

North Bristol NHS Trust fulfils vision for a truly digital hospital with the support of HP ProCurve Networking



“Considerable financial savings have been achieved via the services we have been able to offer over our HP ProCurve network, but the key advantages are far greater when you take into account improved productivity, reduced waiting times and the range of clinical services that can be provided over robust infrastructure.” Martin Bell, director of Information Management and Technology, North Bristol NHS Trust.



HP ProCurve customer case study: As part of a five-year plan to create a state-of-the-art ‘super hospital’, North Bristol NHS Trust implements an HP ProCurve Adaptive Network to provide the foundation for a range of innovative services.

Industry:
Healthcare

Objective:

North Bristol NHS Trust needed to implement a reliable, high-performance and scalable networking infrastructure to support its ambitious vision of a digital ‘super hospital’. The Trust needed to integrate a large campus and improve patient care by giving staff access to a range of innovative services.

Approach:

- Solutions were considered from vendors including Cisco and HP ProCurve Networking.
- Implemented an HP ProCurve Adaptive Network solution at the two main hospital sites and across more than 300 individual sites.

IT improvements:

- North Bristol NHS Trust now has a reliable, secure and scalable network.
- Based on open-standards, the HP ProCurve Adaptive Network allows the easy integration of technologies such as IP telephony, IPTV, Wireless services, Closed Circuit television (CCTV) and Radio Frequency Identification (RFID).
- High availability supports the Picture Archive and Communications System (PACS) with large files such as X-rays being shared across the network.

Business outcomes

- The HP ProCurve solution is part of a modernisation programme that placed the Trust in the top one percentile of hospitals in the country for benefits returned.
- The Trust estimates savings of over £1 million in addition to non-tangible savings such as reductions in waiting times and improved staff productivity.
- Instant access to patient information for doctors, nurses and allied health professionals provides improved patient care.
- Improved patient experience through RFID tracking of assets such as beds and wheelchairs, IPTV in rooms and CCTV security.



Based in the south west of England, North Bristol NHS Trust is the largest Trust in the South of England. It provides tertiary services such as neurosciences, renal, orthopaedics, pathology, plastics and burns, as well as being responsible for the provision of medical and surgical services to the local population of approximately 500,000 people in North Bristol, South Gloucestershire and North Somerset. Its national and international reputation means that for these specific services, North Bristol NHS Trust has a catchment population of over two million.

With 9,000 staff and an annual turnover of £450 million, North Bristol NHS Trust operates from two large acute hospital sites: Frenchay and Southmead, plus a range of smaller, community facilities such as Cossham Hospital, Thornbury Hospital and other community-based sites. As a large teaching hospital

“I just want to know that our network is robust, reliable and will continue to run, whatever I throw over it, and HP ProCurve delivers that for the Trust. It gives staff access to new clinical and business applications wherever they are and patients benefit from improvements in productivity and get a more pleasurable experience.”

Martin Bell, director of Information Management and Technology at North Bristol NHS Trust



award-winning HP ProCurve Switch 8212zl

North Bristol also has strong links with the University of Bristol and the University of the West of England. In 2007/08, North Bristol NHS Trust treated nearly 318,000 outpatients, attended to 85,000 emergency admissions, cared for over 80,000 inpatients and helped deliver 5,400 babies.

A state-of-the-art 'super hospital'

Southmead is already Europe's largest hospital campus, with Frenchay not far behind, but the Trust has even bigger plans for the future. It is currently embarking on an ambitious £400 million, five-year project to create a state-of-the-art 'super hospital', with 75 per cent single occupancy rooms and world-class facilities. As part of this investment, North Bristol NHS Trust aims to realise its vision for a digital hospital of the future. To make this possible, the Trust needed to implement a robust, reliable and scalable network infrastructure over which a range of innovative services could be supported to provide genuine front-line clinical benefits.

“You can't build houses without strong foundations. If we go back five years, most of our sites had no networking at all and the networks that did

exist were inefficient,” says Martin Bell, director of Information Management and Technology at North Bristol NHS Trust. “If we go forward five years, in 2013 we plan to open the UK's first digital hospital. We want to be a technology leader and to do that, the business enabler is to have a robust networking infrastructure.”

Head of IT at North Bristol NHS Trust, Mark Osborne adds: “Our old network was a mixture of legacy systems. It was insupportable, it could not deliver what the patients and staff required and it needed replacing. On one of the key sites, it would even stop from time to time, seriously affecting the service we could provide to our patients.”

Strategic partnership

In seeking to address its networking issues and to support its ambitious plans for the future, the Trust considered networking solutions from a range of networking vendors including HP ProCurve Networking and Cisco. It chose HP ProCurve as it found the technology to be more reliable, easier to support and represents a lower Total Cost of Ownership (TCO), particularly due to HP ProCurve's

comprehensive Lifetime Warranty*. The Trust was also excited by the HP team's innovation and willingness to enter into a long-term relationship that would build into a strategic partnership.

