Virtual contact centre strategy improves patient services at reduced cost

A BT converged solution helps NHS Direct transform its customer experience with improved flexibility and productivity, enabling faster access to healthcare advice services.

Executive Summary

In 2004 NHS Direct became a single organisation formed from 22 separate structures that had evolved from host trusts across the health service. Straightaway, the new organisation began to implement common standards, processes, procedures, policies, and infrastructure. Previously the dispersed sites operated a variety of different contact centre systems and procedures. Without a centralised view of call activity NHS Direct was not able to make the most productive use of resources. A fresh ICT strategy defined the vision and the steps necessary to standardise the service on a common technology platform, with improved call routing to make maximum use of the skills available at any time.

The organisation selected BT as its supply partner using primarily Nortel technology to create a leading-edge virtual IP contact centre, voice recording and archiving platform, serving its 42 locations. As well as supply installation and configuration of the necessary equipment the BT solution includes professional services to manage the implementation and a single point of contact for in-life management support. By April 2007 the new solution was virtually complete, the transition having been effected without any serious downtime.

The transformational nature of the BT solution has enabled the creation of a unified virtual contact centre incorporating intelligent call routing delivered on a resilient technology platform. Calls can now be answered more effectively utilising agents across the network, leading to less abandoned calls and enhanced customer service. The solution provides better management information, greater security, and simpler administration. Costs have been reduced. For example, IP telephony enables inter-office voice calls between NHS Direct sites to be carried over the N3 WAN without additional charge. Significant additional efficiencies are within reach.
Case study
NHS Direct

“We are a challenging customer and expect our suppliers to step up to the mark. When things go wrong we need immediate support. BT has been there for us every step of the way, has taken ownership of issues and managed the transition with no serious down time.”

Murray Bain
Director of ICT
NHS Direct

Marketplace

NHS Direct is at the forefront of 24-hour health care – delivering telephone and e-health information services to the public day and night. The organisation started in 1998 and has been growing and evolving ever since. State-of-the-art technology is at the heart of the operation and supports a multi-channel strategy for the 2.5 million people that use its services every month.

The NHS Direct telephone service on 0845 4647 receives more than six million calls each year, with 80 per cent of callers seeking advice about their symptoms. The NHS Direct online website – www.nhsdirect.nhs.uk – currently has 24 million visitors annually. NHS Direct Interactive is now available through Sky Digital and Freeview, giving access to up to 3,000 pages of health information for more than 16 million households. NHS Direct also offers out-of-hours call answering services for GPs and dentists.

Business opportunity

NHS Direct began as a national service hosted by 22 different UK organisations each with its own contact centre. Most of these were managed by local ambulance and community trusts that had responded to the need to support a national triage service. Calls were routed to the contact centre nearest to the caller, with BT providing network-based intelligent routing capability to re-route calls in the event of overflow.

In 2004 NHS Direct became a Special Health Authority and began to implement common standards, processes, procedures, policies, and infrastructure. Murray Bain, Director of ICT at NHS Direct, recalls: “With dispersed sites operating a variety of different contact centre systems and procedures we did not have a centralised view of demand. It became clear that we were not making the most productive use of our resources. We needed to standardise the service on a common technology platform and improve call routing to make maximum use of the skills available at any time.”

NHS Direct wanted to minimise technology risk and specified a Nortel-based solution (NHS Direct had core expertise in operating Nortel systems provided by BT for its existing operations). Adrian Price, National ICT Infrastructure Manager at NHS Direct led the project and comments: “We had a choice of potential supply partners but chose BT because of its track record, its highly skilled staff and its willingness to offer flexible commercial terms.”

BT solution

BT was awarded the £5.5 million contract for the supply installation and configuration of the necessary equipment, together with professional services to manage the implementation. The contract also provides a single point of contact for in-life management and maintenance against defined service levels. The core of the solution comprises a new IP telephony architecture based on Nortel Communications Server 1000 and the Nortel Contact Center application. The solution is built around five regional hubs, each with a number of satellites, totalling 42 sites in all. It serves 1,750 call centre agents using Nortel IP Phones 2004 and around 750 administration extensions equipped with Nortel IP Phones 2002.

Sites are interconnected over the NHS new national network (N3). Delivered through the independent N3 Service Provider organisation (N3SP), N3 utilises BT IP-based multi-protocol label switching (MPLS) network technology alongside service management and integration services. MPLS safeguards quality of service with the prioritisation of delay sensitive voice traffic over less critical data such as email and web surfing and its substantial bandwidth will support NHS Direct voice and data traffic requirements alongside other NHS-based services.
To assure resilience, each satellite site has local call processing capability as well as connectivity with the public network to assure service continuity in the event of WAN link failure. This is achieved through Nortel Media Gateway 1000 and Nortel Survivable Remote Gateway technology. A Nortel Multimedia Communication Server (MCS) 5100 provides audio conferencing facilities and offers the potential to extend collaboration services to include video and presence capability.

