



Opportunity:

Build a high-density, manageable fiber cross connect to enhance redundancy and access reliability from more than 80 network providers to more than 200 clients, and reduce service time for service adds and changes.

Why CommScope:

CommScope was selected because of its Quareo® Cross Connect Frame system's ability to hold more than 3,000 strands of fiber in a reduced footprint, complete with real-time physical layer management capabilities.

Solution:

- Q-Frame System
- Q4000 Blades
- LC fiber connectivity
- Quareo Physical Layer Management System

Results:

Dedicated to delivering the highest level of customer service and ensuring a mission-critical infrastructure that is second to none, The Markley Group can now provide an added level of redundancy to ensure network reliability for their customers and deliver new services in hours, not days.

Markley One Summer Street is New England's largest and longest operating mission-critical and multitenant data center.

The operator recently provided its customers with improved redundancy and reliability from its more than 80 domestic and international network providers using an innovative cross connect frame and physical layer management from CommScope.

The Challenge

One Summer Street houses more than 200 clients, including industry leading financial, healthcare, academic, government, entertainment, and science and technology firms.

The One Summer Street data center features superior redundancy with service entry at both ends of the facility, and Markley Group's robust data center has never experienced a primary power outage throughout its more than a decade of operation.

"I'm all for adding redundancy wherever possible, and I felt that we could improve it

within our own facility between the carriers and the customers by adding yet another level of redundancy to our existing fourth-floor cross connect room," said William (Bill) McLean, director of telecom operations for Markley Group. "Cross connects are what enable us to hand off access from the carriers to our customers—the carrier cable is terminated there and then extended to our customers' suites."

Markley Group decided to add redundancy by adding an additional managed fiber cross connect room to the fifth floor of their 920,000 square-foot data center.

With eight points of entry into the centralized Boston location and the ability to provide customers with cost-effective cloud services, unlimited bandwidth, low latency and direct connection to any carrier or enterprise, Markley Group needed to ensure:

- Superior network management
- Reduced maintenance time
- Maximum uptime for the new high-density fiber cross connect

"In today's cloud-based, always-connected business environment, there is nothing more important than network reliability. We have long been dedicated to ensuring that our customers can rely on Markley Group to be connected to their critical applications and information 100 percent of the time. This cross-connect room is another example of our strength in this area."

~ Jeffrey D. Markley, CEO of Markley Group.



The Solution

Markley Group chose to provide improved redundancy, reliability and diversity throughout the building utilizing cutting-edge optical cabling from CommScope's Cross Connect Frame (Q-Frame) system, complete with Quareo physical layer management. Specifically designed for fiber intensive data centers, the four Q-Frames selected for the new cross connect room each hold 3,072 strands of fiber, while providing several key fiber management features:

- Ample pathway space to minimize fiber congestion and reduced risk of fiber damage
- Rear trough system that provides 72 inches of horizontal trough space
- Front of frame to rear trough routing system with no fiber cross-over points
- Easy tracing jumper for faster and efficient moves, adds and changes
- Minimal fiber weaving and bend radius protection at every turn

The Q-Frame system mounts to a standard 19-inch rack and the rear troughing system lines up between racks for superior frame-to-frame routing. One of the unique features of the Q-Frame is the **ability for any port within a single frame to be connected using a 6-meter fiber jumper**. As additional frames are added, the length to connect any port from frame to frame increases by one meter. This reduces the number of different jumper lengths that need to be kept in inventory.

The frame's built-in fiber jumper storage panel also stores up to 3.5 meters (12 feet) of slack while maintaining fiber bend radius and minimizing risk of microbends that can damage the fiber.

"I like being able to put all that fiber into the frame and keep it neat and organized using the same size fiber jumpers," said McLean. "Compared to the older fourth floor cross connect room, one Q-Frame in the new fifth floor cross connect room replaces an entire row."

The Q-Frame installed at One Summer Street houses CommScope's Q4000 managed network chassis and blades, which supports CommScope's Quareo® Physical Layer Management Solution. The Quareo-enabled fiber jumpers, record real-time data from embedded microchips at the time of installation. This information is then utilized by CommScope's Quareo® Infrastructure Configuration Manager (ICM) software to explore, discover and map all connections and automatically record any changes to the connections as they happen. With this system, Markley Group can view, manage and audit all of the fiber connections within the frame and beyond. This information provides them with unprecedented security and business continuation by making every interruption, intrusion or outage instantaneously visible via graphic display and reporting tools.

Quareo physical layer management reduced time-to-service for new clients and those adding circuits. Because the network technicians can now see which ports are activated and open, they no longer need to spend 2-3 days deploying technicians to validate network data. Today, there is real-time visibility to activate circuits quickly, minimize human errors with cross-connects and records are automatically updated.

"I really like the physical layer management capabilities that we have with the new cross connect room and the ability to track port-to-port connections," says McLean. "If a jumper gets unplugged, we'll know immediately. The enhanced record keeping will help us to continue to maintain availability and reduce our meantime to repair because we can find ports extremely quick."

With the Quareo-enabled Q4000 blades and connectivity, each port is continually monitored and LEDs indicate power and alerts. In the high-density Q-Frames deployed at One Summer Street, the Quareo LEDs have made the cross connect room somewhat of a show piece for the data center operator. "It really catches everybody's eye, and those with an IT background that tour our facility are truly amazed by the capability," said McLean.

“When CommScope offered us a demo Q-Frame, I was extremely impressed by the density and management capabilities of the system. I think the Q-Frame was truly the catalyst for deploying the new cross connect.”

– Bill McLean - Director of Telecom Operations, Markley Group



The Future

Markley Group plans to offer Quareo Physical Layer Management capability to their customers in the future, providing the opportunity to better track connectivity all the way from the cross connect room to their suites. It will also allow Markley Group to more easily extend carrier access out to the customers' suites because they will know exactly which ports are coming into the cross connect room from which carriers.

With four Q-Frames in place and two already populated—one for carriers and one for customers—Markley Group has plenty of capacity to eventually connect all of the carriers and customers to the new, redundant fifth floor cross connect. Within just a couple of weeks of announcing the availability of the new cross connect, many customers and carriers are already benefiting from the improved redundancy and reliability. Markley Group anticipates that all carriers and customers will eventually opt for the additional redundancy, and they plan to select CommScope's Q-Frame with Quareo Physical Layer Management for future similar projects.

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