



Mater Hospital treated by ADC KRONE

Structured cabling solution links two Hospital campuses, providing bedside communications

CASE STUDY

CHALLENGE

When Townsville's Mater Hospital acquired the nearby Wesley Hospital, the IT team needed to create a communications link between the two hospitals. It was also the perfect opportunity to upgrade the entire system. The Hospital wanted to enable access to remotely stored medical data from the patients' bedsides as well as provide patients with Internet access and improved telephone facilities.

STRATEGY

The Hospital chose CopperTen™ (Category 6A cabling) – an integral part of ADC KRONE's TrueNet® structured cabling system – for data as well as providing new phone cabling. The system uses colour coding for sockets and cables so as to identify each line's usage.

RESULTS

After a smooth installation, the Hospital anticipates a dramatic increase in throughput, reliability and, most importantly, manageability for the ICT staff. The colour-coding makes it simple for visiting specialists to access patient information remotely, and for patients to access the Internet from their own bedsides. The Hospital has achieved its goal of unifying the two sites on one high-speed, reliable communication network.



CUSTOMER PROFILE - MATER MISERICORDIAE HOSPITAL, TOWNSVILLE, LTD.

- Mater Misericordiae translates to Mother of Mercy.
- The Mater Hospital comprises two fully accredited private hospitals in North Queensland, Australia.
- The hospitals are in the suburbs of Pimlico and Hyde Park.
- Pimlico campus is an acute medical/surgical facility established in by the Sisters of Mercy 1945. It has 165 beds.
- Hyde Park campus is a medical/surgical facility acquired by the Mater Hospital in 2007. It has 58 beds.
- People as far away as Mt Isa in Queensland's west, Cairns to the north and Mackay to the south access the Mater Hospital's services.

Mergers and acquisitions

In January 2007 Townsville's Mater Hospital acquired the nearby Wesley Hospital, paving the way for a dedicated 60-bed women's and children's hospital. The hospitals are located a few kilometres apart at Pimlico (Mater) and Hyde Park (Wesley). The Mater Hospital needed to connect the two campuses' communications systems, bringing them under one standard.

This provided the perfect opportunity to upgrade the Mater Hospital's existing communications infrastructure and create a long-term strategy for disaster recovery and redundancy. The Hospital wanted to enable access to remotely stored medical data from the patients' bedsides as well as provide patients with Internet access and improved telephone facilities.

The Mater Hospital enlisted PK Business Advantage, an IT and communications services consultant, to manage the project.

Fred Warwick, general manager Northern Region for PK Business Advantage, explains the challenge that was set out by the Hospital: "We needed to set up a temporary infrastructure to establish phone and data connectivity between the two sites while a long-term strategy was planned out," he says.

"The idea was to develop a standard that the two sites could build on to bring first class ICT services to not only the Hospital staff and visiting medical practitioners, but also to the patients' bedsides."

Assembling the best team

PK Business Advantage worked closely with ADC KRONE, RLS Data and Electrical (an ADC KRONE TrueNet Integrator) and the Hospital to create a structured cabling solution that would provide robust connectivity and adhere to the Hospital's high standards. Following discussions during the needs analysis and design stages, it was clear that ease of use and reliability were essential for both the IT Department and the end users.

"Having worked with the Mater Hospital for more than 20 years, I was well aware of their exacting requirements," says Fred Warwick. "I was also aware of ADC KRONE's reputation for excellence, so I knew it would be a perfect match."

Once the team was assembled, it was time to plan the installation. It was to happen in two stages: firstly, the temporary connection between the two campuses; and secondly, installing the new standards-based infrastructure.



Ian Evans, Mater Hospital (left) and Fred Warwick, PK Business Advantage (right) patch switch ports onto the CopperTen Patch Panel.

ADC KRONE solution includes a bespoke colour coding system

Fred Warwick and his team chose CopperTen™ (Category 6_A cabling) – an integral part of ADC KRONE's TrueNet® structured cabling system – for data as well as providing new phone cabling throughout the Hyde Park site. The CopperTen data cabling is capable of multimedia communications and supports applications up to 10 Gigabit.

