



Barts and the London NHS Trust

Viewpoint

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Michael Pedro

Head of Systems Development



Bringing excellence to Life

As one of Britain's top teaching hospital trusts, Barts and The London NHS Trust cares for over half a million people each year from diverse communities in London's City, Docklands and East End. The Trust is also implementing the UK's biggest hospital redevelopment programme, which it aims to complete in 2014. These factors place tremendous demand on the Trust's 6,500 staff located across three major hospitals and several satellite sites.

The proactive adoption of a thin client model has been especially important in the Trust's strategy to provide greatly improved access to clinical and management information at critical areas of its operations, whilst ensuring continuity of patient care, security of sensitive information and integration with the ambitious NHS plans for a national ICT infrastructure. Barts and The London NHS Trust has successfully overcome several hurdles to bring ICT excellence to life in its hospitals' critical areas.

Taking Action

Michael Pedro, Head of Systems Development at Barts and The London, is responsible for providing a high quality ICT service to over 3,500 desktop users. He explains: “Our ICT infrastructure underpins every facet of our operations, from Finance and HR to the activities that occur in our patient facing areas. Barts and The London is a 24/7 operation, for which it is vital to provide a reliable, secure and effective network as well as access to clinical and management information at the points of need. These include hospital wards, patient consultation areas and operating theatres”.

The Trust's Systems Development team faced a number of internal and external pressures and obstacles. Traditionally using a PC-based desktop infrastructure, the team had previously developed applications in-house. This had allowed systems to be customised to satisfy user needs at a local level. However, the evolution of the NHS Care Records System (CRS) and the growing needs of staff in restricted areas meant it needed to migrate to an open system that would integrate readily and adopt common standards.

“The need to support and manage thin clients remotely was integral to the Trust's entire thin client strategy”

Aside from these drivers of change, the Trust needed to efficiently manage the costs of maintaining IT services across several sites. It is going through the largest capital infrastructure redevelopment project in the UK under a £1.2bn Private Finance Initiative arrangement. This will undoubtedly have a significant impact on the way the Trust's ICT services are delivered in the future and will demand an innovative, cost saving approach from the Systems Development team. “The implications of not supporting the CRS programme or the Trust as it progresses through the redevelopment project effectively are fundamental. The costs of failing to do so are both financially and operationally significant.” says Pedro.

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The Trust's PC desktop model suffers from several inherent problems. Possibly the greatest of these is the high cost of supporting a multi-site infrastructure of 3,500 desktops with people 'on the ground'. "At a local level we needed to improve access to clinical information through ICT in areas that are highly restricted or where security is vulnerable," says Pedro. "For example, in public areas such as consultation rooms and A&E we traditionally used dumb terminals, laptops and PCs. Not only were we unable to provide the range of applications required in some of these locations, they were also susceptible to damage and theft."

Operating theatres presented a more complex issue for ICT services provision. As restricted, sterile areas in constant use and where space is limited, they are not conducive to the provision of ICT support to PC desktops. "The cost and difficulty associated with providing ICT support to desktop PCs is significant" says Pedro. "Access by support staff is only possible when a theatre is not in use. This is likely to be during weekend hours and may still be prevented further by the incidence of emergency use. Even when access can be made, all staff have to go through a 20-30 minute process of de-robing, scrubbing and re-dressing before they can enter a sterile environment." In addition, access has to be timed to precede the scheduled cleaning and sterilisation of each theatre. And with limited space in operating theatres, it is often not possible to locate desktop based PCs. "It's easy to see why PC desktop support was impractical in these areas." says Pedro.

By contrast, the Systems Development team was aware of the value of adopting a thin client model for the provision of improved information access at these points of need. "We recognised the thin client model would provide significant operational and cost management advantages" explains Pedro. "It would allow us to locate devices in restricted areas that provided access to a wider range of applications such as email, local browser and CRS access whilst negating the need for on-site ICT support. Rather, we could perform maintenance and systems development tasks remotely without having to enter the point of need." Furthermore, although the costs of implementing thin client devices are comparable to those of desktop PCs, the team knew that the long term support costs under the thin client model would be considerably less expensive.

Conclusion

Barts and The London NHS Trust has ambitious plans to leverage its adoption of the thin client model in order to provide access to home users and staff working at its several satellite sites. The adoption of Wyse thin clients represents a gradual shift in the Trust's support of the model

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The team looked elsewhere in the NHS to find evidence of the successful adoption of thin clients. Analysing the success at one particular hospital that had recently adopted Wyse Winterm thin clients, Michael Pedro chose to undertake a pilot project to determine the cost of delivering several applications in particular areas. "We looked at several thin client vendors and chose Wyse for reasons of its standards, well known branding and because its products were proving successful elsewhere." he says.

"Since space was a problem in some areas, we needed to use devices that could be wall-mounted and also had an integrated screen. Whilst several vendors' products were mainly cut-down PCs with a separate screen, Wyse was the only one that offered an integrated unit."

As part of the proof of concept, Wyse Winterm 3630LE devices were deployed in several areas in the dental institute and operating theatre locations. "We wanted to ensure that the users were comfortable with the thin client model and also confirm that the Wyse product was fit-for-purpose." says Pedro. "The 3630LE was chosen also for the fact that it was based on the Windows CE operating system and provided a local browser."

As a result of the proof of concept pilot, Michael Pedro was able to prepare a paper extolling the virtues of the thin client model internally. "Thin clients were initially seen by many as simply a replacement for the green screen devices we were using. This exercise demonstrated that the thin client model, and Wyse thin clients in particular, would provide secure, reliable and greatly improved communication and access to clinical information at critical points of need that had not been previously possible." The paper led to a detailed definition of requirements.

Achieving Objectives

Following the proof of concept, the team implemented 208 integrated Wyse Winterm 3630LE devices at critical locations throughout its three hospitals and other sites. The implementation took approximately 4-5 months and was completed in February 2004. "It took us some time to implement the project owing to the restrictions on our ability, for example, to route cabling in high-use and sterile areas. We had to work around tight theatre availability timescales and co-ordinate the work ahead of scheduled ward cleaning times. Even at weekends our installations were hampered by emergency incidents."

Another key factor in choosing Wyse was support. The need to support and manage thin clients remotely was integral to the Trust's entire thin client strategy. Wyse provided the solution to this need through its Rapport Management software. "At the initial stages of our implementation, Wyse staff worked alongside us on-site to show us how to manage the devices using Rapport." explains Pedro. "In addition, several of our support staff underwent a thorough Rapport training programme provided by Wyse."

Commenting on how the Trust is benefiting from its implementation of Wyse thin clients twelve months on, Pedro says: "This model has greatly improved our ability to provide information access and ongoing ICT support to staff at critical points of need by managing the devices and applications remotely. For example, CRS requires every PC to run Windows 2000 or XP. To roll out the necessary changes to PC desktops would take a large team of people several months and at great cost. By comparison, we were able to update our thin client infrastructure to Windows XP using our normal support staff within a couple of weeks. This key benefit allows us to manage and develop our thin client infrastructure remotely, and considering 80% of our costs are support related, thin clients represent a significant operational cost saving."

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"Our adoption of the thin client model and particularly of Wyse products will enable us to continue to meet the increasing demands of our staff, CRS and the overall evolution of the NHS efficiently and cost effectively." concludes Michael Pedro.