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Greenville
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Hospital

Greenville Hospital System Gains a New EDGE

Information is now the lifeblood for today's leading health care services organizations. Patient records, test results, regulatory record-keeping, research materials and sophisticated information management systems link multiple hospitals, clinics, labs and practices into an integrated environment, generating ever-increasing levels of data that must be moved, managed and stored to help ensure effective patient care and hospital management.

INNOVATIVE CORNING CABLE SYSTEMS DATA CENTER SOLUTIONS ENHANCE DATA CENTER UPGRADE

From one perspective, this makes the hospital's data center almost as vital to patient outcomes as emergency rooms or intensive care centers. Equipping the data center with leading edge servers, storage systems and communications platforms ensures that crucial information moves freely and is available when and where it is needed throughout the system.

Greenville Hospital System University Medical Center (GHS) is a leading South Carolina health care provider and academic health organization with five campuses providing integrated health care to communities across upstate South Carolina. Its facilities include a tertiary referral and education center, multiple community hospitals, an acute care hospital, nursing home, outpatient facilities and wellness centers.

GHS began a multi-year project to fully migrate its main data center location, ISC, from its original legacy mainframe architecture to a state-of-the-art, server-based LAN/WAN/SAN data center environment. ISC is GHS' main data center, providing a complete array of systems, application support and information storage services for all locations in the system.

At the same time, GHS was also implementing a second data center at their Patewood campus in Greenville, to serve as a mirror site for redundancy, load balancing and disaster recovery applications.

Over the last several years, GHS has worked closely with Corning Cable Systems to utilize the company's fiber communications products and systems -- including use of Corning's LANscape® Solutions Plug & Play™ Universal Systems in both the ISC and Patewood data centers.

As the GHS IT management began to implement the multi-year ISC and Patewood projects, they turned again to Corning Cable Systems, seeking to use

the company's most advanced solution for solving data center challenges: LANscape® Pretium EDGE™ Solutions.

GAINING AN EDGE IN DATA CENTER MIGRATION

Corning Cable Systems Pretium EDGE Solutions are preterminated systems created to take today's highly dynamic, constantly growing data centers to the next level. Consisting of optical trunks, harnesses, modules, housings and jumpers, Pretium EDGE Solutions are designed to help improve data center services, reduce expenses, make significantly better use of valuable data center floor space and to minimize risk. These advantages led GHS to be one of the first data centers to use Corning's new Pretium EDGE Solutions.

According to Russell Lowery, Senior Network Engineer, Telecommunications for GHS, the system upgrades required at the ISC location presented a logistical challenge due to the ISC's original design as a mainframe center. "When the room was built, it was designed to support a water-cooled, mainframe system," said Lowery. "Now, it needs to support a server-based architecture -- but migrating to that architecture in the existing space is not easy. We've been following a row-by-row approach -- installing new cabinets, new cabling, moving current systems into new racks, and replacing older systems with the newest systems -- a new LAN, and new SAN systems relative to the expansion of our SAN storage."

MANAGING THROUGH TIGHT SPACE CONSTRAINTS

Because of tight space constraints, it has historically taken longer periods than desired for Lowery's team to plan and implement system upgrades -- in some cases, requiring scheduled service outages for up to eight hours, which complicated many activities throughout GHS' opera-

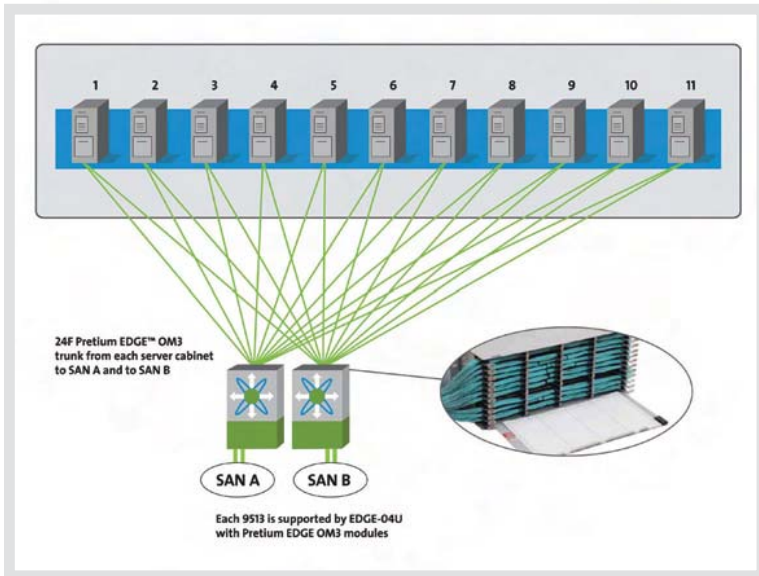


Russell Lowery, Senior Network Engineer, Telecommunications for GHS in data center

tions. According to Lowery, once GHS began using Corning's Pretium EDGE™ Solutions product, it freed up space to help them implement their upgrade efforts more efficiently -- and made much more effective use of the ISC's existing footprint.

"The biggest value we get from the Pretium EDGE Solution is the increased density and resulting decreased footprint in the racks," Lowery said. "It's kind of like a chess match; we have to clear out a space on the floor to build a row, and then migrate systems to it. With Pretium EDGE, we're saving space with each row we build, and that's helping with the migration."

