



ABMU Health Board Automates Operations While Revitalizing Patient and Staff Experiences with Cisco Digital Network Architecture

Abertawe Bro Morgannwg University Health Board

Size: 16,000 staff

Industry: Healthcare

Location: Wales

Solutions

- Evolving the network and IT operations with Cisco Digital Network Architecture, and improving workforce, patient, and visitor experience with Cisco Wi-Fi
- Reducing risk from cyber threats with integrated Cisco security, with simplification from Cisco Prime low-touch IT management
- Collaborating effectively over Cisco Unified Communications and Jabber technology, virtualized on Cisco UCS server

Digitizing clinical expertise and boosting productivity

The Abertawe Bro Morgannwg University (ABMU) Health Board formulated a vision to unburden doctors and nurses from filling out forms and writing notes, while making clinicians more mobile for better care at the bedside and out in the community.

Hamish Laing, executive medical director and CIO, says: "People are living longer and the complexity of care is increasing. We also face financial constraints and skill gaps from staff leaving or approaching retirement. Digitization addresses these challenges by enabling carers to capture and share clinical expertise, while working more efficiently from anywhere."

Looking after around 500,000 people in South West Wales and also providing a national burns center covering South Wales and South West England, ABMU adopted Cisco® Digital Network Architecture as the foundation of a progressive IT strategy. The new infrastructure serves four acute hospitals, community and mental health services, primary care, air ambulance, and home care services.

Gareth Siddell, Network Manager, explains: "We needed to help the organization to move faster, more efficiently and more securely. To do that we had to transform our network and IT operations with the latest advances in mobility, cloud, analytics, and the Internet of Things."

Secure access automates network operations

The IT infrastructure now connects the Neath Port Talbot, Morriston, Singleton, and Princess of Wales hospitals. Cisco switches, wireless infrastructure, and servers form a high-speed IP backbone, ensuring clinical applications and large data files flow quickly and safely. Meanwhile, with pervasive Cisco Wi-Fi, staff and visitors enjoy a more connected mobile experience.

The wired and wireless networks are both managed through Cisco Prime™ Infrastructure. A single view means the IT team can simplify and automate management tasks much faster than before while proactively monitoring and controlling network usage. Services can be deployed quickly and run anywhere, independent of underlying platform: physical, virtual, on-premises, or cloud-based.

Cisco Digital Network Architecture is helping ABMU to benefit from:



Automated network operations with secure access



Fast and effective emergency responses



Improved and efficient in-home care support

End-to-end security has greatly reduced cyber threats. As part of the Digital Network Architecture design, Cisco next-generation firewalls at the network perimeter are complemented with embedded protection throughout the switching fabric. The IT team sets security policies using Cisco Identity Services Engine (ISE), controlling which users and devices can connect to the network and which data and resources they can access.

“Hospitals must have robust safety processes in place,” adds Gareth Siddell. “With Cisco ISE, only authorized personnel can use mobile devices to access a drug cabinet. Additionally, pharmacy inventory tracking is automated by stock level and by prescriber.”

Agility with connected healthcare

This improved service has particularly benefited the Emergency Medical Retrieval and Transfer Service (EMRTS) Cymru and the medics who work on board the Wales Air Ambulance Charity helicopters. This national service is also hosted by ABMU.

EMRTS staff scan over 900 emergency calls during a 12-hour shift, looking for the four or five most ill or injured patients to send the critical care team to across Wales. Every second counts. Previously, road and helicopter response teams were hampered by patchy wireless coverage and slow fixed connections.

With ambitious commissioning of the all Wales service, the IT team delivered a secure network infrastructure using Cisco networks and mobile data access within two weeks. Given the time it would take

to order fixed communication lines and install relevant infrastructure, this would normally take around six months. Without the agile networking solution, the service could not have started on time.

Now, with LAN speeds of 10 Mbps and up to 30 Mbps for Wi-Fi, responders hit the ground running. With Cisco 802.11ac wireless access points, greater scale and coverage help ABMU connect an ever-increasing number of devices more reliably. The Cisco 819 Integrated Services Router (ISR) assists with remote high-speed communications in mobile applications, improving effectiveness and productivity of air ambulance operations.

David Rawlinson, EMRTS Cymru clinical informatics manager, says: “It’s much quicker to communicate and share live information like weather and travel conditions, and the situation at the accident scene. That means we can target critical cases sooner for better-informed responses.”

Empowered hospital workers can be where they need to be for efficient and effective care. Equipped with Cisco Unified IP and Wireless Phones, it’s much easier for them to stay in contact and work on the move.

Laptops and tablets loaded with Cisco Jabber® technology mean they can see when colleagues are available and send a chat message for an instant response. Or pull in other specialists on a video call if a multidisciplinary team discussion is needed. To simplify management, Cisco Unified Communications and Jabber software has been virtualized on Cisco UCS® servers.

“Digitization is how we’ll continue to improve our clinical services. The network is now an integrated part of the business, automatically adjusting to the organization’s needs dynamically.”

Hamish Laing
Executive Medical Director and CIO
ABMU Health Board

Care in the community and in the future

ABMU also oversees more than 300 doctors’ surgeries, 275 dentists, 125 pharmacies and 60 optometry premises. The digitized network infrastructure has transformed the delivery of outreach healthcare services. “With improved remote monitoring we’re able to extend care plans, so more patients can stay at home with the support they need,” says Gareth Siddell.

Home caregivers are far more productive, too. Before, they might have to conduct a routine task, such as setting up an infusion pump, and then make several return visits. Now, such procedures can be tracked remotely, saving time and travel.

All this is only the start. ABMU is looking to expand the potential of its Cisco Digital Network Architecture platform, leveraging mobility with services, such as wayfinding and location-based services in the hospitals for staff, visitors and patients. This would help further improve efficiency and lower costs, for example, through the real-time monitoring of blood and drugs supplies, while helping staff monitor and track the location of emergency equipment. Mobility also helps to track and interact with patients.

Hamish Laing concludes, “Digitization is how we’ll continue to improve our clinical services. The network is now an integrated part of the business, automatically adjusting to the organization’s needs dynamically.”

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- Cisco Catalyst® 2960-X Series Switches
- Cisco Catalyst 3850 and 6500 Series Switches
- Cisco 819 Integrated Services Router

Security

- Cisco ASA 5500-X with FirePOWER™ Services
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Management

- Cisco Prime Infrastructure

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