

Bringing Healthcare to Patient Bedside

Customer Case Study



St George's Healthcare NHS Trust mobilises and empowers medical teams with secure Cisco BYOD and VDI platform

EXECUTIVE SUMMARY

Customer Name: St George's Healthcare NHS Trust

Industry: Healthcare

Location: United Kingdom

Number of Employees: 7,700

Challenge

- Increase staff efficiency and productivity
- Support changing models of clinical care
- Provide technology to underpin future growth and demand

Solution

- Cisco Enterprise Networks and Data Centre Virtualisation architectures with UCS, providing end-to-end platform for securely delivering BYOD, VDI and remote access in healthcare environment

Results

- Information has been brought right to bedside or wherever it is required, making patient care more effective
- Help to improve working lives and increase flexibility and efficiency of clinical staff
- Platform to accelerate future healthcare innovations and limit additional costs

Challenge

Transformative IT has become a critical cornerstone of the National Health Service (NHS) in the United Kingdom. It is vital not only to help improve the standards of care, but also to improve the working lives and productivity of hospital staff.

St George's Healthcare NHS trust is a leading example of best practice. With over 7,000 staff, the trust serves a local population of 1.3 million and delivers specialist services to a wider catchment, totalling some 3.5 million people. Its main site, St George's Hospital, Tooting, has 900 beds, and the trust also provides a number of community services through a smaller 100-bed unit and 11 health centres.

The hospital's 33-strong operational IT team manages an estate of 5,000 desktops and over 160 applications including pathology, electronic patient records and picture archiving and communications systems. "A couple of years ago, if a hospital lost network connectivity it would be inconvenienced but would still continue to run," says Kerman Jasavala, deputy director of ICT for St George's Healthcare NHS Trust. "Now, if a failure extends beyond four hours, you're starting to talk about diverting patients elsewhere and shutting services down."

However, by adopting a forward-looking approach, the hospital has made technology one of its greatest assets and a key enabler for healthcare service innovation. "It simply wasn't financially viable to keep refreshing our ageing desktop estate," says Jasavala. "Also, we needed to make a step-change in the way services were delivered. People were working across more and more sites, and mobility was becoming increasingly important, especially for clinicians who needed reliable access to do their jobs efficiently wherever they were."

Eager to take advantage of emerging trends, the hospital decided to shape its networking strategy around bring-your-own-device (BYOD) and virtual desktop infrastructure (VDI). The plan would also involve greater centralised management and extending wireless connectivity beyond wards.



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Kerman Jasavala
Deputy Director of ICT
St George's NHS Trust

Solution

St George's laid the foundations for this transformation when it implemented a Cisco® Medical-Grade Network utilising CNAB (Cisco Network Architectural Blueprint) for the NHS. A list of requirements was drawn up, went out to tender, and the contract was awarded to Cisco and gold partner Block, which handled the implementation. Cisco Medical-Grade Network is a set of Cisco recommended guidelines for building an optimal healthcare network.

“We wanted one stop for everything: network, storage, compute, desktop virtualisation, BYOD, and so on,” says Jasavala. “Block could implement the whole piece, and having already used Cisco, we knew its technology was reliable and robust. Everything stacked up in terms of management, price, and performance.”

The solution builds upon the trust's existing Cisco foundation with the addition of Cisco Enterprise Network architecture and Unified Computing System™ (UCS®), which form a secure end-to-end platform for delivering BYOD and VDI in a healthcare setting. The Cisco overall VDI approach is complemented by IP telephony, which is replacing a legacy telephony system with Cisco Unified Communications Manager and Cisco Unified IP Phones.

Realising that the introduction of BYOD and virtual desktops would involve cultural change within the hospital, the trust ran an initial proof-of-concept with 100 users. Among those users selected were influential clinicians, the medical director, and a number of senior managers. They were given all the support they needed and quickly became advocates for the project.

Results

There are currently 2,000 registered BYOD/VDI users, and eventually 90 per cent of staff are anticipated to use VDI-enabled devices. The only exceptions may be back office workers for whom mobility is less of an issue.

