

ARUBA CUSTOMER STORY | HEALTHCARE

EPWORTH HEALTHCARE

Aruba's next-generation 802.11ac technology with ClearPass Access Management provides reliable, secure Wi-Fi for thousands of doctors, patients and staff



Providing reliable wireless access for 3500 visiting doctors, over 470,000 patient days per year, and 24/7 reliability for over 500 wireless hospital devices across Epworth's ten locations are top priorities for Nicholas Hobbs, Infrastructure Manager for Epworth Healthcare.

"The majority of Epworth's doctors are visiting specialists so we can't control or manage their devices, but they need reliable wireless access," explains Hobbs. "Patients expect to work or access entertainment while in hospital, and hospital systems from X-Ray machines to building controls all now rely on robust wireless."

REQUIREMENTS

- High-density Wi-Fi for patients and doctors
- Wi-Fi reliability for life-critical systems
- Secure access control for constant turnover in users

SOLUTION

- 802.11ac Indoor Access Points (900 APs)
- 7000 and 7200 Series Mobility Controllers (11 controllers)
- ClearPass for access control
- AirWave for network management

BENEFITS

- Pervasive 802.11ac-enabled Wi-Fi covers kilometres of floor space across 10 hospitals.
- Reliable wireless access supports high density of users.
- Fast wireless satisfies 3500 visiting doctors and 470,000+ patient days per year.
- Connects vast array of clinical systems 24/7 and IoT building control devices.
- Unified access management manages wired and wireless systems with single, secure platform.

"We are very happy with the Aruba solution. It is fast, it is reliable and we haven't had any issues. ClearPass is also fantastic at on-boarding and diagnosing authentication issues."

Nicholas Hobbs

Infrastructure Manager, Epworth HealthCare





PROVIDING RELIABLE ACCESS ACROSS TEN HOSPITALS

With technology a vital part of the experience for both doctors and patients at Epworth's ten healthcare facilities across Victoria, Australia, Epworth HealthCare embarked on a program to upgrade its enterprise mobility infrastructure.

"In a competitive market for both visiting doctors and patients, we wanted to give doctors a consistently positive experience regardless of which hospital they visit, and also meet patient expectations for easy Wi-Fi access," Hobbs says. "Wi-Fi is also now critical for connecting clinical systems and building control systems".

Aruba met Epworth's need for a faster, more reliable wireless network. Combined with streamlined access management for their hospital networks, it delivered a single, highly secure platform that protected Epworth's existing investment in wired infrastructure.

Capability and bandwidth to support high density of users

"With over 1300 inpatients every day, plus outpatients, day patients and Emergency Department cases, the patient demands are relentless and year round. To meet that demand, we have over 3500 accredited visiting doctors, with around 1000 of those regular visitors," says Hobbs.

With much of Epworth's hospital floor space in highly urban and high-rise environments, it isn't just the volume of users to be considered - user density has to be addressed as well.

"Our Aruba 802.11ac deployment, with almost 900 access points, enables us to meet that user density with confidence and reliability," says Hobbs.

PROVIDING PERVASIVE ACCESS FOR VISITING DOCTORS

"We operate leading hospitals and ensure quality care, but IT administrators in hospitals need to understand that visiting doctors essentially manage their own businesses," says Hobbs. "With the volume of medical specialists accredited to treat patients in our hospitals, that presents challenges."

For Mr Hobbs, that means ensuring that visiting medical specialists can bring their own devices and expect to be able to access their own systems, in addition to the hospital systems used by Epworth.

Access management for medical specialists and patients

Epworth uses Aruba's ClearPass Access Management solution to administer wired and wireless systems. Two ClearPass controllers manage access across all Epworth facilities, with enterprise-grade security.

"Security is a factor in everything that we do in healthcare. Patient data must remain confidential - it is fundamental to patient trust and to our social licence to operate. ClearPass plays a critical role," notes Hobbs.

