



SYSTIMAX® Solutions

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Cecil D'Cruz, Western Health

CommScope 10G Network Infrastructure is Fourth Utility Serving Multiple Systems in Hospital's New Buildings

SYSTIMAX® VisiPatch® 360 and GigaSPEED® X10D deliver fast, reliable connectivity for applications ranging from body scanners to building control

High performance solutions and top quality installation satisfy the needs of many different systems at Melbourne's Sunshine Hospital with one network. By combining 10G end-to-end data transmission with advanced patching hardware, SYSTIMAX solutions deliver world leading performance, reliability and convenience.

Western Health is the major provider of acute health services in western metropolitan Melbourne. It employs 5,000 staff on three campuses that serve a local population of nearly 700,000 that is increasing at four percent annually.

To meet growing demand, Western Health is constructing two new buildings on its Sunshine Hospital campus in Melbourne's St Albans district. A new, single storey Radio Therapy building covers 4,500m² and a five level Teaching, Training and Research facility has 12,500m² of floor space. As in all healthcare facilities, the network infrastructure in the new buildings is critical to their success.

The original network tender documents called for separate connectivity to support voice, data, security, CCTV, building management systems and nurse call systems. When the team at Lanec, a Melbourne - based CommScope Prestige BusinessPartner, studied the requirement, they proposed a different solution.

Lanec's proposal was to use CommScope's SYSTIMAX structured cabling solutions to build a single infrastructure able to serve all the systems. By making connectivity a 'fourth utility', alongside electricity, water and gas, the cost and complexity of many separate cabling installations was avoided.

With the simplified solution, high performance 10G connectivity could be provided throughout the buildings. This gives a high level of 'future proofing' to all the systems it connects. New generations of more sophisticated equipment can be installed over many years to come without fear that network bandwidth will restrict the benefits.

Other advantages of a single integrated network include faster, more easily managed installation. Efficient, secure management of the operational network is also made easier by centralizing active components and patching hardware.

"We were quickly convinced of the performance, cost and convenience advantages of the fourth utility approach. And, because we have to operate 24/7, anything that minimizes the need for maintenance work is major, long-term advantage for us" said Cecil D'Cruz of Western Health. "However, before going ahead, Lanec had to overcome uncertainty among building management and security system contractors on the project. It took a number of meetings and visits to Lanec's dedicated demonstration facility to convince everyone that this was the right way to go."

The network designed by Lanec has consolidation points (CP) in all work areas. These have 20 percent redundant connections, allowing new information outlets to be added to the network very quickly. No more than 15 meters of cable is needed to connect any part of a work area to the nearest CP, making it fast to deploy new systems.

CPs facilitate faster and more cost effective changes to the cabling infrastructure and importantly restricts any associated disruption to the area being worked on. "The use of CPs also help in the initial installation phase, as final positioning of outlets change right up to the completion of the job. Without CPs we would literally have dozens of change orders and associated cost and delay, but this is almost completely eliminated by the use of CPs" says Slavko Brinski, Lanec's on site Project Manager.

Consolidation points are connected to communications rooms via SYSTIMAX GigaSPEED X10D cabling. This has end-to-end performance comfortably exceeding the specifications of the Category 6A standard for data transmission at 10Gb/s over unshielded, twisted pair connections. The extra performance makes all the systems more responsive. For instance, it allows very large files containing medical images to be delivered where they are needed with less delay.

Five communications rooms in the training building and one in the radiography facility are equipped with ergonomically advanced SYSTIMAX VisiPatch 360 patch panels. By avoiding the patch cord spaghetti that clutters traditional panels, the VisiPatch design makes moving patch cords quicker and minimizes the risk of errors.

VisiPatch 360 panels are also used at the consolidations points. From here, they are cross-connected with each other and with panels in the communications rooms to provide high levels of redundancy and resilience in the network physical layer.

During work on the network infrastructure, Lanec deployed up to 12 people on the project. They connected more than 750 outlets in the radio therapy building and 2,000 in the training facility. Cabling is routed under the floors to wall and floor-mounted outlets, or above the ceiling with dropdowns to desk mounted outlets

In total, the project required 190km of low smoke zero halogen GigaSPEED X10D copper cabling Category 6A UTP, 2000 VisiPatch 360 four-pair leads and 2000 Category 6A RJ45 leads. For risers and links between buildings, the team installed 1500 meters of SYSTIMAX LazrSPEED® multi-mode fiber cabling. This exceeds specifications of the OM3 fiber standard and delivers 10G performance over distances up to 300 meters without need for expensive single-mode electronics.

All frame layouts, cabinet layouts and schematic drawings for the building automation system and security have been done by Lanec. The company also worked closely with security and environmental control contractors to ensure their equipment could be easily connected to the network.

The integrated SYSTIMAX infrastructure is certified by CommScope to deliver the specified performance from end to end. It also has a 20-year warranty and application assurances, so the hospital can be confident it has a consistent connectivity platform for current and future services. Because of the network design and compatibility of SYSTIMAX solutions, the costs of extending the network are also reduced.

Reginald Evans, Regional Sales Director South Pacific, CommScope Enterprise Solutions. said: "This is an example of how the exceptional performance of our solutions and our BusinessPartners combine to deliver an outstanding result for the customer. Sunshine Hospital can rely on its network to meet all its needs – and minimize running costs - for many years into the future."



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