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Wellstar Health Systems Delivers Successful Expansion with Siemon Advanced Data Center Solutions

Healthcare

Reading Time: 9 min.

LOCATION: Atlanta, Georgia

PRODUCTS: Siemon LightVerse® Fiber Optic Cabling System, Copper Cabling System with Z-MAX® Cabling System, SkinnyPatch® Modular Cords and Cable Tray Rack

APPLICATIONS: Electronic Medical Records, Emergency Medical Care, Medical Software, Specialty Healthcare Applications, and Medical Research

While organizations typically utilize the cloud for common business applications; increased focus on security, control and regulatory compliance have led to many adopting private hosting within colocation spaces to support the majority of their workloads within colocation space. This is especially the case in the healthcare industry where having full control and visibility over electronic medical records, maintaining uptime and availability, and supporting emerging technologies is paramount for delivering exceptional patient care as well as complying with stringent healthcare standards and regulations.

Enhancing Security, Compliance, and Reliability

As the only health system in Georgia with Level I, Level II, and Level III trauma centers, Wellstar operates 10 hospitals, 9 emergency departments, more than 350 medical offices, and dozens of other healthcare services throughout the greater Atlanta and western regions of the state. Having grown alongside technology since their establishment in 1993, Wellstar realized that their on-premises data centers no longer provided the reliability needed to maximize uptime and patient care across their facilities.



Migrating their workloads into two diverse carrier-neutral colocation data centers owned and operated by QTS, Wellstar Health System significantly enhanced security, facilitated regulatory compliance, and improved reliability.

Rather than upgrading and expanding existing data center facilities, they decided to migrate their workloads to two diverse carrier-neutral colocation data centers owned and operated by Quality Technology Services (QTS), a leading provider of more than 7 million square feet of data center space across North America and Europe. One of the colocation data centers is LEED Gold certified and the largest in the Southeast with 970,000 square feet of space, more than 275 MW of planned capacity, its own on-site power substation, and direct fiber access to a variety of service providers. The other offers 385,000 square feet and 26 MW of power capacity with diverse power feeds and plenty of room for expansion.

Wellstar occupies a similar amount of space within the two colocation facilities, with one location consisting of two longer rows of about 38 cabinets each and the other consisting of four shorter rows. For reliability, each data

hall has incoming service from three different service providers at speeds of 100 Gigabits per second (Gb/s) over singlemode fiber from the colocation's meet-me room. Once inside Wellstar's data hall, switch-to-switch links are accomplished via 40 Gb/s multimode fiber applications (i.e., 40GBASE-SR4) using 8-fiber MPO connectivity and the majority of switch-to-server links are supported using 10 Gb/s duplex multimode fiber applications. "We are now running about 70% of our servers over duplex fiber, with Category 6A copper twisted-pair for management and some legacy applications that we plan to eventually migrate over to fiber," explains DaBreo.

"While we have main distribution facilities in each hospital and hundreds of telecom rooms across our locations, we have moved all of our data center operations out of our premises and into colocations, which ends up being much better for regulations," says Andre DaBreo, network engineer at Wellstar Health System.

Complying with the Health Insurance Portability and Accountability Act (HIPAA) and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requirements means that regulators can access their leased space for inspection purposes, the security of using a colocation data center is a significant benefit. "We have very precise policies and procedures for handling equipment and healthcare data and having too many hands in the pot can really mess things up. With our highly secure data halls that not even executive leadership can access, we no longer need to worry about keeping people out of the data center," he says.

Increasing Density with Complete Peace of Mind

When Wellstar migrated their workloads to QTS colocation data centers, they signed a 7 to 10 year lease at a time when the price for space was not at the premium it is today, but that has changed. "Space wasn't a big deal early on. We had plenty and weren't anywhere close to maximizing density, but now servers are constantly being brought in for new medical applications. At the same time, we have to keep patient records for many years to comply with regulations," says DaBreo. "With inflation and hyperscalers and enterprise businesses now buying up colocation space, the cost has increased. If we needed to buy more colocation space, it would now be at a premium."

Thankfully, Wellstar has been able to expand within their leased space using advanced data center solutions from Siemon that facilitate the management of high-density connectivity, ease installation, and cost-effectively support migration to higher-speed applications.

For their initial migration to the colocation data centers, Wellstar used an early generation standard-density fiber enclosure from Siemon that supported up to 96 duplex fiber connections or 48 MPO fiber connections in a 2U space. At the time, it was the ideal solution for Wellstar due to its superior cable management, port identification, and accessibility. As Wellstar needed to bring more high-speed servers online, they deployed Siemon's high-density plug and play fiber system with low-loss modules, adapters, trunk assemblies, and jumpers that supported their need for 72 duplex fiber ports in a 1U space. While that solution served them well for several years, when Siemon unveiled its innovative LightVerse® High-Density Fiber Optic Cabling System with advanced features and flexibility, it was an easy decision for Wellstar to advance once again.

"Our growth over the years with Siemon fiber enclosures has been seamless. But now with LightVerse, I am able to get more fibers into the same amount of space," says DaBreo. "Moving forward, any new fiber connectivity we deploy will use LightVerse. We also plan to migrate over any of the earlier generations of fiber enclosures that are still in use, both within our leased space and our on-prem closets."

