Orchestrating a brighter world

NEC

Blacktown Hospital

Customer
- Blacktown Hospital

Industry
- Health

Challenges
- Communications backbone to support data network, WiFi and BYOD, IP telephony services, video conferencing, IP TV and display technologies for world class hospital
- Stipulation for proven, robust and flexible technologies for medical grade network

Results
- Infrastructure accommodates medical and administrative innovation
- Specialised switchboard software increases operator productivity, provides management reporting and statistics on call volumes
- Scalability to meet future requirements of growing Western Sydney population

Hardware/Applications
- NEC IP telephony - SV8500 range and DT830 IP Phones
- NEC V-Series LED backlit large format displays
- WiFi - Cisco 3702i Wireless Access points
- Data network - Cisco routers and switches

The Customer

The multi-award-winning Blacktown and Mount Druitt Hospitals (BMDH) Expansion Project is changing the way the Western Sydney Local Health District meets increasing demand from the area's expanding population. The NSW Government's Health Infrastructure commitment has invested $400 million in this priority upgrade to the 50 year old Blacktown Hospital which is to provide world class clinical, patient and administrative services.

The Challenges

The first phase of the Blacktown Hospital precinct's redevelopment included new clinical technologies and a re-evaluation of how services are delivered to support the best contemporary hospital care.

With communications crucial to patient care, collaboration, emergency procedures and integration of medical equipment, the communications backbone, integrated telephony and display networks were critical components of the project.

The most notable technology challenge was that this was the first major project in NSW Health where all systems were required to run across the corporate network. In addition to the standard building management services, including CCTV and security, patient-critical services such as nursecall, mobile duress and patient cardiac telemetry also had to run over the shared network. The solution design needed to incorporate high capacity, high uptime and resiliency levels for these life-critical systems that used both the fixed and wireless networks.

The Solution

NEC won this prestigious contract, in a competitive tender, on the strength of its cost effective, proven technical solution and support services. And it was able to reference its position as a strategic partner for voice communications with the Western Sydney Local Health District. NEC also has expertise in similar infrastructure projects in the health sector such as the redevelopment of Victoria's Box Hill Hospital and the VCCC in Melbourne.

For the communications backbone, NEC supplied Cisco technologies to create a single network between the new and refurbished sections of the Hospital redevelopment as well as into the broader Health Department's HWAN that streamlines data between all the Local Health Districts across NSW.

The project has the latest Unified Communications capabilities underpinned by NEC IP telephony and Cisco video conferencing solutions - which include 1,200 IP phones, many hundreds of Wireless Access Points and a significant number of routers and switches.

In addition to the NEC-branded products, NEC facilitated a wide range of services including mobile asset management, integrated messaging services, audio-visual services, and a wide range of Cisco offerings.

Mark Bolst, ICT and Information Management Project Manager, said: "It was invaluable to the smooth provisioning of our project to have found an expert partner, with single account management, that could provide the full range of technical requirements. The agility and flexibility provided through partnering with NEC meant that project timeframes were met, and we could react to changing client demands."

Results

The specialised switchboard software raised the productivity of switchboard staff by reducing calls diverting to switch by 20 percent. It speeds service to patients and the community as calls are triaged or appropriately queued for appointments and information. This ensures that the switchboard - the heart of the Hospital - have more time to deal with crucial patient and staff calls, such as those received in emergency code situations. It also generates comprehensive call statistics and management reporting.

The NEC displays, and their content, are co-ordinated and scheduled from a central point. They are also integral to emergency situations as they can be used to instruct patients and staff on evacuation procedures.

The fleet of over 30 NEC V-Series displays and screens, ranging from 32 to 80 inches depending on room size, are being placed throughout the Hospital in clinics, laboratories and meeting rooms. As these displays deliver optimum image quality and impressively low power consumption, they support not only Blacktown Hospital's signage needs but enhance information broadcasting, training and the total healthcare experience. The network is also integrated with the Hills Patient Entertainment System that has patient functionality such as access to food menus and control over entertainment choices.

"Blacktown Hospital has made a generation leap to a completely modern facility with a fully integrated approach to building, corporate, clinical and patient services. We now have a strong foundation for future growth and have set many standards across the Local Health District."

- Mark Bolst, ICT and Information Management Project Manager, Blacktown Hospital