

UZA Controller-less Wi-Fi

'Intelligent' WLAN improves user mobility throughout multi-site hospital complex

The role of IT in the healthcare sector, including hospitals, continues to grow. New applications are found all the time, and not all are related directly to patient care. UZA in Antwerp, one of Belgium's leading hospitals, first introduced Wi-Fi some five years ago in a limited area –its hospital block - to improve the distribution and control of medicine. But over the years, it has found new ways to use the Wi-Fi capabilities, and significantly extended its scope. The potential now reaches even beyond the hospital's multi-building site...



Wolf Wauters, ICT Infrastructure Manager, first presented this case at the BELTUG X-change on Mobility as a 'Hot' Topic, 21 December, 2010

CHALLENGES

New functionalities require mobile network connectivity

"We didn't have any need for Wi-Fi before we introduced mobile medicine distribution carts," recalls Wolf Wauters, ICT Manager at the University Hospital Antwerp (UZA). The wheeled carts carry laptop computers with software that tracks and registers the prescription and administration of medication to patients within the hospital building. To connect the carts to the network, 125 antennas were set up in the patient wards, with three controllers in the data centres. The system worked very well: "It was an effective installation, and we could see lots of potential for extending the capabilities to our entire site."

But a fundamental hurdle arose: the existing system was not capable of supporting the scope UZA wanted. "We are still expanding, adding buildings, moving departments around. Sometimes a department moves in a matter of a few days. It is essential to have a solution that will support our growth and allow a fast roll-out of the network. The existing system couldn't do that." UZA needed a cost-effective solution that would guarantee connectivity and access to all users, anywhere on the site.

"We have always been innovative, introducing the most up-to-date medical equipment to optimise patient care. So it made sense for us to innovate in providing connectivity and adding new functionality for users throughout our site, as well."

Wolf Wauters, ICT Manager UZA



UZA (Universitair Ziekenhuis Antwerpen/ University Hospital Antwerp) is one of Belgium's leading healthcare facilities, with 2700 staff caring for 180,000 patients each year. Although mid-size in terms of beds (570), it is at the forefront of research and consultancy. Its focus is on "Knowledge, Experience, Care". The IT department has a staff of 45. With its association with Antwerp University, it was an early adopter of the Internet. Using a wide range of technologies, and a mixture of in-house and externally developed applications and packages, it supports the hospital to provide top-level care to patients, while fulfilling its role of a training hospital for new doctors and university students studying medicine.

SOLUTIONS

Keep it Smart and Simple

The biggest challenge to getting the project off the ground was to select a supplier. The Request for Proposal focused on scalability and price. The solution selected – an Aerohive WLAN that requires no network controllers or overlay networks, implemented by Nextel – was one of the less expensive options, but offered unique capabilities. "The access points (APs) themselves are intelligent, so local traffic stays local, instead of going through the data centre and back. This is especially important for our remote site, connected with a laser link. Keeping traffic local saves a lot of bandwidth. It's an easy model to manage, too: we can expand it modularly. And finally, since the APs can just be put on a shelf and then replaced by ourselves when necessary, we have no maintenance contract: that's a real, ongoing savings!"

LESSONS LEARNT

WLAN innovations can offer greater ease of use

The transfer from the controller-based system to the controller-less solution went even more smoothly than expected. "We thought we would have to shut down services while changing over, but in fact we found we could change the APs on the fly – and keep the units running." There are also many new applications that can be handled with the system: "Our staff can access bedside medical applications such as Qcare, Metavision, PDMS and C2M. Patients can connect to the Internet, and university students and professors can login to the nearby campus network on our Wi-Fi system. We'll even be able to keep track of expensive equipment throughout the site – it often gets put away in a cupboard somewhere." Always an innovator, UZA is already looking to the future: "Currently, we're doing a proof-of-concept to add IPTel to the system," concludes Wolf.