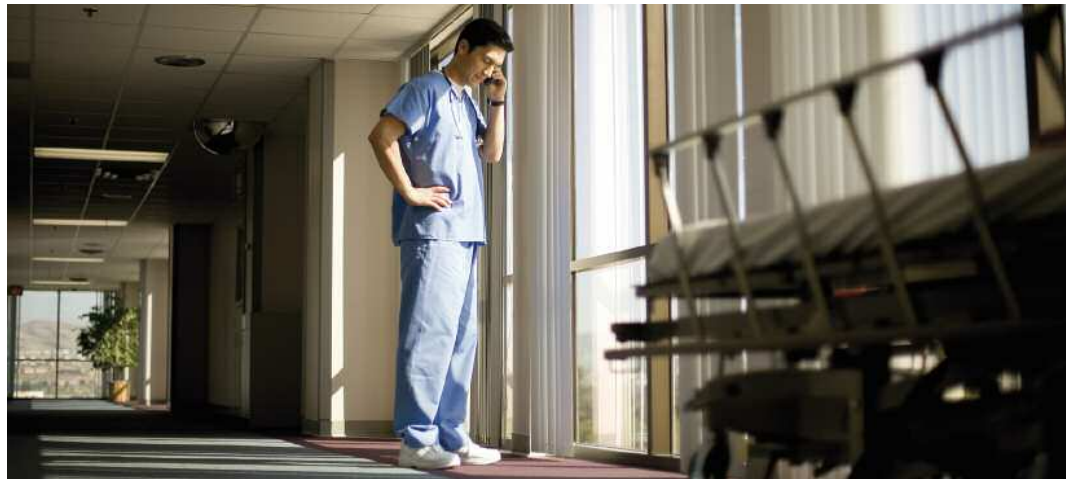


Leading Welsh NHS Trust uses wireless networking technology to improve healthcare speed and efficiency



EXECUTIVE SUMMARY
CUSTOMER NAME · Bro Morgannwg NHS Trust
LOCATION · Neath Port Talbot, Bridgend and Western Vale of Glamorgan, South Wales
INDUSTRY · Healthcare
COMPANY SIZE · 7,124 employees
BUSINESS CHALLENGE · Improve flow and access of information to clinicians · Improve quality and availability of clinical information · Increase information exchange around the Trust · Make provision of healthcare more efficient
NETWORK SOLUTION · Cisco foundation network technologies · Cisco wireless local area networks
BUSINESS VALUE · Improves quality and timeliness of clinical information · Allows clinical information to be shared, making communications around a hospital faster and more efficient · Supports modernisation of clinical processes · Patients get faster and more efficient healthcare provision · Provides potential to improve utilisation of hospital equipment

Cisco foundation and wireless networking technologies help Bro Morgannwg NHS Trust to improve clinical processes and reduce clinical risk by bringing healthcare systems and information to the bedside.

Business Challenge

Bro Morgannwg NHS Trust is one of the largest of 14 Trusts in Wales. It is responsible for managing a comprehensive range of integrated hospital and community services for around 300,000 people living in Neath Port Talbot, Bridgend, and Western Vale of Glamorgan in South Wales. The Trust ranks as a CHKS (the UK's leading provider of healthcare benchmarking information and quality improvement services) Top 40 hospital with the Princess of Wales Hospital as the largest in its stable.

The Trust is committed to improving the quality of care for patients and uses information technology to support the modernisation of services. Access to clinical information at the point of care ensures that clinicians can make informed decisions faster.

According to Carl Mustad, Assistant Director of IT at the Bro Morgannwg NHS Trust, traditional ways of working no longer meet the demands of modern healthcare. "In the Princess of Wales Hospital, typically each ward has two computers in the nurses' bay, plus a wall-mounted Picture Archiving and Communications System (PACS) workstation for viewing radiology images. However, as more and more administrative and clinical information is being generated electronically, the ability for clinicians to access this information in a timely way and at the patient's bedside has become essential."

The Trust was also aware that asset management could be improved. Hospitals have hundreds of medical devices and tracking down this equipment for maintenance or replacement was time consuming. Equipment is often shared, sometimes making it difficult to locate. The Trust's strategy was to use Cisco networking as the foundation to improve information access and communication.

