Background

The NHS N3 national broadband network has achieved ISO/IEC20000 best practice accreditation, one of the networked IT services industry's top accolades. Part of the £12.7 billion NHS National Programme for Information Technology (NPfIT) – the largest civilian IT programme in Europe – N3 is the high-speed broadband backbone network linking the entire NHS in England, and additional sites in Scotland. It currently provides in excess of 30,000 connections serving 1.3 million employees through 63 points of presence across England and Scotland.

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Key Challenges

Essential to the future of a modern NHS, N3 supports innovative online healthcare applications including the NHS Care Records Service, Choose and Book, the Electronic Transmission of Prescriptions, and the Picture Archiving and Communications System. As one of the largest secure virtual private networks in the world, N3 enables the delivery of truly 21st Century healthcare.

BT is the N3 Service Provider (N3SP) – the prime N3 contractor. To ensure best value for money and leverage the latest technology, it uses competitive suppliers to provide discrete services, which N3SP seamlessly integrates on behalf of the NHS.

The international standard for IT Service Management, ISO/IEC20000 sets the requirements against which organisations are assessed for the effectiveness of their service management processes and performance. It provides an integrated framework for delivering and managing IT services, and encourages customer focused service provision by defining and benchmarking service excellence.

ISO/IEC20000 was developed to reflect guidance contained in the Information Technology Infrastructure Library (ITIL) framework. Originated by the UK Government in the 1980s and widely adopted in the 1990s, ITIL was developed with the input of leading global organisations.

John Abbott, CEO of N3SP, explains: "ISO/IEC20000 is vitally important because it provides a baseline for organisations to demonstrate that their service delivery processes conform to best practices and are performing well. This globally recognised standard gives our clients the confidence that we are totally customer focused."
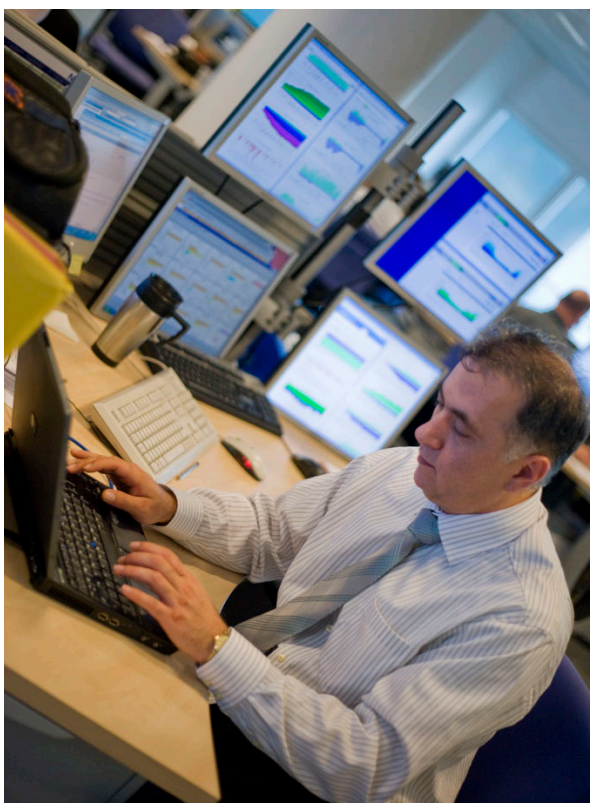
> **"N3SP is a highly valued partner and this ISO/IEC20000 endorsement reflects the high quality of services that we consistently see being delivered on a daily basis."**

Increasingly, companies accredited with the ISO/IEC20000 standard are the ones being considered for large IT contracts – particularly in the public sector. The NHS already insists that for large outsourced contracts its suppliers meet this standard (or its predecessor, BS15000).

Solution

The first step on the N3SP journey towards accreditation began with a gap analysis of the operational model and supporting policies, processes, and procedures against the ISO/IEC20000 framework. A sustained programme of internal communications followed to raise awareness and build commitment across the organisation. This "top down, bottom up" approach involved presentations, workshops, and collaborative tools to launch and promote the wider aims of the project.

A diverse project team was set up with specialised knowledge about N3, ITIL, Service Management, and ISO/IEC20000. The project team supported process owners to ensure updated plans, processes, key performance indicators – all core documentation – met the ISO/IEC20000 requirements and reflected best practice. Regular review meetings and project management tools such as red-amber-green status reporting kept the project on track.

Formal ISO/IEC20000 accreditation for N3SP requires an independent external audit by Lloyds Register Quality Audit (LRQA). To prepare for that exercise, the project team itself carried out a full audit. This identified any final actions and demonstrated that an internal audit programme was in place – a required element of the standard.