The solution also includes voice recording capability for all calls – an essential requirement in a health environment – with centralised resilient archiving and storage. All sites are equipped with wallboards to display real time contact centre performance data. Call logging capability enables centralised analysis of traffic patterns and administration control. BT project management, a service desk, and bespoke CustomCare maintenance service complete the BT solution.

Calls are initially routed to the most appropriate geographical location by the BT Intelligent Contact Manager (ICM). However, the BT solution has visibility of resources available across the entire contact centre network, enabling calls to be directed to the next available agent. Call takers enter caller demographic information and basic triage data into the NHS Direct clinical support system, known as CAS. Advice is provided and a callback by a nurse practitioner is scheduled. It is planned to integrate the BT solution with CAS to allow captured information to be transferred with voice calls in real time, further improving efficiency and enhancing service to the caller.

By April 2007 the new solution was largely complete with only one site still to go live. Murray Bain says: “We are a challenging customer and expect our suppliers to step up to the mark. When things go wrong we need immediate support. BT has been there for us every step of the way, has taken ownership of issues and managed the transition with no serious down time.”

**Results**

The BT solution has enabled the creation of a unified virtual contact centre incorporating intelligent call routing delivered on a resilient technology platform. The solution has enabled a rationalisation of NHS Direct locations, reducing from the former total of 54 to the current 42 sites.

Calls can now be answered more effectively utilising agents from across the network, leading to less abandoned calls and enhanced customer service. The solution provides much better management information and offers greater security and simpler administration. Not only can a call be taken at any site but call recordings can be accessed anywhere in the country. Improved utilisation of resources is giving a boost to productivity and enabling staffing levels to be optimised to meet demand.

The new technology platform is an enabler for other significant cost savings. For example with IP telephony replacing legacy TDM connectivity, inter-office voice calls between NHS Direct sites are now carried without additional charge over the N3 network. This enables a saving of around 15 per cent on network call charges. Further savings will be made from the cessation of redundant dedicated voice private circuits.

Murray Bain says: “We now have a platform that will enable us to deliver additional efficiencies. The flexibility of the solution provides us with the capability to do things differently and deliver the patient service improvements that we are looking for. Going forward the solution is fully scalable and can support a multi-channel strategy where contact centre agents deal with a blend of normal voice, email, web chat and other channels, all administered in one queue.”

NHS Direct has set itself some challenging targets. The virtual contact centre receives approaching 600,000 calls each month and it aims to answer 95 per cent of these within 60 seconds, with less than five per cent of calls abandoned. Its aim is for more than 95 per cent of patients to be satisfied with the service it provides, a target that it now regularly exceeds.

Murray Bain sums up: “The BT solution represents an exciting use of new technology – utilising a shared network in a challenging clinical environment – for possibly the largest organisation of its type in the world. Our expectation is for a significant improvement in efficiency enabling enhanced customer service at reduced cost per contact. It will help us to meet emerging competitive threats and deliver new services quickly and effectively.”

**Why BT?**

- BT has a longstanding partnership with NHS Direct built up over many years, providing confidence in BT’s ability to deliver
- Strong and flexible commercial offer with supporting professional services
- BT was able to provide a one-stop-shop for the specified technology backed by a single point of contact for support.
Technology blueprint

The core of the telephony architecture is based on the Nortel CS1000E, with Nortel Contact Center at each regional hub. Nortel Contact Center provides skill-based routing, call treatment flexibility, real time displays, multimedia routing, and comprehensive management and reporting functionality – empowering contact centre managers with the tools and agility to deliver unprecedented care to customers.

Main satellite sites are equipped with a resilient branch office solution either through a CS1000S or Nortel Enterprise Media Gateway 1000 to ensure resilience in the event of failure of an IP WAN link. Smaller sites are accessed through a Nortel Survivable Remote Gateway 50 all configured to provide a virtual contact centre solution.

Recording and playback of calls is enabled through a BT supplied and managed Verint Ultra 9.3 voice recording solution. Each of the five regional hubs and the 23 main spoke sites are equipped with voice acquisition modules and have the capability to locally store up to four weeks of recordings. Voice recorders are configured to archive all recordings by sending them on a daily basis to a centralised voice-recording platform, hosted at NHS Direct data centres. The recordings are centrally stored using a BT supplied and managed EMC Centera fully resilient storage platform. The Centera technology also validates every data item to ensure integrity and is equipped to store over 22TB of data representing several years of voice recording.

The virtual contact centre solution carries voice over the NHS N3 WAN. 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 links 19,000 NHS sites and 1.3 million NHS employees through 58 points of presence (POPs) across England.

Main BT products and services

• BT-supplied virtual IP contact centre solution based on Nortel Communication Server 1000 and Nortel Contact Center technology with Nortel IP Phones 2002/4
• BT-supplied Verint Ultra call recording platform, EMC Centera storage solution, and Dacon Agentview wallboards
• BT Inbound Services on 0845 4647
• BT Professional Services including project management, implementation, proactive support and in-life management
• BT Service Management through a single point of contact with CustomCare maintenance

Offices worldwide

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