The Nightingale Exeter and Qolcom:
Creating a simpler user experience for staff, patients and visitors

Nightingale Hospitals are a key part of the NHS's arsenal in the fight against coronavirus in the UK. The 116-bed Nightingale Hospital Exeter, purpose-built at speed in the summer of 2020, has been designed to provide dedicated care for patients with coronavirus. As part of the build, the need for a simple, yet secure network – providing a seamless user experience to healthcare professionals, patients and visitors alike – was crucial. This is where HPE Aruba Platinum Partner Qolcom played a central role, creating a reliable, robust solution that could be rapidly deployed.

"It is really refreshing to work with a company which has such similar values."

Paul Hopkins
Programme Director,
NHS England

INTRODUCTION

The coronavirus pandemic has placed huge strains on healthcare services the world over. In England, a number of dedicated facilties – known as Nightingale Hopsitals – have been built specifically to treat Coronavirus patients. As well as providing state-of-the-art connected healthcare, these facilties also perform a vital role in taking the pressure off healthcare resources in the local area.

With 116 beds and five wards, the Nightingale Exeter was built in just two months. This meant its IT platform had to be rapidly deployable, while delivering a meaningful, positive and secure experience to all users – from doctors and nurses to patients and their families.

THE CHALLENGES OF DELIVERY

The need for speed
Nightingale Hospitals were conceived in a crisis. They had to be built in a matter of weeks ready to deal with an unpredictable and dangerous pandemic. The Hospital required a comprehensive, reliable wired and wireless network across the site within weeks. The ability to deploy a major IT solution so quickly could be genuinely lifesaving.

The challenge of wi-fi connectivity in a medical environment
There was a clear need for fast, reliable wi-fi throughout the new hospital as well as outside in the area where ambulances arrive. The presence of state-of-the-art wireless and wired medical equipment throughout the site also posed a challenge to the network designers. A high level of tailoring and flexibility was essential.
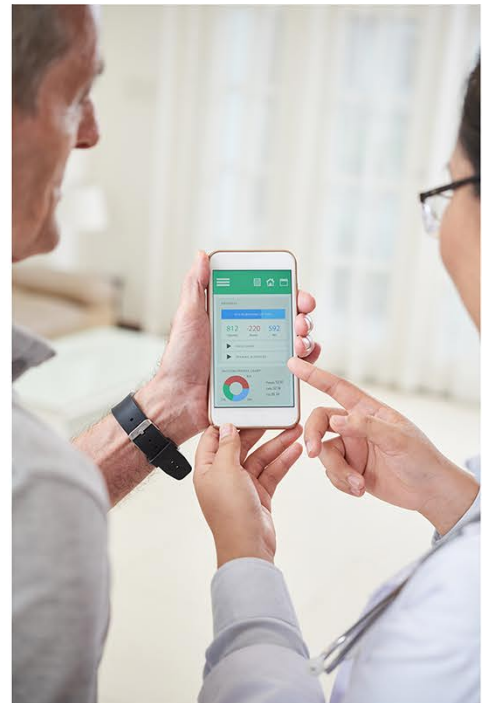
The need for a user-centred experience
The solution had to meet the diverse needs of many different users, accessing both their own and NHS-owned devices. This could range from medical staff using wi-fi enabled medical equipment to families talking to their loved ones by video (to avoid close contact). Simple, empathetic experience design – tailored to the individual user's needs – was therefore key to this project's success.

Security an absolute priority
With so many different users in such a data-sensitive medical setting, robust network security was a must. A solution was required that would allow both registered and guest users fast, easy access on any device – while offering a high level of security across the network.

The ability to deploy a major IT solution so quickly could be a potential lifesaver.

VENDOR CHOICE

The Royal Devon and Exeter Trust selected Qolcom and HPE Aruba, both well-known and trusted IT partners to the NHS. Many surrounding hospitals already depend on Qolcom's service and support expertise, alongside HPE Aruba's network technology.

This on-the-ground presence meant that the time to deploy was significantly reduced. Central services could be rapidly extended to the new Nightingale Hospital for authentication – via Aruba ClearPass and for management, via Aruba Airwave.