“One of our main goals was to make the BYOD and remote access experience as simple as possible for end users,” says Jasavala. “We did a lot of work with both Cisco and Block around making provisioning easy. We wanted people to be able to self-provision as far as possible, and we've got that nicely set up. They just need two bits of software on their device: the Cisco AnyConnect® client and a VMware View client.”

For people who have a corporate-owned device, access is managed through ISE certificates and it's the same for tablets and mobile phones. If the user is running a home PC, either Mac or Windows-based, the process involves two-stage authentication with a text token. Says Jasavala: “The thin clients have a thin operating system. Users plug their NHS smart cards in, enter their unique PIN number, and that takes them straight to their virtual desktop. It's very quick and easy.”

With consistent mobility including session persistence, regardless of device or location, medical teams can bring healthcare to the patient's bedside: accessing files, test results, and reports. “For patients, this means an improvement in both the quality and safety of their care, because clinicians always have access to the right information at the right time,” says Jasavala.

Cost reduction was never the main motivation: “Our big driver was around improving operational efficiency and productivity, which will result in many indirect cost savings,” Jasavala says. “If we can treat patients faster, better, and safer, then we will have a happier and more productive workforce. We have definitely started to see such benefits and, with help from Block, we're starting to quantify them.”



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Deputy Director of ICT
St George's NHS Trust

BYOD and VDI are enabling other innovations. While it subscribes to the vision of the paperless digital hospital, St George's is taking a pragmatic view to becoming less dependent on paper by embarking on a document management scheme. The project, involving the scanning of patient case notes and medical records, will eliminate thousands of inefficient, bulky paper files. Once digitised, this content can be easily viewed via mobile devices or thin clients. Other clinical programmes will see the introduction of electronic prescribing and clinical documentation.

“Other projects are dependent on an easy way of accessing and managing data, and the technology has to be there to support it,” says Jasavala. The point is echoed by an orthopaedic surgeon who works at other hospitals and reports that remote access and VDI have positively changed her whole work-life balance.

And the liberating cultural change is spreading. “Once people see BYOD and VDI in action, they realise what the whole mobility piece can give them,” says Jasavala. “They especially love the way they can log in from anywhere, treat a patient, and then attend to tasks elsewhere. If they have to return later, they can pick up exactly where they left off.”

Technical Implementation

VDI is powered by eight Cisco UCS B200 M3 Series Blade Servers, which are pre-integrated with VMware Horizon View. Networking is provided by Cisco Nexus® 7000, 5000, 2000 and 1000V Series Switches and Cisco Catalyst® 3750 Series Switches. The storage system used to support VDI is from EMC.

The Cisco wireless LAN is being deployed in an increasing number of areas in the hospital with Cisco Aironet® Access Points, featuring Cisco CleanAir® technology for interference-free, high-speed wireless services.

Cohesive and easy access for BYOD is achieved with Cisco AnyConnect Secure Mobility Client, while Cisco Identity Services Engine provides identity management and access control. Other solutions include Cisco Mobility Services Engine and Cisco Wireless Service Module 2 Controllers. St George's has followed up its initial deployment by implementing the Cisco Prime™ Network Control System.

Jasavala concludes: “Cisco switching, routing, and wireless products are as good as you can get while Cisco ISE has been a game changer by simplifying management. Tied in with solutions like the Mobility Services Engine, it all comes together in one unified package. That's where Cisco delivers real value-add by providing a seamless technology stack from top to bottom.”

For More Information

To learn more about Cisco Enterprise Networks, go to:
www.cisco.com/en/US/netsol/ns1015/index.html

For further information on Cisco BYOD solutions, go to:
www.cisco.com/go/mobility



Product List

Routing and Switching

- Cisco Nexus 7000, 5000, 2000, and 1000V Series Switches
- Cisco Catalyst 3750 Series Switches

Wireless

- Cisco Aironet Access Points with CleanAir technology
- Cisco Wireless Service Module

Security

- Cisco AnyConnect Secure Mobility Client
- Cisco Identity Services Engine
- Cisco Mobility Services Engine

Management

- Cisco Prime Network Control System

Data Centre

- Cisco Unified Computing System B200 M3 Series Blade Servers



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