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Bob Leysenaar
System Support Manager at
Lyell McEwin Health Service Hospital

Hospital’s Integrated Cabling Infrastructure Serves IT, Telephony and Building Management Systems

SYSTIMAX® Structured Connectivity Solutions at the Lyell McEwin Health Service Hospital connect applications ranging from MRI scanners to heating and ventilation

Summary: The Lyell McEwin Health Service Hospital in Adelaide is one of South Australia’s leading public hospitals. As well as wards with a total of 200 beds, it has established centers for same-day treatment and student teaching. Over the last two years, the hospital has been adding to these resources with new facilities to handle emergencies, intensive care, medical imaging and same-day surgery.

Before its latest phases of development, the hospital used SYSTIMAX PowerSUM UTP copper cabling and 110 patching hardware to connect its systems. However, to equip the new facilities and improve connectivity in existing buildings, it wanted an upgraded cabling infrastructure able to support new, network-intensive systems and at the same time, the hospital wanted to make savings in its operational costs. In addition to higher performance, the hospital’s IT department specified that its new structured cabling solution should serve all low voltage applications on the site. As well as data and voice, these include systems for security, nurse call, medical diagnostics, heating and ventilation, access control, wandering patient alarms and CCTV. To meet the requirements of all these applications, the IT department looked at a variety of cabling options from different suppliers. After carefully comparing all alternatives using the Department for Administration and Information Services (DAIS) guidelines, it decided to go forward with new generations of copper and fiber cabling solutions from SYSTIMAX® Solutions.

“These allow us to have a common infrastructure for all services and deliver the connectivity performance we need to take advantage of emerging technologies,” said Bob Leysenaar, System Support Manager at Lyell McEwin Health Service Hospital. “With the SYSTIMAX GigaSPEED® XL and OptiSPEED® Solutions, we could also be sure our IT applications wouldn’t be compromised or corrupted by other services using the same infrastructure.” To design the new network, DAIS worked closely with the hospital’s redevelopment committee and engaged local engineering consultants, Bestec, to fully document the total integration of the building engineering systems to run over a common structured cabling system. TAC Pacific, who specializes and leads the market in information technology for buildings, supplied all of the building automation equipment. For the installation work, TAC Pacific chose Diverse Data Communications, a SYSTIMAX BusinessPartner with offices in Athol Park, South Australia. Working as a team, these organizations met the challenge of providing an infrastructure that would reliably support the differing needs of all the hospital’s low voltage systems.

The network they designed and installed has 18 intermediate distribution frames, six on each of the building's three levels. These are equipped with the innovative, high quality SYSTIMAX 110 VisiPatch® network patching solution.

VisiPatch hardware uses reverse patch cord technology that allows cords to be run through channels below each row of connector blocks. This avoids the "patch cord spaghetti" that makes traditional panels so hard to work on and ensures that connector labels are clearly visible. As a result, re-patching is quicker and easier, and patching errors can be avoided.

SYSTIMAX GigaSPEED XL 1071E cable is used for connections from the distribution frames to more than 5,000 information outlets throughout the hospital.

Used with VisiPatch panels, the end-to-end performance of this solution exceeds the performance specifications set in both the international and local Category 6 cabling standards. It will comfortably support Gigabit Ethernet over four connector channels at distances up to 100 meters, even under adverse conditions such as the presence of electromagnetic noise.

In total, 300 Kms of GigaSPEED XL cabling has been installed, most of it running above ceilings with dropdowns to desk mounted outlets. These horizontal channels are connected via 320 VisiPatch frames located in the floor distribution communication rooms.

SYSTIMAX OptiSPEED fiber solutions were used for the network backbone connecting the intermediate and main distribution frames. For longer runs, Diverse Data Communications installed 3 Kms of singlemode OptiSPEED cable and for shorter runs they used a total of 3 Kms of multimode OptiSPEED fiber.

"As well as cutting our network management and maintenance costs, the new, integrated infrastructure provides all the performance and reliability we need for present and future generations of systems." said Bob Leysenaar. "It also comes with end-to-end performance guarantees and application assurances covering all our systems - not just data and voice,"

At the same time as upgrading its cabling, the hospital moved away from the interconnect method of linking servers and other devices to distribution frames.

Instead, the new installation uses the cross connect method to improve flexibility and manageability by simplifying rearrangements, upgrades, and moves of equipment. Cross connection also has the advantage of faster system restorations when equipment is changed.

Commenting on the hospital's installation, Reginald Evans, Director South Pacific, SYSTIMAX Solutions™ in Australia said: "Modern hospitals need proven, high performance solutions that can provide a reliable cabling infrastructure for all their applications. This not only cuts initial costs, it also makes savings on management and running expenses over the whole life of the infrastructure – releasing more resources for patient care."



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