COMMSCOPE®

CommScope and Equinix demonstrate power of multi-tenant data center alliance

Customer

Equinix

Country

United States

Challenges

Foreign exchange (forex) trading is not for the faint of heart; each day, ultra-high speed platforms move $5.3 trillion in trades across the globe. Milliseconds mean millions. Every network link is a lifeline, connecting institutional traders to their markets. Successfully designing and deploying such links—even under the best circumstances—takes a high degree of technical experience and expertise. Add a compressed deadline and zero margin for error and you'll also need a flawless partnership.

Equinix provides multi-tenant data center space and interconnection services for some of the world's largest forex service providers. In late 2015, one such provider approached Equinix with an intriguing challenge.

The provider and several of its trading partners are dispersed across an Equinix-owned campus. The platform's matching engine is in one building; the partners are in two separate buildings.

"The provider was upgrading the links from the partners' data centers to the matching engine and wanted to ensure identical latency performance for everyone, regardless of location," explained Jeb Dinsay of the Equinix project team.

Realizing the technical complexity required, Equinix turned to CommScope. Over the past several years, the two companies have collaborated on numerous multi-tenant data center (MTDC) projects. In June 2017, Equinix became the first partner to sign on to CommScope's MTDC Alliance, a cooperative program that now includes six of the largest MTDC providers and nearly 100 service, installation and integration partners worldwide. That familiarity would prove critical to the success of this unique project.

Unique challenges—custom solution

Latency equalization has been a trending topic in the financial trading industry of late, as trading partners look to forex platform providers for a level playing field. Until now, the focus has been on in-building applications where engineers can design, test and modify the design, if necessary, prior to installation.

"You don't have that luxury in an underground OSP project. There is no way to test it prior to deployment," explained Matt Baldassano, principal field application engineer for CommScope. Complicating the challenge was the very narrow window of a few weeks the team had to install and turn up the new intra-campus links. They had one shot to get it right.

Planning and design

The planning and approval process started in January 2016, with project design beginning in March. For seven months, the CommScope and Equinix team met regularly to work through the many technical challenges. This involved developing multiple iterations of the solution as the project scope evolved.

The first step was to map out the existing infrastructure, the in-ground conduit between the buildings, and, more importantly, the connectivity requirements at either end. Each demarcation point had multiple components in the optical path. To ensure each link was optically equidistant, the performance of each component needed to be accounted for in the final design.

As CommScope engineers worked through the technical issues, Equinix focused on logistics and ensuring their service provider's team was kept up to date. "The degree of communication among both teams, across all levels, was pretty impressive," commented Garth Doone, regional account representative for CommScope.

In October 2016, the team presented its completed design and budget to the client. The solution consisted of multiple runs of high-count ribbon fiber, all necessary rack-mounted fiber panels, and connector assemblies. In addition to the precise measurement of the spooled cabling, the end-to-end optical distance of each link had to be spot on. There were no second chances.

Installation and certification require precision and coordination

By mid-November, the project had transitioned into the engineering and implementation stages, and CommScope's installation partner, Millennium, became heavily involved. All CommScope partners are highly proficient with the company's cabling and components; in this case, Millennium was also highly experienced in OSP connectivity, mass-fusion splicing and the specialized field test equipment required. Still, this particular installation had no margin for error.

The installation phase involved teams from CommScope, Equinix, Millennium, and the service provider—at multiple levels of each organization. To ensure coordination of all personnel involved, a dedicated project manager was assigned to manage the myriad moving parts. Most importantly, individuals on the various teams had already identified their counterparts from each team during the planning phase, so everybody understood their responsibility and role.

"Once we started installation, we didn't waste time trying to figure out whom to call for what. That enabled us to remove a lot of potential barriers that could have slowed the project down and enabled us to get out in front of the timeline," Dinsay explained.

Five days prior to the go-live date, the project was ready for final testing and performance certification. Each of the links had to be tested and certified to ensure compliance to original specifications. This involved a highly sensitive optical backscatter reflectometer (OBR), typically used for precision measuring of in-building equidistant links.

Planning, precision and communication pay off

The moment of truth came the morning of the go-live day. Project team members were stationed at the terminal ends of the two trunk cables—one each inside buildings A and B, and one at the customer's matching engine where both cables were terminated at the OBR.

