



Enterprise-wide broadband network helps the NHS to achieve its strategic goals

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Built by BT for NHS Connecting for Health, one of Europe’s largest MPLS-based virtual private network is enabling the NHS to transform service delivery and standards of care

Marketplace

NHS Connecting for Health is delivering the NHS National Programme for Information Technology (NPfIT), which is the largest civilian IT programme in Europe. When completed it will serve over 50 million people throughout England, and will make a positive contribution to the quality of life of every citizen. The primary role of the 10-year programme is to deliver new integrated online healthcare systems to replace the thousands of disparate legacy applications and paper-based processes.

Business opportunity

Through the NPfIT, NHS Connecting for Health is creating a healthcare environment centred firmly on patients and their needs. The programme is critical to the future delivery of healthcare in England. The New National Network (N3) is the broadband infrastructure that will provide the fast secure high bandwidth connectivity without which the NPfIT could not function. N3 is already the largest virtual private network (VPN) in Europe and is a project with huge scale and complexity.

In today’s health service, multi-disciplinary teams work across a number of sites and specialities to deliver specific health solutions. Before N3 the necessary high-speed transport mechanisms to enable that collaborative environment were patchy at best.

BT solution

Chosen as prime contractor for the £530 million N3 provision of service contract in February 2004, extensive customer consultation underpinned BT’s approach to the design and architecture of the N3 solution from its inception.

A company independent of BT – N3 Service Provider (N3SP) – was set up not only to sharply focus on the project but also to ensure value for money by using an array of suppliers competing with each other to provide discrete segments of network services against strict specifications. The components are integrated into a single system by BT and – drawing upon the expertise built up in its global networks operations – BT monitors, manages and reports service levels to NHS Connecting for Health.

N3 is an enterprise-class wide area network that runs over a high-speed IP-based multi-protocol label switching (MPLS) backbone. Interconnecting broadband access technologies such as digital subscriber loop (DSL) and optical fibre-based Ethernet domains, N3 will link 18,000 NHS sites and 1.3 million NHS employees through 58 points of presence (POPs) across England. Operationally, N3 is fully resilient at backbone and POP level, enabling 100 per cent service availability.

Case study

NHS N3 infrastructure

“Another example of the benefits N3 is bringing to the NHS is the Yorkshire Air Ambulance, which has cut its emergency response time after linking its computers to N3. Its helicopter can now be airborne in two minutes, compared to the average eight minutes it used to take.”

Results

Every one of the 18,000 NHS sites will be connected to N3 by the target date of March 2007. By September 2006 15,000 connections had been delivered on schedule and on budget. N3 now provides service to over 85 per cent of target NHS sites and 97 per cent of General Practitioners. Services include applications such as the electronic booking service (Choose & Book), electronic transmission of prescriptions (ETP) and the new generation of Picture Archiving and Communications Systems (PACS). Enabling images such as scans and x-rays to be stored, retrieved and transported, PACS brings such critical media right to the patient's bedside using wireless IP technology.

With N3, doctors can upload electronic patient images to the central cluster store in real time, which was impossible before. That enables other clinicians to bring to bear their expertise by viewing images from multiple sites. Another example of the benefits N3 is bringing to the NHS is the Yorkshire Air Ambulance, which has cut its emergency response time after linking its computers to N3. Its helicopter can now be airborne in two minutes, compared to the average eight minutes it used to take.

Foundation N3 services include the 24*7 call centre and the customer relationship management (CRM) system, where users can place orders, track faults and confirm current services. The call centre target is for all calls to be answered within 60 seconds: currently 98 per cent are being handled within 15 seconds. Core services provided by the backbone and the POPs have a 100 per cent availability target and there had been no outages in the 12 months to September 2006.

N3 provides the NHS with a reliable, secure high bandwidth network making cost effective use of NHS funds. The standardised national infrastructure that it creates will enable the rollout of 21st Century healthcare IT applications as well as the next generation of IP-based converged communications solutions.

During 2006 and into 2007, N3 will be voice over IP (VoIP) enabled, allowing a new generation of cost effective voice services to replace conventional switched telephony, with added capabilities to support converged voice and data applications.

Offices worldwide

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Main BT products and services

- Delivered through the independent N3 Service Provider organisation, N3 utilises BT MPLS network technology alongside service management and integration services

