Case Study

HUAWEI
LEADING NEW ICT

Emergency services provider responds to the needs of its ageing IT network

NHS
South Central Ambulance Service
NHS Foundation Trust

Performance and security enhancements drive the South Central Ambulance Service to search out a cost-effective replacement for its router network

Background

South Central Ambulance Service NHS Foundation Trust (SCAS) is part of the UK's emergency service network responsible for providing ambulance and urgent care services across the English counties of Buckinghamshire, Oxfordshire, Berkshire and Hampshire. Formed in 2006, it is an amalgamation of the former county services that originally served the area.

Demand for SCAS' services is increasing every year, in the last twelve months it received a daily average of over 1,800 emergency 999 and 3,400 NHS 111 calls, undertaking more than half a million patient transport journeys. It has also been successful in winning work from other counties to provide patient transfer services.

Challenges

The time-critical nature of its operations means that the Trust is highly dependent on its IT services which over the last ten years have seen the amalgamation of a number of separate networks on to a single unified platform. Critical systems such as Computer Aided Dispatch and 999, the UK's primary emergency services telephone number, rely on the rapid transfer of data to function effectively.

SCAS has a substantial WAN estate covering more than 70 Ambulance stations and resource centres which operate over a mixture of internal NHS N3 circuits, broadband services and the public internet. With the amount of data passing over the network growing rapidly it started to show signs of being unable to cope with the additional pressure. Jason Somerville, SCAS Head of ICT (Clinical Communications and Telemetry) explains:

"Our diverse legacy routers and switches were using relatively old protocols which made data routing over an expanding network more complex and difficult to manage. We also found ourselves needing to improve our sites Wi-Fi provision, so we knew we needed to look at a complete refresh of the infrastructure."

Executive Summary

Client
South Central Ambulance Service (SCAS)

Industry
Health

Challenges
To replace its existing router network in response to security and performance concerns.

Solution
A mix of AR2204 (core) and AR169 (edge) series Enterprise Routers

Benefits
- Peace-of-mind through enhanced security features
- Reduced cost-of-ownership from lower capital and on-going maintenance costs
- Flexibility to develop with organisational changes
- Enhanced levels of service due to more efficient routing of data

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The problem was made worse by interference from a second Wi-Fi network which was used by staff to access patient records on the hospital's LAN using their notebooks and tablets.

Solution

Working with Complete Networks (CNL), an IT and telecommunications consultancy with a wealth of experience of working within the NHS, SCAS initially looked at a natural technology upgrade/refresh of its existing equipment. It was then that CNL introduced it to the opportunities offered by a Huawei solution. Mike Jones, Director, CNL continues:

"We understand the very particular IT challenges NHS organisations face. Knowing that finding a solution offering value-for-money without compromising its ability to deliver is a paramount concern, we had no hesitation in recommending Huawei to SCAS as an ideal option to consider."

The proposed solution employed both Huawei's AR2204 and AR169 series Enterprise Routers. The AR2204 router is a next-generation router that supports both wired and wireless access and is based on Huawei's proprietary Versatile Routing Platform (VRP). Used to provide the core platform within the network, it has a modular design which brings together routing, switching, 3G service, LTE service, voice, and security functions and can be easily expanded to meet individual customer requirements.

Each ambulance station will be connected to the network using the Huawei AR169. This is a fixed interface access router used to provide routing and switching functionality for small office environments. It features a built-in firewall, a broad range of VPN options, and comprehensive authentication and defence mechanisms.

Following a comprehensive analysis, the Huawei solution stood out as the one that offered the best way forward.

"Once we had seen Complete Networks proposal we decided not to look any further and go straight to the next part of our evaluation. This involved staging a Proof of Concept trial across a number of our sites to make sure the solution was not only compatible with the internal N3 network, but could deliver the high level of security encryption we were looking for," says Jason Somerville.

Benefits

The proof of concept trial was completed on time and on budget. The resilient configuration enabled much more efficient routing of data with no network outages. In addition, the increased performance of the routers has allowed SCAS to take full advantage of its newly installed VDSL circuits.

For the SCAS IT team it has also been a very positive experience. Rather than having to deal with multiple user problems, it now has more time to spend on developing the network so it can support the Trust in expanding its customer base and the services it offers. For example, Ambulance crews had been experiencing problems accessing Electronic Patient records at their stations due to capacity problems on the Wireless Access Points (APs). This issue has now disappeared from the trial sites.

In common with many public organisations, value-for-money was a key consideration.

"Above all we needed a solution that not only met all our budget requirements day one but would continue to allow us to benefit financially in the future. The Huawei solution has allowed us to achieve this aim in a number of ways. Not only were the upfront capital costs much better than those of other vendors, its obvious reliability and easy upgradability topped with a five-year warranty all add up to the potential for significant on-going cost-savings," concludes Jason Somerville.

The experience received has been so positive that SCAS has now started deploying Huawei 5720Si series Gigabit Ethernet switches in three of its mission-critical call centres providing Patient Transport Services with other areas to follow. In addition, it has now produced a business case proposing Huawei Next Generation firewalls and routers for all of its core sites to provide enhanced security for its NHS N3 and public internet connections. This is being independently assessed and should be ready for deployment from the autumn.

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About Huawei Enterprise Business Group

Huawei Enterprise Business Group ("Huawei Enterprise") is one of the three business groups of Huawei, a leading global Information and Communications Technology (ICT) solutions provider. Leveraging Huawei's strong R&D capabilities and comprehensive technical expertise, Huawei Enterprise provides a wide range of highly efficient customer-centric ICT solutions and services to global vertical industry and enterprise customers across government and public sector, finance, transportation, electric power, energy, commercial businesses, and ISPs.

Huawei Enterprise's innovative and leading solutions cover network infrastructure, Unified Communications and Collaboration (UC&C), cloud computing and data center, enterprise information security, and industry application solutions.

For more information, please visit: e.huawei.com/uk

About South Central Ambulance Service NHS Foundation Trust (SCAS)

SCAS provides traditional 999 emergency services, as well as non-emergency patient transport services, NHS 111 services and logistics, commercial and training services across Berkshire, Buckinghamshire, Hampshire and Oxfordshire to a total population of over seven million people.

The trust also provides an emergency transport service for patients in life-threatening condition and a non-emergency Patient Transport Service which carries patients unable to use public transport due to their medical conditions, as well as those using outpatient clinics or being admitted or discharged from hospital. It also has a commercial division, which provides first aid training to members of the public, a community equipment service and logistic services.

For more information, please visit: scas.nhs.uk

About Complete Networks

Founded in 2006, Complete Networks is an IT and telecommunications consultancy, specialising in the provision Telephony and Network hardware, and solutions for medium-sized businesses and large enterprises. It offers specific expertise in network solutions for emergency services where high availability is critical.

For more information, please visit: completenetworks.co.uk