Qolcom's experience in the healthcare sector counted for a lot. In particular, their ability to devise a network strategy quickly to meet diverse user needs proved decisive.

THE SOLUTION

CREATING A RELIABLE USER-CENTRED EXPERIENCE
Qolcom, together with HPE Aruba, worked in collaboration with Royal Devon and Exeter NHS Foundation Trust, to deliver a robust, user-centred network solution in a very short timescale. The solution was a tailored design based on a physical and logical extension of the Royal Devon & Exeter LAN and WLAN to the new Nightingale Hospital.

The network solution had four definining features, each contributing to meeting the Nightingale Hospital's precise requirements:

1. Granular security (for wi-fi and wired network)

With ClearPass, the Trust gains the robust security features of a wired network in a wireless environment. In a nutshell, ClearPass combines context-based policy management with next-generation AAA (Authentication, Authorization, and Accounting) services for highly secure mobile connectivity. This simplifies the management of network access policies, onboarding, guest user access and multiple device use — all from a single platform.

2. Dependable hardware, intelligent design

Every aspect of the solution was designed to ensure a secure, reliable network. For example, the Aruba hardware components selected by Qolcom for the LAN and WLAN solution included Aruba 8325 and 6300M switches, 515 and 365 access points and UXI Sensors. Qolcom designed a simple, resilient two-tier topology based on a dependable collapsed-backbone architecture. At the core/aggregation layer are two Aruba 8325 switches deployed as a high-availability cluster to maximise uptime. In addition, Aruba's Virtual Switching Framework (VSF) feature allows multiple switches (up to 10) to be managed as one.

3. Wireless connectivity, centralised control

Fast, reliable wi-fi access is provided by several Aruba 515 series access points throughout the Hospital. A pair of Aruba 365 series external access points provide good Wi-Fi coverage to the area south of the building where ambulances bring in patients. The Aruba access points terminate on the mobility controllers hosted at Royal Devon & Exeter, with centralised management enabled via the Aruba Mobility Master. The new Hospital is connected to the Royal Devon & Exeter network over two dedicated 10-Gigabit BT circuits via core/aggregation switches interfaced directly with the WAN equipment.

4. Collaborative delivery and 24/7 support

As with all Qolcom projects, the Nightingale project was delivered in three distinct phases – Plan, Document, Implement, all of which were accelerated to meet the time-critical demands of this project.

Close collaboration between senior Qolcom team members and the Royal Devon & Exeter IT team confirmed the scope of the project. The working design was agreed quickly, followed by rapid sign off and implementation.

Qolcom's engineering team worked closely with Royal Devon & Exeter teams on all configuration tasks relating to the wired and wireless network. This was followed by full documentation and knowledge transfer. 24/7 tailored hardware/software support is now in place via a secure remote connection.

Whatever the future brings for the Nightingale Exeter, a simple, secure user experience – across a wide spectrum of users – will be at the heart of it.

THE RESULT

A fast, reliable and secure IT network was delivered for the Nightingale Hospital Exeter – to a very tight timescale and on budget. The network offers superb wireless and wired connectivity throughout the site, with context-based security. Network management is greatly simplified, across a wide mix of users and devices. From wi-fi enabled medical equipment to video chats between patients and visitors (when close contact isn't possible), the role played by IT in delivering improved healthcare experiences at the Nightingale Hospital Exeter will be key.

THE FUTURE

With the support of Qolcom and HPE Aruba, the NHE is ready to play its part in treating patients with coronavirus. Its highly secure, easy-to-manage network infrastructure means it is also very flexible – so it can adapt to changing requirements in a rapidly-changing healthcare emergency. Whatever the future brings for the Nightingale Exeter, a simple, secure user experience – across a wide spectrum of users – will be at the heart of it.

FURTHER RESOURCES

Read about Qolcom's approach to digital communication in healthcare
https://www.healthcare-networks.co.uk

Learn more about Qolcom
https://qolcom.co.uk

Find out more about HPE Aruba's Healthcare Solutions
https://www.arubanetworks.com/solutions/healthcare