

Ciena transforms global operations with next-generation AT&T SD-WAN infrastructure

- **Business needs** - As part of its ongoing network transformation process, Ciena sought to adopt a cloud-first strategy to improve employee performance and productivity, streamline operational inefficiencies, and enhance the customer experience. Gartner projects cloud services to grow by 80% in 2022. A significant portion of that growth is focused on cloud applications services, such as video applications and other software as a service (SaaS). Ciena wanted to transform their network infrastructure with a WAN solution that would help them integrate cloud apps and SaaS.
- **Networking solution** - Ciena adapted their network with highly secure AT&T Software-Defined Wide-Area Networking (SD-WAN) and AT&T Dedicated Internet service.
- **Business value** - Increased network agility, streamlined infrastructure management, reduced latency, substantial savings.
- **Industry focus** - Networking systems, services, and software
- **Size** - Annual revenue of \$3.57 billion

About Ciena

Ciena provides networking systems, services, and software solutions that help companies respond to the constantly changing demands of their users. Ciena's Adaptive Network™ delivers best-in-class networking technology through high-touch consultative relationships. The company builds the world's most agile networks with automation, openness, and scale.

The situation

Through organic growth and acquisitions, Ciena recognized the need for a transformational infrastructure technology to support expanding global operations. The company's network included legacy single-function customer premises equipment (CPE) and transport components. Utilizing multiple providers, there were inconsistent service offerings across the regions which created management inefficiencies. Simultaneously, Ciena sought to adopt a video-first culture, which required increased bandwidth through its existing MPLS network.

Solution

AT&T replaced legacy, single-function CPE with a high-availability design consisting of AT&T Software-Defined Wide-Area Networking (SD-WAN), MPLS, and AT&T Dedicated Internet service. The solution connects 32 sites in 17 countries in North and South America, Europe, Asia, and Australia.



Best-in-class technology supports a winning corporate culture

With rapid changes in technology such as video streaming, 5G, and IoT, we are moving towards a more connected and integrated world. Handling these and other emerging solutions requires companies to radically re-imagine and re-engineer their networks.

Leading global companies turn to Ciena for solutions to evolve their infrastructure. Founded in 1992 and headquartered in Hanover, Maryland, Ciena is a truly global operation, with locations in North America, Europe, Middle East, and Asia (including India).

Ciena is committed to creating a digital-first corporate culture that enables employees to deliver their best results while feeling a sense of community. It has been recognized as a great place to work, with employees citing the company's flexibility, openness, informality and professionalism as some of the reasons they like working there.

The company also works hard to build relationships with customers. Hasan Talukdar, Ciena's Vice President of Infrastructure and Operations, attributes Ciena's success to an intense focus on its customers. "We're proud of how well we partner with our customers by truly listening to them, understanding their needs, and coming up with solutions," he says. "We collaborate with global service providers like AT&T to build the core of their networks and move data as fast as possible."

In search of a more flexible, scalable environment

Ciena's ideal network end state, the Adaptive Network™, enables companies to create intelligent and agile infrastructures that evolve to meet workplace demands.

More than a decade ago, the company embarked on an ambitious culture transformation to ensure that its employees had the tools they need to anticipate and answer customer needs. "We wanted to ensure our employees were well connected so they can be more productive, and one of the driving forces of that was

having a video-centric culture,” Talukdar said. “Video really accentuates and enriches collaboration and in turn enables productivity.”

Ciena understood that creating an environment using digital tools like video required a solid foundational network. “This forced us to revamp and re-imagine our existing MPLS network,” he said.



At the same time, Talukdar’s team wanted to help its customers take advantage of the efficiency, security, and flexibility of cloud computing. These initiatives necessitated a transformation of Ciena’s global wide area networks.

“In addition to promoting better productivity for our employees, we also wanted to identify a solution that met the needs of our customers as they moved to the cloud,” Talukdar said. This meant identifying a provider that could help build an agile, powerful environment that could grow with the company.

Virtualizing network functions improves performance

Ciena chose a network design that includes AT&T SD-WAN, a software-defined networking approach that moves network traffic management away from hardware to leading-edge software in the cloud. The solution, which includes VeloCloud™ VMware software running on Ciena appliances, provides Ciena enhanced agility, control, and visibility.

