ARUBA MOBILE FIRST DIGITAL WORKPLACE SOLUTION CREATES A HEALING ENVIRONMENT FOR PATIENTS AT DUTCH CRITICAL CARE HOSPITAL

Medisch Spectrum Twente

MST Twente is not a hotel. It is 750-bed specialist care hospital with an annual operating budget of €365m, one of the most high-profile new-build hospitals in the Netherlands. Yet it wants to think like a hotel. “Our aim was to create something that, in many ways, had the atmosphere of a hotel rather than a hospital,” says Frank Fornara, ICT architect at MST. “The thinking being: a more relaxing environment is a better environment for healing. We want to make the patients better, faster.”

COMMITTING TO IT-ONLY HEALTHCARE

The hospital’s ICT architecture was six years in the planning, says Fornara: “But a broader strategy – that everything in the hospital should be IT-only, goes back to 2004.” This commitment, he continues, plus the focus on patient-centric care, led inevitably to thoughts on enabling mobile caregivers: “Wireless communication becomes fundamental. It means more services can be taken to the patient, rather than the patient being brought to the service. And it means our staff can be more productive.”

Modular and easy to manage

Fornara says he understood everything had to run off Wi-Fi, but that the priority was the network had to be scalable, reliable and simple to maintain: “We can’t tolerate unexpected downtime, even if it’s 1am in the morning. A hospital is 24×7.” The solution also needed to reflect budget pressures. “Our budgets are being cut 2% a year,” continues Fornara. “The fact is we have to reduce the cost of non-care resources. Any solution must be modular, easy to add to, and easy to manage.”

ARUBA has been perfect. Open, flexible and eager to adapt.

FRANK FORNARA
ICT ARCHITECT, MST

MOVING TO WAVE 2 ARUBA ACCESS POINTS

To build the necessary Wi-Fi network MST deployed 1,600 Aruba access points throughout the site. Three Aruba mobility controllers manage authentication, encryption, VPNs, IPv4/IPv6 services as well as the Policy Enforcement FirewallTM Adaptive Radio ManagementTM and RFProtectTM spectrum analysis. They also deliver wireless intrusion protection. In addition, MST has three ClearPass 25k appliances.

To monitor the health and performance of all things connected to the network, MST uses Aruba AirWave Network Management. AirWave is the only management platform designed with mobile devices and apps in mind, and allows MST to gather the insights it needs to support the new, digital workplace.

Aruba delivers reliability and predictability

High availability is a given says Fornara, the bigger issue was network maintenance, particularly given the hospital’s role as a trauma centre in the event of an emergency in the east of the
country: “What we needed was reliability and predictability. The network needs to be maintained but we need to continue to provide services while this work is being done. Not every vendor could provide this. Aruba could.” The network was tested over six months ahead of the hospital opening. “We set up a dummy ward, and tested every piece of functionality,” says Fornara. “We then tested with one-third of the access points out. It meant we saw every possibility and had plans for every eventuality. The biggest surprise was that everything worked as designed! By launch I was 100% assured.”

RETHINKING CRITICAL CARE

Today, MST Twente has a robust, scalable Wi-Fi network on which every aspect of the hospital runs, from in-room entertainment to nurse panic buttons to the sharing of critical medical data. The hospital launched successfully, with no glitches (either medical or technical), rethinking expectations of how a large-scale critical care hospital can operate. “Each patient has their own room, with ensuite bathroom. They have their own iPad. They can order food when they want, to be delivered to their room, from the iPad. They can watch TV or make phone calls on the iPad, or check details of their treatment.”

As with a hotel, guests can register for Internet access. Nurses can call up patient details on their own iPads and can share details with other care-givers. ‘Computers on Wheels’ can be brought to patient bedsides to check vital signs, all linked to the wireless network.

The Aruba Wi-Fi also supports nurse security: nurses have a panic button linked to the hospital security. In the event of an incident, security staff know exactly where the nurse is located.

In addition, the Wi-Fi access points also enable doors to be locked remotely. “The security team had wanted every door to be secure-access only,” says Fornara. “But we’ve opted for open access as the default, with the proviso that we can create secure access where needed, triggered by an RFID security pass. The Aruba solution gives us that flexibility.”

More effective healthcare to reduce hospital stays

The ultimate success indicator, he says, will be bringing down the average length of patients’ hospital stay. “We only discharge patients once they’re well, but length-of-stay is a key focus for us as a business. It means we’re succeeding in getting patients better, faster, and shorter stays cost us less. If we direct our resources at more effective healthcare, in a more pleasant setting, it is a win-win.”

The total solution meets the reality of annual budget cuts, even with ensuite rooms and iPads for every patient. “We can do more with less,” says Fornara.

Aruba AirWave Network Management provides granular visibility over every access point, wired or wireless. By proactively monitoring the health and performance of all things connected, AirWave allows Fornara’s team to uncover new usage insights, improving the digital workplace.

Ensuring ‘just enough’ healthcare

Fornara says plans are already in place to extend the use of the Wi-Fi network. “We’re looking at how we apply location-based services. We already use location services for nurse panic alarms, we want to see how this work on medical equipment. So, for example, nurses would be able to check the location of the nearest available bedside monitor. “With Aruba we have the network in place, the work really involves having our configuration management database hook up each piece of equipment.”

Also, he continues, MST is well placed to lead broader healthcare initiatives. “We’ll be linked to care-providers throughout the Netherlands. I expect to see more video conferencing, bringing the specialist into the process when they’re needed, wherever they are. “It’s just-in-time, just enough healthcare, designed around the patient.”