectivity with 200 Mpbs symmetrical, dedicated bandwidth over a fiber Ethernet Private Line (EPL).

The high-bandwidth connectivity solution was just what CMTA needed to meet their immediate bandwidth demands. "Our previous network could be compared to a coffee straw. The symmetrical fiber network was more like a Big Gulp straw. Enormous files that used take hours to open now consistently took only minutes," says Gowen. "The network's reliability and performance was rock solid."

A new solution delivers a network ready for what's next

Because the new solution successfully solved the bandwidth issues for the two main offices, Gowen deployed it to connect his central offices to satellite locations.

While Gowen was happy with the EPL solution, his Spectrum Enterprise account manager knew from their frequent conversations that CTMA was continually growing. So he wondered: Is Gowen's network ready for expansion? He saw that Gowen would need a solution flexible enough to integrate with new offices quickly when the firm inevitably expanded and acquired other companies.

The account manager and engineers guided Gowen toward a private network with multipoint connectivity using Ethernet Private LAN (EP-LAN). They explained how the solution would provide reliable connectivity

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The EP-LAN solution enables all locations to communicate on a single network.

between all CMTA offices, and mitigate any growing pains as the company continued to expand. Gowen agreed that EP-LAN was the way to go, and worked with Spectrum Enterprise to implement the solution.

The EP-LAN solution enables all locations to communicate on a single network. Configuring the WAN becomes as easy as adding users to the local area network (LAN), which reduces the IT team's network configuration workload. "Once you're on a single, dedicated Ethernet network, it makes connecting a lot easier," says Gowen.

The CMTA IT team created a streamlined, reproducible method for setting up new offices that is supported by Gowen's Spectrum Enterprise account team, who can turn up a new Ethernet network connection in less than 90 days. "I don't have to think about each site's unique situation and how it needs to connect. I just tell my [Spectrum Enterprise] account manager that I need another connection, and it gets done," says Gowen.

Now that CMTA has standardized how it connects new locations to the network, integrating acquired companies is a much smoother process: There is now minimal back and forth between the IT teams of the acquired organizations and CMTA. "Usually you get a little culture shock, but after everything is connected to the new network, you can tell how much they like it by how little they call to ask questions," Gowen says. There are now 15 offices connected to the network.

Built for growth, the scalable EP-LAN provides a high-capacity 1 Gbps connection, and has remained as reliable as Gowen's previous solution. Plus, it comes with another major benefit: reduced latency. With Gowen's former point-to-point network, information sent from one location had to pass through one of the firm's data centers before arriving at another office. "We added data centers in several of our offices. Mainly they just consist of a single rack. We replicate certain data that all offices need that doesn't have a high rate of change," says Gowen.

Because files had to move through a data center, it took extra time for them to reach their final destination. With the multipoint network, information goes directly to the destination office without having to pass through a data center. This reduces the delays associated with transmitting files through the network.

Strong support from a valued partner

Both of the Spectrum Enterprise Ethernet solutions exceeded Gowen's expectations, and the IT team's job is now easier. "When I first thought about going from a point-to-point type connection to what we have now, it seemed like it was going to be more complex, but once we started using it, we found it was actually far simpler than what we had been using," says Gowen. "It's way better than what I was doing before."

Gowen has come to value the partnership with his Spectrum Enterprise account team just as much as his Spectrum Enterprise services. In particular, he appreciates having access to knowledgeable, U.S.-based technical support representatives 24/7/365.

> "When we contact support, we get somebody that really knows what they're talking about the first time we call, and who is able to accomplish what they need to in a reasonable amount of time."
>
> **— Josh Gowen**

The partnership between CMTA and Spectrum Enterprise has been built on shared vision, careful planning and strong execution. It's the type of close-knit collaboration and dependability Gowen expects from all his technology partners. He's now ready to support the company's expansion as fast as CMTA requires. "Spectrum Enterprise has been great," he says.

About Spectrum Enterprise

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable, fiber technology solutions serving America's largest businesses and communications service providers. The broad Spectrum Enterprise portfolio includes networking and managed services solutions: Internet access, Ethernet access and networks, Voice and TV solutions. Spectrum Enterprise's industry-leading team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. More information about Spectrum Enterprise can be found at enterprise.spectrum.com.

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