

Cabling for a Cure: CommScope Provides Providence Health System's New Cancer Center with 10 Gb/s cabling



Providence Portland Medical Center, which is part of Providence Health Systems in Portland, Oregon, US, is recognized for excellence in patient care and research in areas such as cancer, heart, orthopedics, women's health, rehabilitation services and behavioral health. In order to continue offering some of the best medical care in Portland, the medical center saw the need to open a new cancer center for research and patient treatment.

The cancer center known as Providence Health Systems North Pavilion is a 13-story, 460,000 square foot facility with 21 operating rooms for cardiac, orthopedic and neurosurgery and an estimated 238 beds that will be available for patient care. From the beginning, planners knew that the new cancer center would need cutting-edge medical and research equipment and an infrastructure to support these applications so Providence IT Construction Manager Alan Crauthers turned to long-time specialty low voltage contractor partner, Xtreme Communications to find a solution.

“Medical facilities often are faced with unique challenges, such as finding ways to provide top services on a restricted budget or finding a solution that will continue to support its needs 10 years down the road,” Mark Jacobs, president of Xtreme communications, said. “The latter is particularly important in oncology where huge radiation files and other information need to be sent and reviewed as quickly as possible; the files are only going to get larger as equipment continues to advance. I think everyone involved knew Providence was going to need a 10 Gigabit solution in order to provide a superb standard of care for years to come.”

The North Pavilion Site chose the SYSTIMAX® GigaSPEED® X10D and the SYSTIMAX LazrSPEED® Solutions – making the site the first installation of the GigaSPEED X10D Solution for a major metropolitan medical center in the US. Crauthers chose the SYSTIMAX cabling infrastructure not only because Providence has used the structured cabling for more than a decade, but also for its ability to support and exceed emerging 10 Gigabit Ethernet requirements, the bandwidth needs of today’s hospital’s more demanding applications, such as medical imaging and high-resolution video.

Crauthers designed, planned and managed the cabling infrastructure and Providence Health System Infrastructure & Cabling Services a division of Providence Health Systems’ Oregon Regional Information Services Division, will continue to support that infrastructure with the help of its preferred cabling business partners. The structured cabling systems in the new cancer center will handle a wide range of applications, including medical imaging, video conferencing, voice services (including VoIP), wireless access, environmental controls, building access, biomedical monitoring and other data applications. In addition, the network will also use radio frequency (RF) tags in patient bracelets to enable patient tracking, allowing doctors and the hospital to track a patient’s progress on an internal Web site. The cancer center will be the first RF site in Portland.

Crauthers utilized a multimedia zone cabling design – a design that places all of the hospital’s services (data, telephony, etc.) in a single communications closet. In the past, these specialty services never co-mingled in the same communications rooms within the facility and required the installation of different types of cabling. By bringing these services into a single location, the cancer center can begin to develop a unified cabling infrastructure within the building, enabling IT to provide various services to patients and staff over the same type of cabling. The design also ensures that as walls and other physical features change in the facility, IT will still be able to reconfigure future services without having to re-pull the entire cabling infrastructure.

This design scheme was first put into practice at the New Providence Newberg Medical Center and since its opening in 2006, Providence has installed and reconfigured additional

cabling services at a fraction of the cost of a “home-run” cable method. The process significantly reduces the number of man hours it takes to remove cables and pull in new cables from the communications closet to the area of work. Newberg has seen more than a 20 percent decrease in the cost of adding new cabling services.

The installation for the North Pavilion site, which began in January 2007, consisted of 773,000 feet of the GigaSPEED X10D copper cabling, 3,850 feet of the LazrSPEED 10 Gb/s fiber cabling, 3,725 feet of riser cable, 28,250 feet of coax and 20,000 feet of miscellaneous cabling. In addition, there are 11 communications rooms and most of the cabling is routed directly to desks and workstations via cabling trays in the ceiling space.

The SYSTIMAX GigaSPEED X10D solution is the first full UTP solution that fully complies with the latest IEEE 802.3an task force guidelines for 10GBASE-T and is designed to support emerging 10 Gb/s Ethernet requirements. The GigaSPEED X10D Solution features GigaSPEED 91 Series cable (available in plenum, non-plenum and low smoke zero halogen versions), a new, innovative Universal Modular Patching (UMP) panel, MGS500 outlets and GS10E patch cords. The LazrSPEED 10 Gigabit laser optimized multimode fiber solution enables cost-effective migration from 10 Mb/s to 10 Gb/s in premises networks – more than enough to send large diagnostic files from anywhere in the building.

“Future-proofing the facility’s cabling infrastructure with 10 Gigabit cabling was the obvious choice,” Crauthers said. “The new infrastructure will enable us to handle greater data transfer speeds now and in the future. It will also aid in reducing future costs in providing IT services. With the continuing rise of healthcare costs within the industry the Providence and other healthcare organizations have to find new ways to reduce or eliminate future costs. The 10 Gigabit cabling is already helping us to do this.

“This project and the installation of its structured cabling system is the result of many people and businesses working together in a partnership to see it successfully completed,” he added. “Xtreme Communications is supplying the project with dedicated, skilled cabling technicians. CommScope is providing the materials, engineering and sales support. And even general contractor Turner Construction made sure the building is architecturally sound with the right specifications for the closets and communication rooms. With this collaboration, Providence will be able to offer the very best for our patients when the new facility opens next year.”

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