Installing CopperTen™ cable gives an added advantage to the current network system. Higher network speeds, in general, require the structured cabling system to not only have a higher bandwidth, but also to generate less signal 'noise' which may degrade the data integrity. To achieve this, the pairs within ADC KRONE's Category 6_A cable have very high twist rates. This means when used at lower speeds (for example, one Gigabit) the system is inherently more noise immune as well as generating less noise than lower category (Cat5 or Cat6) cables. This is particularly important in a hospital environment where sensitive life support equipment is used.

The system, built specifically for the Mater Hospital, uses colour coding for sockets and cables so as to identify each line's usage. This makes it simple for the end user to get the most out of the communications infrastructure. For example, a visiting specialist may need to access information from his rooms while at the patient's bedside. Using the colour system, he can instantly see which data point at the bedside to use for a secure, high-speed connection. Likewise, the patient can access the Internet using these points. In future, patients may even be able to stream live video to their bedside.

"The colour code system was unique to this project, so we created new products to meet the customer's requirements," says Michael Sheehan, North Queensland sales executive, ADC KRONE. "This shows ADC KRONE's versatility and innovation with the industry's first augmented Category 6 UTP cabling system.

"The feeling was 'if we are going to renovate, we should invest wisely in the latest technology. Even if we do not need it today, we will need it tomorrow'," he said.

Simon Van Velder,
RLS Data & Electrical
terminating a
CopperTen field outlet



CopperTen Patch Panels

As part of the Hospital's long-term infrastructure strategy, the team will install a dual loop fibre backbone to provide redundancy in the event that one loop fails. This loop would play a key role in disaster recovery.

CASE STUDY

A smooth installation thanks to strong teamwork

When the Wesley Hospital was officially handed over to the Mater, all phone and data connectivity had to be instantly and seamlessly transitioned. Because the Wesley was a fully operational hospital, any glitches in the transfer would be unacceptable.

As part of the integration, a number of medical professionals and departments were to be moved between the two campuses. The former Wesley at Hyde Park was to become primarily a women's and children's hospital, requiring major renovations. While this construction progressed, Fred Warwick and the team needed to have the cabling standards and design approved and the installation completed. This way, disruption to the Hospital's normal operations would be minimised.

"We worked on this stage of the project for a few months, as we had to juggle the timing to be unobtrusive with the working section of the Hospital as well as the areas undergoing construction," says Fred Warwick.

The installation went relatively smoothly according to Fred Warwick, with "not much more than the usual type of problems encountered running cable through sections of an existing building".

"As this technology is relatively new, especially in regional areas like Townsville, we did think there were going to be some delays caused by availability of some of the hardware components," expands Fred Warwick. "However, ADC KRONE's local support with product procurement meant that we were able to get what we needed when we needed it."

The Mater Hospital has now finished the first stage of the data and phone cabling upgrade. The second stage involves creating the physical fibre link between the two sites, at which point both sites will be fully integrated for both data and phone services via fibre.

Results

The Hospital began seeing the benefits of the installation immediately, according to Fred Warwick.

"Project results are only as good as the people you work with on the project. I feel confident in saying 'expectations met, goals kicked'," he said. "As the new backend ICT equipment comes online there is no doubt that there will be a dramatic increase in throughput, reliability and, most importantly, manageability for the ICT staff."

Future plans

The Mater Hospital plans to construct an additional building at the original Pimlico site to provide more beds. This building will also include an enlarged and purpose-built ICT area.

Construction is already underway for a new building housing medical suites at the Hyde Park site. This was planned for in the original project design, so it will be fitted with the same ADC KRONE colour coded structured cabling solution for phone and data services.

Finally, plans are well underway for a major upgrade of the existing server infrastructure to provide increased processing power and storage capacity as well as disaster recovery and redundancy.



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