LRQA held an initial three-day inspection to confirm that documentation satisfied the standards and that there were no shortfalls in the 16 key processes

specified by ISO/IEC20000, in order for the full evidence audit to start. Three months later, that longer and more rigorous LRQA examination was carried out to establish that the procedures were being followed and were working end-to-end.

N3SP received its ISO/IEC20000 accreditation after nine months of hard work and team effort. This is an exceptional feat as many organisations similar in size to N3SP take at least 18 months to achieve accreditation. Gaining the award certainly struck a chord with Neil Bennett, Service Level Manager in the NHS Connecting for Health Service Management Team. He says: "N3SP is a highly valued partner and this endorsement reflects the high quality of service that we consistently see being delivered on a daily basis."

Value

ISO/IEC20000 has had many positive effects. The ISO/IEC20000 framework ensures that all processes are inter-related end-to-end, providing best practice service delivery to all N3 users. Every N3SP process, whether governance or service improvement, is designed with the customer in mind. To support the framework, a controlled and secure online document register, called Livelink, now stores and shares more than 1,000 documents across N3SP.

N3SP ISO/IEC20000 accreditation

Customer satisfaction is regularly measured and has shown a steadily improving trend as the quality and effectiveness of in-life services have been honed. For example, best practice processes ensure that new services do not impact current services. Business Relationship Managers have been introduced, cementing solid customer relationships with regular review meetings. The standard has also improved system performance: particularly accuracy, speed, and availability.

According to the International Organisation of Standardisation, in most organisations up to 80 per cent of information technology budgets are directly linked to service management processes. The ISO/IEC20000 standard is expected to lead to cost savings for users who include 100 per cent of GPs and more than a million NHS staff with access to N3 broadband services.

Gordon Hextall, Director of Informatics and Interim Director of Programme and Systems Delivery at NHS Connecting for Health, said: "The Department of Health published the first NPfIT benefits statement in March 2008 highlighting how N3 has replaced old technology and provided efficient, secure, high quality network and broadband connectivity for NHS computer systems and services."

The report Gordon Hextall refers to recorded the following: *"This has brought savings for the NHS of £192 million and will continue to save the service almost £95 million each year as old networks are replaced. In addition to generating cash savings, N3 is bringing benefits for the other frontline applications which simply could not function without it."*

N3SP was awarded the accreditation in October 2006 and has, of course, maintained the standard since that time. N3SP processes are scrutinised every six months with a surveillance visit by LRQA, and since gaining the award has received no non-conformities – a proud achievement. The project to gain and retain the standard has proven so successful that key members of the project team have been asked to advise other organisations that want to attain the ISO/IEC20000 accreditation: in other words, N3SP is leading the way in this service gold standard.

In 2007/2008, the first full year since receiving its ISO/IEC20000 accreditation, N3SP service management has:

- Managed 15,500 incidents (service affecting or otherwise) and handled 30,000 incoming calls
- Analysed and resolved the root causes of more than 60 generic problem areas, most leading to N3-wide service improvement
- Against over 65 million hours of catalogue service, managed downtime to just 1,690 hours – with an improving trend
- Performed 100 new service introduction procedures

In recognition of the results achieved and best practices created, N3 won a 2008 Government Computing Award for Innovation. Mark Say, Chief Judge and Editor of GC Magazine, said: "The judges recognised N3 as an ambitious but much needed initiative that has provided the NHS with a valuable communications infrastructure. It has really established itself as a core feature of the NHS and is making a big contribution to improving the quality of care for patients. We can see it going from strength to strength."

N3SP service benefits

- NHS Direct leveraged the N3 network to rationalise its call centre operations and create a virtual contact centre solution by carrying voice over the N3 network

- The Yorkshire Air Ambulance has cut its emergency response time through linking its computers over the N3 network. Its helicopter can now be airborne in two minutes, compared to the average eight minutes it used to take. Those vital minutes in the 'Golden Hour' give patients a better chance of survival

- The 2007 floods caused disruption throughout the country forcing, for example, nursing homes to be evacuated. The NHS backbone remained intact, thanks to the N3 network. With clinical data held safely and securely, and accessed remotely via the N3 network, surgeries avoided the potentially life-threatening situation of cancelled appointments, lost patient records, and unavailable prescriptions. N3SP made contingency plans, ensuring that local nodes had additional fuel for back up power, to enable continuous N3 service in the event that the electricity supply should fail

- Leading edge community of interest networks (COINs) are being created throughout the UK using the N3 backbone. These enable regional healthcare trusts to operate and collaborate as single units, especially in far-flung areas such as Cornwall and the Isles of Scilly and North Cumbria, where telemedicine and fast access to scarce skills are critical lifesavers

Core BT services

- IT Service Management activities related to N3SP services and supported by ISO/IEC20000 certification

For more information please visit our website: www.n3.nhs.uk or call the N3SP Helpdesk 0800 085 0503 Option 3.

N3 managed on behalf of the NHS by

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