

# HUS drives innovation in patient care

# Helsinki and Uusimaa hospital district puts patient care and service provision at the centre of communications overhaul with Atos Unify.

## The task

- A state of the art hospital communications system.
- A campus wide communications network unifying multiple vendor Private Branch Exchanges (PBX) into a single, unified, wired and wireless Local Area Network (LAN) communications system.
- Patient bedside access to entertainment, information and external communication.
- Create an easier working environment for hospital staff and improve patient care.

## The solution

- Session Initiated Protocol (SIP) communication system based on the Atos Unify OpenScope Exchange platform, allowing a range of PBXs to be connected to a single network.
- Bedside multimedia terminals operating Citrix XenDesktop from a central Atos Unify OpenScope HiMed server and connected via LAN to the hospital IP network.
- Atos Unify OpenScope Unified Communication (UC) one number telephone system, operating across the hospital IP system via Wireless LAN and connected directly to bedside stations and handheld devices for medical staff.
- Voice enabled nurse call system operating through Atos Unify OpenScope OSCAR alarm system.

## The benefits

- Enhanced patient experience through access to a wide range of entertainment and increased connection with friends and family.
- Greater mobility and working conditions for medical staff.
- Single UC system provides a cost-effective and consistent user experience.
- Instant database and records access for medical staff through bedside terminals.
- Free of charge staff calls through the IP network and mobile devices.



## Background

The Hospital District for Helsinki and Uusimaa (HUS) is the largest hospital district in Finland, covering 1.6 million of the country's population, employing 22,000 people (including 2,600 doctors) and handling a budget of 1.6 billion Euros per year. HUS' largest campus is the Helsinki University Hospital in Meilahti. In 2009, HUS began an overhaul and expansion programme that would add 60,000m<sup>2</sup> of building space to the campus for completion in 2015.

As part of this expansion HUS launched the 'Ideal Hospital' initiative to enable the ideal hospital for both patients and staff through technology and innovation. Ideal Hospitals are incubators for new ideas and technologies for patient care.

## The requirement

The first of HUS' completed new buildings was the Triangle Hospital, which opened in November 2010. As a result, the Triangle Hospital was designated as the first Ideal Hospital, offering HUS the opportunity to install a new unified communications and patient care system in the hospital. HUS wanted to provide an advanced communications system that both enhanced the patient experience through entertainment and communication with the wider world and simplified the provision of care for medical staff. The hospital construction was taking place during a time of public sector budget cuts, meaning possible cost savings and returns on investment (ROI) were key, both in terms of benefits and deliverables, in the final decision. In addition, the Chief Project Officer at HUS ICT, Jouko Virtanen, and his team were aware that the system would require the ability to expand across the HUS district in the future. Mr. Virtanen commented: "Ideal Hospitals are incubators for the entire HUS district and for the rest of Finland. Anything installed in the Triangle Hospital has to be easily scalable to every other HUS hospital." HUS released a public tender for the new communication and bedside system in December 2008 and Atos Unify was invited to submit a bid. The company already had a longstanding relationship with HUS having installed the first PBXs in the district over 20 years earlier. The HUS district features Atos Unify's PBX technology in 16 of the district's 20 hospitals, and the team is familiar with operations in this area. In March 2009 a consortium led by Atos Unify was appointed to carry out the installation.

The Atos Unify bid presented a cost efficient solution for installing the new state of the art communication and entertainment systems. Mr. Virtanen commented that: "Our decision was based on price, quality assurance and a heritage of positive project satisfaction with Atos Unify." Atos Unify installed a three stage technology solution combining communication system, nurse call system and patient information system into one single platform. The communication infrastructure was aimed at improving the working environment for Triangle Hospital staff, managing communications costs and enhancing the experience of patients in HUS hospitals. Unify's OpenScope Exchange became the foundation for the communications network solution at Triangle Hospital, acting as an overlay solution across the hospitals' wired and wireless LAN data and PBX network. The open platform allowed PBXs from a number of vendors to be connected through the single platform. OpenScope Exchange includes OpenScope Voice as the foundation for voice services to all employees connected with OpenScope OSCAR and HiMed solutions to streamline the nurse call, patient information and alarming systems. This solution combines a number of applications and allows HUS to maintain legacy PBX systems as required, while at the same time using the latest technology for expansions (e.g. remote sites) and growth. Investment protection provided by the Atos Unify OpenPath migration strategy is a perfect match to constantly rising cost efficiency demands.