The Trust implemented an HP ProCurve Adaptive Network, which connects over 300 individual buildings and facilities. At its core are eight award-winning HP ProCurve 8212zl switches divided equally between the two main hospital sites and connected by a high speed Local Area Network (LAN) between the sites. Each of the high-performance core switches connects to a variety of HP ProCurve edge switches including the HP ProCurve 5400zl and 2600 series switches to enable unified core-to-edge connectivity and reliability. All switches are managed centrally and remotely using HP ProCurve Manager Plus (PCM+) software, which over such a large and distributed campus saves a considerable amount of money in terms of network administrators' time and travel costs.

Wireless mobility figures strongly in the Trust's plans for the future and it is currently installing HP ProCurve Wireless Edge Services zl Modules (WESM) in conjunction with HP ProCurve Radio Port 210 technology. This centralised wireless solution will enable the Trust to deliver secure, advanced wireless services across the site and to benefit from simplified management and unified wired and wireless operations.

Innovative services improve clinical care

North Bristol has now laid the foundation for its vision with a reliable, secure and scalable HP ProCurve network infrastructure. The HP ProCurve 8212zl core switches incorporate HP ProCurve ProVision ASIC™ technology with Power over Ethernet (PoE) and Quality of Service (QoS). Based on open-standards, the HP ProCurve Adaptive Network supports interoperability and will facilitate the introduction of convergence technologies such as IP telephony, IPTV, Voice over Wireless Local Area Network (VoWLAN), CCTV and RFID.

Another major advantage of this reliable, high-performance HP ProCurve network is its ability to efficiently support the Picture Archive and

Customer solution at a glance

Primary solutions

- Adaptive Network
- Communications and Collaboration
- Network systems and management
- Mobility

Primary hardware

- HP ProCurve Switch 8212zl
- HP ProCurve Switch 5400zl series
- HP ProCurve Switch 2600 series

Primary software

- HP ProCurve Network Manager Plus (PCM+)

Communications System (PACS) application, which enables large files such as pathology tests, Magnetic Resonance Imaging (MRI) scans and X-rays to be stored electronically and viewed on-screen, anywhere on the campus. Neurosurgeons, for example, can access PACS and call up MRI scans on big screens in operating theatres.

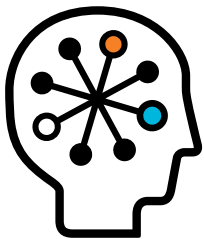
The Trust has also realised major benefits through the order communications system. Tests can be ordered electronically, sent straight to pathology, which can then run the test and return results faster, cutting down access time and improving patient care. Ordering medical supplies can be completed in real-time, allowing for efficient stocktaking and delivery. Supported by HP ProCurve Networking, the network is now safe, secure, fast and efficient and delivers a robust audit trail.

Enhancing the patient experience

Looking to the future, the Trust has progressive plans for implementing wireless mobility technology. Soon all doctors, nurses and allied health professionals will carry mobile devices onsite to connect to the hospital's central Patient Administration System (PAS) and the new Electronic Patient Record (EPR), recalling and completing observation charts electronically, direct from the bedside. With the use of RFID tags, porters will be able to locate the nearest bed or wheelchair and, for example, vulnerable patients can be quickly located by security staff by feeding RFID tracking information and CCTV footage directly to a mobile device.

As well as supporting the provision of care, the Trust's new HP ProCurve network will support initiatives to improve the overall patient experience. Upon arrival on-site, patients may be issued with an RFID tag, which will open car park barriers and direct them to their own parking space, allotted for the appropriate amount of time. Additionally, 'wayfinder' booths will show patients exactly where they need to go. If it's more convenient, patients can go for tests at one hospital and then collect their results at another, with all the information available across the network regardless of campus location. If they require an overnight stay, their dietary requirements will be recorded and IPTV will keep them entertained.

"In overall terms, what HP ProCurve can deliver for the future is an absolutely fundamental building block for our new hospital and all the models of care around it. You can't deliver any of that without a robust network. Whatever the application, whether it is television pictures for patients in their rooms, networked patient records to a nurse with her PDA, or CCTV images to a security guard, all of it is enabled by a strong fixed and wireless network. To make IT as key to patient care as any medical device or clinical equipment, it must be 'always on' – clinicians and patients must be able to rely on it – HP ProCurve has helped us to achieve this. HP ProCurve is our network partner of choice to fulfil our vision of opening the UK's first digital hospital in 2013," concludes Bell.



◆ For as long as you own the product, with next-business-day advance replacement (available in most countries). The following hardware products and their related series modules have a one-year hardware warranty with extensions available: HP ProCurve Routing Switch 9300m series, HP ProCurve Switch 8100fi series, HP ProCurve Network Access Controller 800, and HP ProCurve DCM Controller. The following hardware mobility products have a one-year hardware warranty with extensions available: HP ProCurve M111 Client Bridge, HP ProCurve MSM3xx-R Access Points, HP ProCurve MSM7xx Mobility and Access Controllers, HP ProCurve RF Manager IDS/IPS Systems, HP ProCurve MSM Power Supplies, HP ProCurve 1 Port Power Injector, and HP ProCurve CNMS Appliances. Disk drives in the HP ProCurve ONE Services zl modules have a five year hardware warranty. Standalone software, upgrades, or licenses may have a different warranty duration. For details, refer to the ProCurve Software License, Warranty, and Support booklet at www.procurve.eu/warranty.



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