

NORFOLK NHS

Teneo enabled Norfolk NHS to overcome network bottlenecks at its rural doctors' surgeries due to limited network bandwidth availability

Norfolk NHS serves a population of 882,000 people in and around Norfolk. Back in 2009, the organisation was grouped with Norfolk Community Health and Care Trust to form Norfolk PCT. Each entity now looks after its own hospitals and amenities.

Norfolk is the fifth largest county in England by area, and is mainly rural with low population densities outside of the main towns and cities such as Norwich and Kings Lynn. Norfolk NHS was responsible in 2009 for the services delivered by 93 GP surgeries ranging from city centre surgeries in Norwich through to rural practices.

THE CHALLENGE: TO DELIVER IMPROVED NETWORK PERFORMANCE, REDUCE FILE TRANSFER SPEEDS AND PROVIDE ALTERNATIVES TO EXPENSIVE LEASED LINE IMPLEMENTATIONS.

Norfolk's GP surgeries were very reliant on their IT systems to deliver effective patient care and many in rural areas were hindered by slow and costly broadband networks.

Broadband speeds in the county varied greatly, with many local telephone exchanges still not upgraded to allow for broadband. Where exchanges had been upgraded, proximity to an exchange was still a crucial factor with wide variations in download speeds – many business and residential users received speeds of below 2 Megabits per second (Mbps).

At the time, NHS Connecting for Health (CfH), now the Health & Social Care Information Centre (hscic) provided Norfolk NHS with access to N3, the national NHS data network for England. N3 is one of the largest Virtual Private Networks (VPN) in Europe and acts as a secure, 'firewalled' network for all NHS users and is approved to carry clinical data.

As well as storing and transferring patient records and carrying all email and internet traffic, N3 also manages national applications such as electronic appointment booking, prescription systems and medical image transfers.

Doctors working at Spixworth complained that they could not access medical files, test results and X-ray images and had resorted to faxing documents across rather than using the VPN – registering several complaints per week with the IT team.

User reports stated that the Docman Document Management system was very slow or it would 'freeze up' altogether – a single image would take 90 seconds to download.

"These local, low bandwidth VPNs were causing great problems for branch surgeries – to the extent where many doctors did not want to use them."

INDUSTRY

- Healthcare

CHALLENGE

- Deliver improved network performance to rural doctor's surgeries
- Reduce spend on expensive network bandwidth upgrades
- Improve patient experience by eliminating delay on transfer of vital documents and files

SOLUTION

- Deploy Riverbed's SteelHead WAN Optimisation solution

BENEFITS

- Reduced download time for documents and image files at GP sites by up to 90%
- Replaced expensive leased lines with Riverbed SteelHead
- Generated ROI within 12 months

The GP IT Services department worked closely with GP practices to discuss any IT related issues they had, and were fully aware of the network issues. Even with N3 supporting rural practices with high speed routers, the team set out to look for a more robust solution.

THE SOLUTION: DEPLOYMENT OF RIVERBED'S STEELHEAD WAN OPTIMISATION SOLUTION

Charles Moore, now Deputy GP IT Services Manager, NHS NEL Commissioning Support Unit, worked with his manager at the time, Gary McGuinness, currently Interim Senior GP IT Manager, NHS NEL Commissioning Support Unit, to look for solutions that would substantially improve file transfer speed between the Coltishall and Spixhall sites, as well as other sites which were suffering from similar problems.

One solution was to replace the 256kbps VPN link with a new 2Mbps leased line which was carried out for eight other Norfolk NHS GP practices.

Although using leased lines would deliver much needed bandwidth between the main and branch sites, leased lines do not necessarily speed up file transfer or resolve application latency as the bandwidth is quickly used up with other applications.

"Leased lines are not always the answer to improve network performance, if you can drastically reduce the level of data going over the network you'll always have a better result."

In January 2010, Teneo arranged for a pilot of Riverbed's SteelHead WAN Optimisation solution at Coltishall and Spixworth health centres to see whether they could help to speed up vital file transfers such as medical records and test results.

Teneo engineers pre-configured the SteelHead appliances off site to minimise any disruption. The installation was completed in one day with staff able to access the surgery IT system with only five minutes of downtime at lunchtime.

"Teneo's approach with Riverbed is excellent, they installed the SteelHead appliances and let us make our own mind up whether they were delivering on their promise."

Once installed, the Riverbed SteelHeads immediately started to take effect. Files held on the surgery's DocMan Openshare folder accessible by both surgery sites, were suddenly being transferred over the VPN in seconds rather than in up to a minute.

"Teneo engineers had a thorough understanding of the Riverbed technology and wider network environment – they were real professionals. They did everything they could to minimise disruption to our surgeries and worked around us."

Additional bandwidth would have helped to speed up file transfers, but not to the same extent as using Riverbed's WAN Optimisation solution.

THE BENEFITS: DOWNLOAD SPEEDS WERE UP TO 90% FASTER AND WITH ROI IN JUST OVER 1 YEAR

Being able to pilot Riverbed SteelHead at each site meant the IT team could make an assessment of the success of each SteelHead unit. 25 sites were identified which would benefit from using Riverbed SteelHead. The Snettisham surgery quickly benefitted from near instant file transfers when sharing vital patient documents and images from the server located at Heacham.