SD-WAN simplifies Ciena’s network and offers improved WAN performance and centralized network management. “VMware and AT&T enabled Ciena to virtualize its network functions enabling us to be more agile and operationally efficient,” Talukdar said. “From a customer perspective, we can now consolidate multiple functionalities on remote sites. So not only can we have a device that allows us to connect to the SD-WAN, we can also consolidate firewall and other functionalities that typically are utilized through multiple different devices, enabling operational efficiency lowering CapEx.”

Ciena’s Blue Planet division was the orchestrator that designed and configured the network function virtualization. “Blue Planet put the virtualization software on top of this design, allowing us to automate all the network sites,” Talukdar said. The total access orchestration platform from AT&T supports the network virtualization software of AT&T FlexWare, giving Ciena easy cloud access.

“We doubled our bandwidth, reduced latency by half at the spoke offices—and we achieved this with two-thirds of the cost compared to running our legacy on-prem MPLS network,” Talukdar said.



Consolidation saves time, space, and money

Babak Anvari, Ciena IT Network Manager, said the solution supports much faster deployments: “With our legacy MPLS, it used to take months just to get a circuit in. Now it takes only days.”

In addition, the solution enables Ciena to consolidate as many as six devices into one. “Combining multiple devices allowed us to shrink our footprints within IT closets,” Anvari said. “We don’t need as much power, cooling, or rack space.”

“The size of the IT closets now is much smaller than it was due to deployment of SD-WAN,” he said. “We used to have to purchase physical gear and have a physical footprint. Now that’s gone with the help of AT&T.”

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Babak Anvari
IT Network Manager

Visibility, analytics, redundancy

The AT&T solution delivers analytics that Talukdar considers innovative and forward thinking. “From the enterprise perspective, we have never had this much visibility into the WAN cloud,” he said. “That is the top differentiator on this design.”

Anvari also appreciates the analytics, which he says are flexible enough to enable Ciena to benefit from the insights. “It’s one thing to get reports, but another thing to be able to do something with them—to make adjustments and improve processes,” he said. “In addition, we also now have full redundancy and higher bandwidth at all 32 of our sites.”

The use of Ciena equipment in the next-generation solution is an added bonus that’s generating buzz among employees. “The rest of the Ciena team are starting to hear about what IT did in collaboration with AT&T,” Anvari said. “We deployed this service on the edge using our own gear, so they’re just as excited about it as we are.”

Spending less to get a lot more

Ciena was eager to move to the cloud quickly, but its legacy network had created unacceptable latency.

In an effort to help its locations access the cloud as fast as possible, the company added AT&T Dedicated Internet service, a premiere service designed to connect businesses with partners, staff, and customers.

The move has improved efficiency, speed, reliability, and control and enabled employees at Ciena's global offices to access applications within the cloud.

Adding the AT&T SD-WAN and AT&T Dedicated Internet service has made a considerable difference for Ciena. "Moving from an MPLS hub-and-spoke network was huge for us," Talukdar said. "Now when we move our productivity applications into the cloud, the users at any of the spoke sites can get to the internet as fast as possible."

AT&T augmented Ciena's security with cloud-based secure web gateways. "The design that AT&T put together along with VMware and cloud security really works for us," he said. "As we added dedicated internet circuits for our remote offices we didn't have to put in any additional security devices, which is huge. Along with all the benefits, we didn't have to spend more. We're actually spending less now."

Valuable collaboration

A successful IT strategy requires people with exceptional engineering skills, but Anvari believes the relationship between vendor and customer is just as important. "To make a program successful, you also need a great working relationship with your account team," he said. "That's number one. If you don't have that, it's not going to go well. The team from AT&T has been awesome."

Twice-weekly calls enable Ciena to manage concerns and questions before they can become problems. "The team is absolutely amazing. I have nothing but good things to say."

Talukdar said the relationship augments the other benefits Ciena has realized from its association with AT&T, including increased bandwidth, reduced network latency and sizeable savings. "It's an added bonus that we've got a supplier like AT&T that is willing to work with us and learn together on how to best optimize this environment for us as the customer."



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