"The majority of Epworth's Doctors are visiting specialists," Hobbs adds, "so we can't control or manage their devices." By using ClearPass to on-board their devices and assign them to a policy group, Epworth can control which systems are accessible - or restricted - on a per-user basis.

The result is that Epworth retains secure oversight of the network infrastructure, while ensuring medical specialists enjoy a seamless experience as they move between hospital wards and between hospitals.

Wireless access to data intensive medical devices

Hobbs also highlights that in modern hospitals, a vast array of medical and clinical systems are network-connected - and network reliability is central to the patient care these systems support. For example, Epworth's mobile X-Ray machines, Image Intensifiers, cardiac monitoring devices, barcode scanners and many other systems are connected wirelessly.

To illustrate the point, Hobbs explains, "We also have a brain-mapping and navigation system used in brain and upper spinal surgery that pulls all of the patient's MRIs and CTs onto the surgical system in the theatre over the wireless, right before the case starts."

With such systems generating roughly 2GB of data per patient, the wireless automation and reliability that Aruba enabled has saved over an hour of prep time per case, compared to previous manual processes.

MEETING PATIENT EXPECTATIONS IN A MODERN HOSPITAL ENVIRONMENT

"The days of only considering IT needs of doctors and administrators are long gone," says Hobbs.

"Patients expect easy and reliable access to Wi-Fi," he observes, "regardless of whether it is a professional patient recovering from surgery who needs to continue work, an adolescent accessing social media, or patients using mobile devices for entertainment to make hospital stays more palatable."

With ClearPass also utilised to manage patient bandwidth, the 1Mbit up and 8Mbit down speeds prove more than capable of enabling patients to enjoy streaming Netflix at 720p, for example.

"In fact," Hobbs notes, "Netflix is our number 1 destination (~400GB a week average); iOS updates are our #2 destination, so we have a local iOS cache on the network (~365GB week average); and YouTube has been relegated to third place."

Controlling patient access

According to Mr Hobbs, most patients bring in a device when admitted to hospital.

"We provide easy access for patients, but we don't need to also support people on the street. So we authenticate patients when they login to validate their patient ID number against our patient system via a SQL stored procedure."

Epworth are also trialling multicasting television stations to portable units over wireless for patients who do not have access to a fixed TV, such as those in our day care facilities.

"We do not charge patients for Wi-Fi," says Hobbs. "We see it as an integral part of the patient experience. Long hours in a hospital bed pass so much faster when patients can use their own device for productivity and entertainment."

MANAGING THE EMERGING INTERNET OF THINGS IN HOSPITALS

Having recently built several new hospital and training facilities, Epworth is also grappling with accelerating adoption of Internet of Things (IoT) to manage physical facilities.

"We now have a significant number of building management systems, lighting controls, CCTV, lift controls, car park systems and other controls, all connecting to our network," explains Hobbs.

In Epworth's older facilities, the vast majority of building units are wired. In their new facilities however, more of these systems are wireless. Hobbs is keenly aware of emerging opportunities this opens up.

"The more we analyse this space, the more we are recognising there are many more devices we would like to see on our network in future, when they become able to support WPA-Enterprise. The IoT is going to revolutionise hospital facility management," Hobbs concludes. "With our Aruba powered network, we will be ready."

ABOUT ARUBA

Aruba, a Hewlett Packard Enterprise Company, is redefining the IT edge with Mobility and IOT solutions for organisations of all sizes globally. The company delivers IT solutions that empower organizations to serve GenMobile –mobile-savvy users who rely on cloud-based business apps for every aspect of their work and personal lives – and to harness the power of insights to transform business processes.

With infrastructure services offered as software from the public or private cloud, Aruba enables secure connectivity for mobile and IoT — under one roof. Aruba allows IT professionals to build networks that keep up with these changes by migrating away from expensive-to-operate and proprietary infrastructures, which were originally designed for fixed network connections within the physical connections of the corporate headquarters.