

CASE STUDY

DUTCH HOSPITAL CREATES PLATFORM FOR EFFECTIVE HEALTHCARE DELIVERY WITH ARUBA MOBILE FIRST ARCHITECTURE



Ommelander Ziekenhuis Groningen is a new hospital in Scheemda, near Groningen, in the north of the Netherlands. Opened in 2018, it is the result of the consolidation of two nearby hospitals. The project provided the region's healthcare planners with an opportunity to rethink the way services were delivered to the public.

"We started with a blank piece of paper," says Sietse Bolt, IT project leader, Ommelander Ziekenhuis, "from an architectural point of view, and in IT terms. We didn't have to make concessions due to existing infrastructure, or existing building restrictions."

The new location expects to treat 64,000 outpatients and 120,000 admissions a year. It will also act as a hub for smaller clinics in the area.

ONE NETWORK TO CONTROL EVERYTHING

For Bolt, the plan was everything to be based on IP, from building control to telephony to patient care systems: "Our goal was for one network that could facilitate everything. Having one network would allow us to control everything from one place, but it also needed to be flexible enough to integrate new applications."



Ommelander Ziekenhuis collaborates on IT-infrastructure with Treant Zorggroep, which had led to off-site data centres for Ommelander Ziekenhuis.

"With no servers on site this made the project a lot less complex," says Bolt. "We just needed to connect to the data centres, and to distribute the signals."

REQUIREMENTS

- Establish a single network on which to manage multiple ICT and Care systems based on worldwide standards
- Strengthen control of patient data, with clearer visibility of users, devices and things
- Simplify network management and control

SOLUTION

- Over 350 300-Series Aruba 802.11ac APs
- Aruba 7010 Mobility Controllers
- Aruba ClearPass for Secure Network Access Control
- Aruba AirWave Network Management
- Aruba 3800-Series Campus Edge Switches
- HPE FlexNetwork 5940 Switches

OUTCOMES

- Rapid and seamless client onboarding thanks to ClearPass
- Strengthens control of patient data, with clearer visibility of device access to the network

“When we started out, we didn't think ClearPass would have such a big role in our network, but it has become one of the main tools for us to control our network by. ClearPass does software-defined networking for us.”

SIETSE BOLT

IT PROJECT LEADER, OMMELANDER ZIEKENHUIS

The new role of mobility in healthcare

Bolt says mobility is crucial to the modern hospital environment. "You're doing so many more critical things over Wi-Fi," he says. "We needed to be able to manage all these connections – and to know who and what was using the network, and we needed stable performance."

The plan was not to allow BYOD on the corporate network, he continues, although there would be guest access to the internet as well as access for staff's personal devices. "There would be plenty of hospital-issue mobile devices or computers-on-wheels, but we have to restrict sensitive patient data moving onto personal devices."

For the IT department, he says, the task was to make it easy for users to be mobile, and to create an environment where new applications could be explored and integrated. "We're a service organisation," he says.



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Software-defined networking

The Aruba solution comprises 350 Aruba 300-series access points, AirWave Network Management, and ClearPass network access control.

“There were alternatives, but Aruba had the best price to quality ratio,” says Bolt. “We had previous experience with HPE, and we were impressed with the Aruba service. Plus, we spoke to other hospitals that were using Aruba.”

He says the onboarding of devices and clients went more smoothly than he could have hoped: “When we started out, we didn’t think ClearPass would have such a big role in our network, but it has become one of the main tools for us to control our network. Through the use of ClearPass the team no longer need to configure every port individually anymore.

“ClearPass does software-defined networking for us. This made the move to the new hospital, and the physical installation of endpoint devices so much easier. We had very little work in configuring our access layer. What would have taken a week, took a day with ClearPass.”

CONTROL, VISIBILITY AND REASSURANCE

The new Ommelander Ziekenhuis hospital opened in June 2018, on time and without a glitch. Bolt says the network is performing as hoped, with centralised control and visibility making it far easier to manage. “ClearPass has taken many of the human elements out of the process, which makes for fewer errors,” he adds.

Staff are able to use a range of Wi-Fi-connected mobile devices (including telemetry cardiac monitoring devices, tablets and computers-on-wheels), while patients and visitors have high-bandwidth guest access. The building management system, from solar powers to window blinds to smart lighting, runs entirely off the singular network.

“There is a calmness about the network,” says Bolt. “It’s secure and reliable, and that is reassuring – for me, and the hospital management.”

A reliable network underpins critical medical work

Dr. Mahmood Paul works in the Intensive Care Unit at Ommelander Ziekenhuis. He says the Aruba solution underpins a new, more digital way of working: “Our work has transformed in recent years. We now depend on IT.”

In particular, he continues, the use of computers-on-wheels has significantly improved the way the medical team access, analyse and share patient data: “Where we used to have paper records – which could get lost, or were hard to read and slow to be updated, now we have near real-time data in front of us, wherever we go. I have the data I need, data that is consistent across the surgery and cardiology teams, right alongside the patient.”

He expects the future to involve more wireless devices, whether it is tablets for doctors to access data, or monitoring tools to gather and upload patient data. “It is now standard practise to involve specialists from other locations, via video call, with us all sharing common data.

“A reliable network is critical. In this line of work we cannot tolerate a network that performs at 70-80%, we depend on the network to be 99.5% available. We have that here, with Aruba.”

A platform for continued innovation

Bolt says Ommelander Ziekenhuis has quickly become a beacon for other greenfield hospital projects in the Netherlands: “There are lessons to be learned from this project. I don’t think Ommelander Ziekenhuis is a blueprint but there is much we can share.”

Most importantly, he says, is the fact the hospital has created a platform for future innovation and not simply opened its doors on time: “We have a network on which we can add new applications, new devices and new ways of working.”



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