Available in 1U, 2U, or 4U, the LightVerse Pro version chosen by Wellstar supports up to 96 fibers or 48 duplex ports in 1U, allowing them to easily support more connections within their existing leased space. LightVerse's integrated front and optional rear cable managers, cable strain relief brackets, and multiple cable entry points also provide Wellstar with flexible design and installation options. LightVerse can also be easily installed by one person and its front- and rear-accessed high-contrast sliding tray and integrated label holder can be accessed when the door is closed.

While the LightVerse system's wide array of transition modules, pass-through adapters, and splice solutions support multiple connector types and any termination method, DaBreo appreciates that he can leverage the same pre-terminated trunks and assemblies used with the previous generation enclosures. That includes Siemon's innovative LC BladePatch® jumpers for server connections that feature a revolutionary push-pull boot design for easy access and removal in tight-fitting areas, smaller diameter uni-tube cable design, and integrated polarity change capability via a patented rotating latch.

"While we will eventually transition everything in the colocation and our on-prem spaces to LightVerse, we still have three generations of Siemon fiber enclosures in use in the meantime. We really like that we can easily migrate using the same assemblies and continue to do our fiber patching with Siemon's LC BladePatch jumpers where changing polarity is so simple. That's important for us since we have two teams that use different polarity methods."

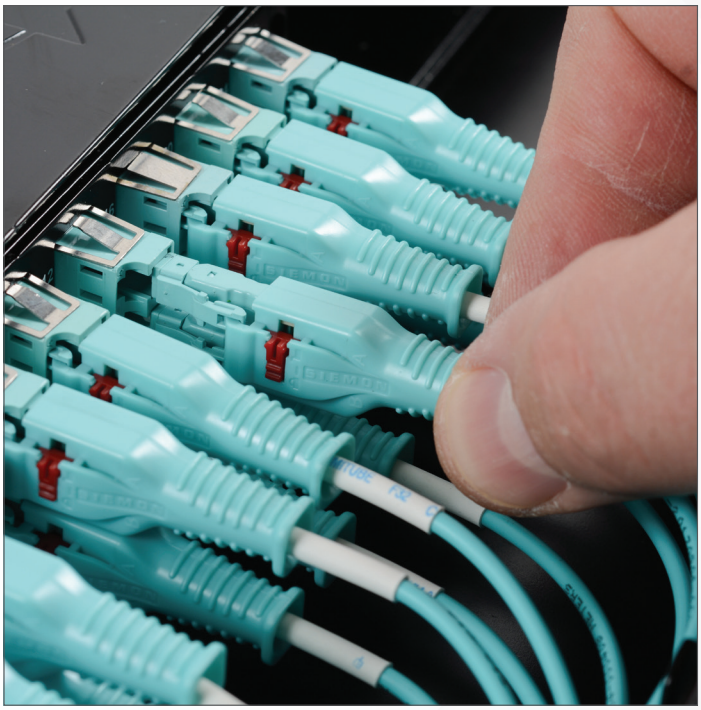
— Andre DaBreo
Network Engineer at Wellstar Health System

To support data storage systems, Wellstar uses Siemon's unique Cable Tray Rack that mounts directly to overhead ladder rack or cable tray, delivering up to 6U of easily installed and accessible 19 in. rack mount space above cabinets and racks without consuming additional floor space. "Our data storage solution provider does not allow us to put any additional components into their racks, and the Cable Tray Rack allows us to easily support connectivity to these systems," explains DaBreo.

In addition to Siemon's innovative fiber connectivity solutions within Wellstar's leased space at QTS colocation data centers, the health system has also deployed Siemon's Category 6A Z-MAX® copper cabling system with SkinnyPatch® Modular Cords that deliver superior performance with a reduced cable diameter for improved airflow and increased flexibility in high-density patching areas. The smaller 28 AWG stranded copper construction of the SkinnyPatch cords offers a significantly tighter bend radius for easier cable routing and enhanced cable management, providing pathway space savings in racks and cabinets while facilitating reconfigurations in tight spaces.



Siemon's innovative LightVerse® High-Density Fiber Optic Cabling System enabled Wellstar to expand from 72 duplex fiber ports to 96 in the same 1U space.



Siemon's industry-leading integrated polarity change with the innovative push-pull boot design is ideal for Wellstar that uses two different polarity methods.



Within Wellstar's high-density copper patching areas, SkinnyPatch® Modular Cords improve manageability, airflow, and flexibility.



Siemon's overhead Cable Tray Rack allows Wellstar to support connectivity to data storage systems that prohibit placing components within the same cabinet.

Relying on Superior Service and Support

While Siemon's LightVerse system and advanced data center solutions have enabled Wellstar to support increasing connectivity within their leased space, partnering with Siemon for more than a decade has also provided the superior performance, service, and support they need to quickly meet changing healthcare needs and deliver effective outcomes. From audits and the initial design needed to effectively build out their colocation space and support technology requirements, to comprehensive training and ongoing logistics support, Siemon's Data Center Design Services and advanced customer service has been invaluable to Wellstar's network teams.

> **"We've never experienced any problems with Siemon's copper and fiber data center solutions. It's been untouchable from a performance and reliability perspective. If it weren't for the service and support, perhaps we would have considered other solutions. But all I have to do is call Siemon and they come through. When I have a rush job, they go all out to make sure we have the components we need, when we need them."**
>
> — Andre DaBreo
> *Network Engineer at Wellstar Health System*

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