SAN Cabling Infrastructure per Row



4U Pretium EDGE Housing



Trunks Installed in Rear of 4U Pretium EDGE™ Housing



Pretium EDGE Solutions components have been engineered to deliver major density improvements to help data center managers conserve valuable space. They offer 100 percent more density compared to other data center products. Trunks are on average 30 percent smaller, with a minimum bend radius of five times the outer diameter of the cable; smaller trunks allow for 50 percent more cables to be stored in cable trays; and the 4U housings have an industry-leading density of 576 fibers -- twice the density of previous generation housings.

“There’s only so much new space made available when we add a new row,” Lowery said. “Having the higher density Pretium EDGE™ Solutions allows us to eliminate the rack units we would have needed to terminate the trunks, and we can then use that rack space for other data center components, such as servers and storage systems.”

One of the first uses GHS made of the Pretium EDGE Solutions was in the upgrade of the ISC SAN platform with two new SAN directors. The design implementation utilizes Pretium EDGE Solutions trunks from the server cabinets to the SAN distribution cabinets, where 4U Pretium EDGE housings, modules, and jumpers are utilized to provide high-density connectivity to the SAN directors. Use of the Pretium EDGE jumpers, compared to traditional zipcord jumpers, reduces the cabling congestion, maximizing the density and ease-of-use in the Pretium EDGE housing.

According to Lowery, the plans for this SAN upgrade were undergoing revision, due to changes in other equipment specifications, when it became clear that the Pretium EDGE Solutions products would be available for use with the SAN network. “We had been planning to use Corning Cable Systems’ products in the upgrade projects. We also found out that the Pretium EDGE™ high-density solutions would be ready for use and would give us space back, which was an added advantage,” he said. According to Lowery, the advantages offered by Pretium EDGE™ Solutions -- increased fiber density, greater flexibility and ease of use -- have also been proven in use at GHS’ Patwood data center.

IMPROVING MOVES, ADDS AND CHANGES AT GHS

Several Pretium EDGE Solutions features make moves, adds and changes much easier, and less risky. The system features a unique hardware design, with housings containing individually sliding trays into which the modules are loaded. The individual trays make it easier and less time-consuming to patch during moves/adds/changes, and every tray has separate routing guides so jumpers are easily managed.

“Pretium EDGE Solutions are much easier to use,” Lowery said. “The way the trays slide out, and you can reach your whole hand into where the connection is made - it’s a lot more user-friendly, and safer. There’s a lot less risk of someone breaking an

adjacent connection and causing an outage, with the Pretium EDGE Solutions trays.”

In addition, Pretium EDGE Solutions trunk cables feature Corning® ClearCurve® bend-insensitive optical fiber, making cable management in the racks easier.” ClearCurve technology was a value-added benefit of Pretium EDGE Solutions,” Lowery said. “It gives us more flexibility to manage cables, fit them into tighter spaces, as well as in the backs of these high-density housings; it’s an awful lot of cable coming in at one time, and having that additional flexibility makes it easier to make changes.”

FASTER, EASIER INSTALLATION

According to Lowery, the installations have all gone very smoothly, due to Pretium EDGE™ Solutions features such as zippered pulling grips on the trunks and the new, square furcation plug allowing for integrated strain-relief to the EDGE housing.

GHS has an existing installed base of Corning Cable Systems® products in the data center. Pretium EDGE Solutions components are fully compatible with that installed base, which has been an added advantage. “Recently, we were able to take an existing cabinet full of blade servers, disconnect the fiber trunks and pull them out of the cabinet, turn the cabinet around and slide it across the room. We connected the trunks right back to the modules, powered it up and the network came back on line in a matter of minutes.

“We wouldn’t have had the ability to do that if we didn’t have the density Pretium EDGE Solutions provide and the ability

to use MTP® Connector trunks to get the system back online in that timeframe,” Lowery said. “That’s the beauty of Corning Cable Systems – their preterminated solutions are backwards-compatible, so we don’t have to go through and make a wholesale change to use the newer Pretium EDGE Solutions products.”

PLANS FOR LONG-TERM USE

Although GHS was one of the first data centers to install Pretium EDGE Solutions, Lowery said he had no concerns about the risks of using a new product, based in part on GHS’ long success using Corning Cable Systems products.

“I never had any doubts about the Pretium EDGE™ Solutions products and that they were exactly what we were looking for,” he said. “We haven’t had any reliability issues, and I’ve never been let down by anything that Corning has produced.”

He added that the Pretium EDGE Solutions clearly provide a data center fiber backbone that will have long-term value to GHS, and they plan to continue using it as the ISC migration proceeds through 2012 -- it is truly “growth-enabled” and “future-proofed.”

In addition, he said Pretium EDGE Solutions offer the potential for much longer-term value. Evolving industry standards for higher bandwidth are expected to eventually call for direct MTP-to-MTP connections between electronics, in order to support throughput rates from 40G to 100G. “We really expect that we will be able to use the Pretium EDGE Solutions trunks for this application in the near future when it is called for, so this is an investment that will last,” he said. ■

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