Building on the Atos Unify OpenScape Voice system, in the first phase, Atos Unify installed multimedia terminals in 75 patient rooms and connected them to the hospital network and internet. The terminals operate using Atos Unify' HiMed server system with Citrix XenDesktop to provide virtual desktops to the terminals. From these terminals, patients can, for example, access the internet, television and activate the hospital's nurse call system. In addition, the terminal's connection to the hospital database through the HiMed server allows hospital staff to access and update patient records right at the bedside. Each nurse has a WLAN handset giving them the flexibility and mobility needed in their daily work. Unify's OpenScape UC (Unified Communication) application, which is part of the OpenScape UC Suite 2011, combined with Atos Unify OpenStage office desktop phones, offers them the perfect solution to manage their communication and availability independently from the device, place or time. Patients, customers, attendants etc. can easily and quickly have the access to the staff, without delays or unnecessary call attempts.

**“The HUS district has long been held up as a centre of excellence and the new patient entertainment and communications systems provided by Atos Unify will help us cement that reputation.”**

**Jouko Virtanen,**  
Chief Project Officer,  
HUS ICT

### **Implementation challenges**

The Triangle Hospital project was inaugurated in 2009, but building stage delays meant that the Atos Unify project team only gained access to the building 10 weeks before the arrival of the hospital's first patients. Consequently, the team had to work to a much tighter deadline, but the team and its partners completed full installation and configuration of the systems within eight weeks, in readiness for the first patients in November 2010.

### **Managing the relationship**

The Unify team kept close contact with Mr. Virtanen and provided regular and consistent updates to the HUS project team. Unify's structure provides HUS with contacts at the Finnish, Nordic and European levels, meaning HUS had the ability to escalate questions and requests that couldn't be resolved by the project team.

### **Benefits**

The installation of an Atos Unify OpenScape solution across the Meilahti campus created a basis for one common infrastructure for voice communications, connecting multiple PBX systems and creating the base to extend a uniform Voice over IP system across the entire HUS district. When connected with Atos Unify's® OpenScape Exchange, calls across the Meilahti campus and the entire HUS district are centrally handled, significantly reducing the administration and connection costs.

At the centre of the new communications platform are the bedside multimedia terminals. These terminals massively improve the patient experience at the Triangle Hospital by simplifying and enabling Internet access, faster communication with friends over social networks and access to television and general advice.

The multimedia terminals provide a much-improved and productive working environment for medical staff. The nurse call system built in to the terminals allows voice calling to handheld devices carried by nurses. This means alarms and calls can be answered without nurses needing to attend each call in person right away. In addition, a built-in smart card based system allows doctors and nurses to directly access and update patient records through the portals, at the bedside. By eliminating additional work load, the hospital employees can benefit from improved healthcare processes and use the time saved for the actual work with patients.

### **Future**

As part of a four year (and additional two plus two optional years) framework agreement, Atos Unify will continue to take a maintenance and advisory role in the Triangle Hospital communications systems. HUS also hopes to expand the number of bedside multimedia terminals and the services they provide throughout the hospital district.

As part of the continuing expansion of the Meilahti campus, HUS is appointing more Ideal Hospitals and expanding the initiative throughout the district. Atos Unify® OpenScape is an open platform, meaning future extension of the systems in the HUS district will be simplified, and PBXs from a range of vendors can be harmonised cost effectively and with time transferred into one single, open and unified platform.

As an Ideal Hospital, the Triangle Hospital is an incubator for new ideas and technology. Successful ideas from the hospital will be disseminated across the HUS district and adopted more widely across Finland's other hospital districts.

Tiina Granlund, Sales Director, Atos Unify, commented: “The Triangle Hospital communications system is a big leap forward for both internal and external hospital communications and an example of what Atos Unify's® integrated communication systems can achieve. We're excited to be at the forefront of innovation in Finland and to have the opportunity to build on and further establish and strengthen our relationship with HUS.”

Jouko Virtanen, Chief Project Officer at HUS ICT, added: “The HUS district has long been held up as a centre of excellence and the new patient entertainment and communications systems provided by Atos Unify will help us cement that reputation.”

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