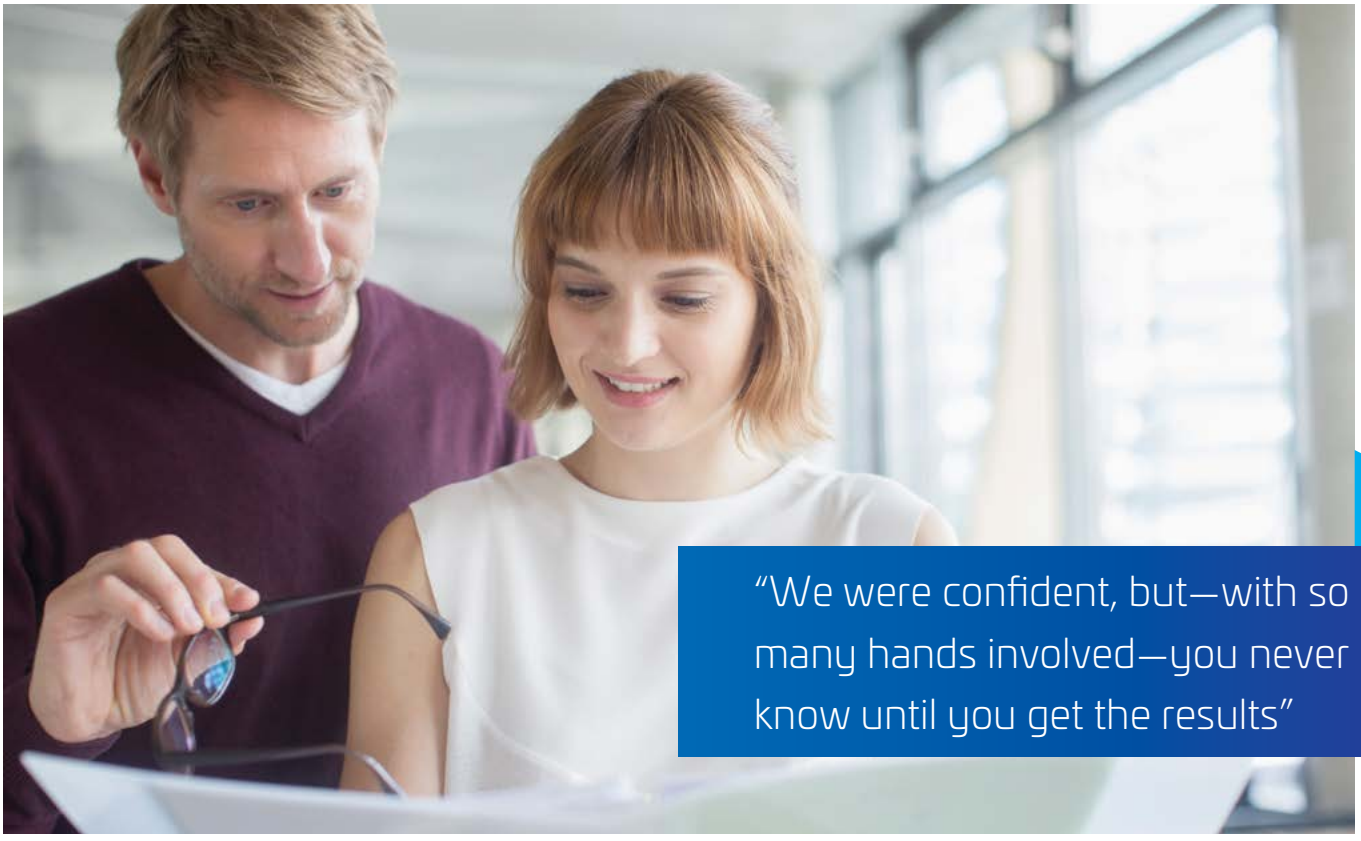
The OBR works by injecting optical pulses into the fiber, then extracting any light reflected at the same end. The reflected light that is gathered is used to characterize and measure the link's optical performance, including latency.

Testing to the predetermined tolerances of the fully spliced and connectorized channels is required to measure total distance. This is the determining factor of success. "We were confident, but—with so many hands involved—you never know until you get the results," Dinsay described.

Looking forward, the project's success is good news for high-speed financial platforms and their trading partners. It demonstrates that latency equalization in the outside plant is certainly doable. Closer to home, the project reaffirmed the value of working partnerships such as those between CommScope and Equinix, and within the MTDC Alliance.

Baldassano summed it up, saying: "Ultimately, it's about leveraging our complimentary expertise and working relationship to achieve extraordinary results for the customer."

As a result of the partnership, the company's infrastructure is now deployed on Platform Equinix®, a robust colocation and interconnection platform that places strategic controls points closest to users, clouds and networks—at the digital edge. The company can now directly connect with other financial trading partners for decreased latency, and scale the business up or down based on shifting markets.



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About Equinix

Equinix, Inc. (Nasdaq: EQIX) connects the world's leading businesses to their customers, employees and partners inside the most-interconnected data centers. In 52 markets across five continents, Equinix is where companies come together to realize new opportunities and accelerate their business, IT and cloud strategies.

In a digital economy where enterprise business models are increasingly interdependent, interconnection is essential to success. Equinix operates the only global interconnection platform, sparking new opportunities that are only possible when companies come together.

Learn more at Equinix.com

CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com

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