Teneo's professional approach minimised disruption



UK

Teneo Ltd
20/21 Theale Lakes Business Park
Moulden Way Sulhamstead
RG7 4GB

T: +44 118 983 8600
F: +44 118 983 8633

France

Teneo France S.A.S.
5, Place de la Pyramide
Tour Ariane
La Defense 9
92088 PARIS

T: +33 1 55 68 11 12
F: +33 1 55 68 10 00

USA

Teneo Inc.
44330 Mercure Circle
Suite 260
Dulles
VA 20166

T: +1 703.212.3220
F: +1 703.996.1118

Australia

Teneo Australia Pty Ltd, Level
20, Tower 2 Darling Park
201 Sussex Street
Sydney, NSW 2000

T: +61 2 8038 5021
F: +61 2 9012 0683

Contact details

W. www.teneo.net
E. info@teneo.net

The IT team reported that they had not had a single complaint about file transfer speed from both sites within the following 18 months.

"To go from a situation where an X-Ray image took 90 seconds to download to just seconds made a major difference to productivity. Staff became confident that our IT network could really deliver after our investment in Riverbed SteelHeads."

To date, each Riverbed SteelHead implementation improved file transfer performance substantially with download speeds being reported to have increased by up to 90%.

From the initial SteelHead installation at Coltishall, Norfolk NHS installed Riverbed SteelHeads at a total of 25 sites.

Riverbed SteelHeads also replaced some existing leased lines as the SteelHeads improve file transfer and application performance on slower bandwidth lines.

Replacing a leased line with SteelHead appliances delivered a return on investment in just over a year – through eliminating high bandwidth and maintenance charges for each leased line.

"Riverbed helped across the GP practice, not just for file transfers between sites. It optimised all of our applications – even those used internally, so they were all running more effectively."

Charles praised the professionalism that Teneo and Riverbed showed, and enjoyed a strong relationship with his

Teneo account and technical support team.

As new, bigger surgeries were specified, Charles was ensuring that they were built with Gigabit switches, high speed routers, CAT5 cabling and, of course, Riverbed SteelHead appliances for optimum efficiency.

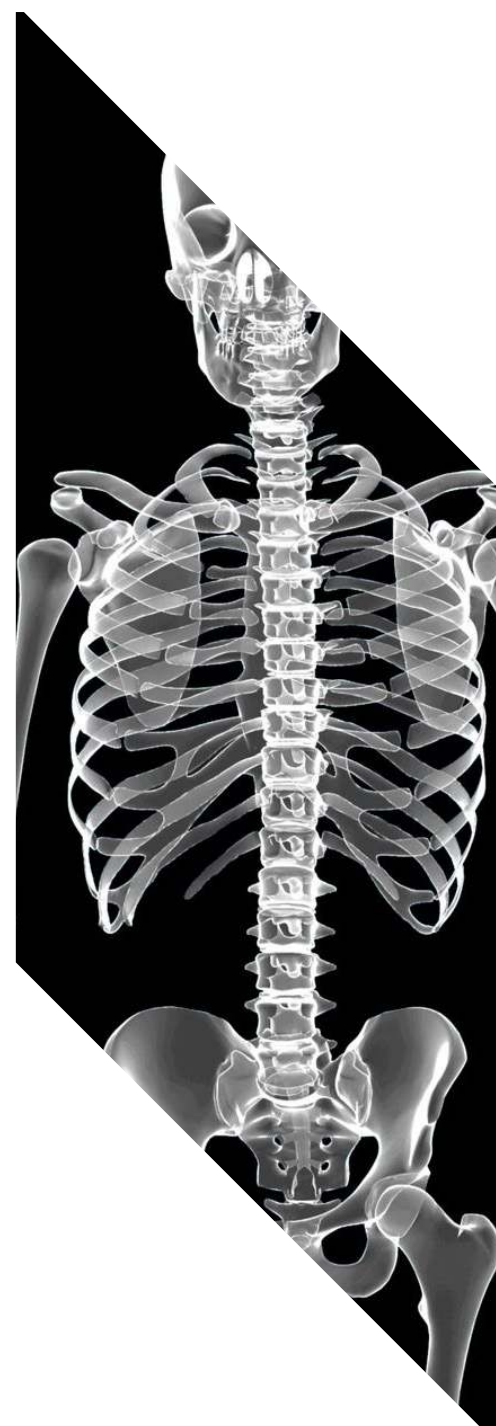
"Teneo is exceptional – I receive excellent support from my strategic account manager who responds quickly to any request. If I have a more complex technical request, or ask a 'Can Riverbed SteelHeads do this?' question, Teneo has the technical knowledge of Riverbed to give an informed answer straight away. I look forward to working with Teneo as we look at how Riverbed's Performance Platform can benefit more sites."

ABOUT TENE0

We're a Specialist Integrator of Next-Generation Technology, offering global organisations the strongest mix of optimisation solutions for networks, security, storage and applications. We design our solutions by understanding through consultancy and delivering through managed services.

Passionate about what we do, Teneo is the spark that ignites a new approach to technology. We're catalysts, speeding up change and accelerating growth. We're specialists who bring expert technical knowledge and solid commercial understanding that combined, helps our customers to think differently, opening up minds to new possibilities.

No speed complaints since the installation



UK

Teneo Ltd
20/21 Theale Lakes Business Park
Moulden Way Sulhamstead
RG7 4GB

T: +44 118 983 8600
F: +44 118 983 8633

France

Teneo France S.A.S.
5, Place de la Pyramide
Tour Ariane
La Defense 9
92088 PARIS

T: +33 1 55 68 11 12
F: +33 1 55 68 10 00

USA

Teneo Inc.
44330 Mercure Circle
Suite 260
Dulles
VA 20166

T: +1 703.212.3220
F: +1 703.996.1118

Australia

Teneo Australia Pty Ltd, Level
20, Tower 2 Darling Park
201 Sussex Street
Sydney, NSW 2000

T: +61 2 8038 5021
F: +61 2 9012 0683

Contact details

W: www.teneo.net
E: info@teneo.net