Network Solution

The Trust has deployed a Cisco Wide Area Network (WAN) linking up around 80 sites across the region. These include the two main hospitals (Princess of Wales Hospital and Neath Port Talbot Hospital), several other community and mental health hospitals, around 42 general practitioner surgeries, and a number of associated organisations. There are Cisco Local Area Networks (LANs) at all the key locations on the WAN, and the Trust is rolling out Cisco wireless LANs to the main hospital sites – the first being at the Princess of Wales Hospital. The wireless LAN covers the hospital campus and comprises 711 access points, and 227 miles of cabling. The network is protected by Cisco network security technologies.



The Cisco wireless LAN supports three flexible information access methods: a wireless cart with a laptop or PC gives full access to hospital systems; a tablet PC offers the same access, but is for consultants who need to roam between wards or even work from home; and smaller, rugged tablets are for clinicians who only need access to basic information. The Trust also uses Cisco's wireless location tracking technology which enables it to optimise equipment use.

The wireless network and associated equipment was installed by Cisco's Premier Certified Partner, Stoneleigh Consultancy, in 12 weeks. Stoneleigh Consultancy also implemented the full Cisco solution at Bro Morgannwg NHS Trust.

Business Results

"The Cisco wireless technology at the Princess of Wales Hospital provides the opportunity to modernise the delivery of patient services. Clinicians now have real-time access to clinical information at the point of care. In the Emergency Department, for example, a consultant can use a tablet PC or wireless PC cart to look at an X-ray or a patient's pathology test results while at the patient's bedside," says Mustad. "The drive to improve efficiency at Bro Morgannwg NHS Trust is all about making information available at the right time to the right person, improving patient care and providing safer processes."

Doctors can see all kinds of information immediately, such as pathology results and blood tests, to help make decisions faster. The Cisco network will also deliver additional services in the future, such as enabling wireless devices to order further tests automatically while a doctor is standing at the bedside.

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Carl Mustad, Assistant Director of IT, Bro Morgannwg NHS Trust

The Cisco wireless network helps reduce unnecessary delays and the time patients need to stay in hospital. It also allows clinical information to be recorded at the bedside during the ward rounds. This electronic record builds up during a patient's stay in hospital. Tasks such as preparing drug

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- Cisco Aironet 1240 AG Series
- Cisco 4400 Series Wireless LAN Controllers
- Cisco Wireless Location Appliance

Security and VPN

- Cisco Catalyst 6500 Series Intrusion Detection System (IDSM-2) Module
- Cisco Secure Access Control Server Solution Engine

prescriptions, placing pharmacy orders, and sending discharge letters to GPs are generally paper-based processes. Now, with the wireless network, doctors, nurses and clinical pharmacists can complete the whole process at the bedside. This means that patients can leave the hospital soon after the decision is made to discharge them instead of waiting for the associated administration to catch up.

In A&E at the Princess of Wales Hospital there is a traffic light system to ensure patients are treated in under four hours. This traffic light system can now be viewed on wireless devices, so that doctors can monitor quickly how long a patient has been waiting without constantly going back and forth to a desktop computer.

"The Cisco wireless information system is the front door to information such as radiology and pathology requests, and pharmacy prescriptions. It allows instant storage and recall of clinical information," says Mark Poulden, Lead Clinician for Bro Morgannwg NHS Trust's Emergency Services. "With such pressure on the desktop PCs and office space, wireless working is essential for greater efficiency and has proved invaluable for patient care and teaching because information is now available at the bedside. Consultants are released to work easily from anywhere in the department and are immediately available to junior staff on the shop floor, thereby improving patient care."

The Trust has been able to build a foundation network to deliver a range of applications and services now and in the future. For example, the Trust is planning to replace its hospital paging systems and use the Cisco wireless LAN to deploy a communication system that means doctors can be reached on first contact. Devices such as PDAs or mobiles will handle more advanced communications such as text messages, emergency alerts, and even access to slimmed-down hospital applications.

In the future, the Trust will use Cisco wireless location tracking to facilitate the effective management and use of expensive medical equipment, which can be found much faster and sent to the point of need. In addition, it will be much easier to find equipment that needs maintenance, reducing the time equipment is out of action. RFID (radio frequency identification) over the Cisco wireless network is also being considered for improving better protection of vulnerable patients.



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