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CASE STUDY

TAKING CONTROL WITH A UNIFIED NETWORK TO ACCELERATE TRANSFORMATION OF HEALTHCARE EXPERIENCE

Rode Kruis Ziekenhuis
Medisch Specialistische Zorg

With 275 beds and 1,450 staff, Rode Kruis Ziekenhuis (RKZ), or Red Cross Hospital, is a typical, mid-sized healthcare organisation. It is remarkable because it is one of three specialists burns unit in the Netherlands.

The hospital, 40km north-west of Amsterdam, is part of the 'Zorg van de Zaak Netwerk', a national group of medical and lifestyle companies. As with other healthcare providers in the Netherlands, digital transformation, mobility and IoT are major themes.

"Technological development has become an integral part of the healthcare sector," says Marcel Bunnik, Team Leader in the ICT department, RKZ. "Employees and patients are becoming increasingly dependent on it - doctors want quick results and other hospitals want to share images. The stream of data is only increasing."

FUTURE-PROOFING THE WIRED AND WIRELESS NETWORKS

The previous network infrastructure was failing to keep pace with this rate of change, adds Bunnik. With the hospital embarking on a renovation of older buildings, and new network users and usages, the ICT team needed an approach that was simpler to manage yet offered stronger security.

"We wanted to replace what we had, but in doing so future-proof our wired and wireless networks," says Bunnik. "We wanted to foster mobility as the standard across the site, but the primary focus was reliability."

DYNAMIC ROLE-BASED ACCESS

Solutions were considered from other vendors, but Bunnik says the Aruba approach provided the best long-term vision and roadmap.

REQUIREMENTS

- Enable seamless mobility for clinicians to improve productivity
- Simplify the task of managing wired and wireless network
- Establish a platform on which to add new network users and devices

SOLUTION

- 802.11ac Indoor & Outdoor APs
- Mobility Controllers
- Mobility Conductor
- Aruba Campus Core, Distribution and Edge switches
- ArubaOS 8
- ClearPass Policy Manager and Access Control
- AirWave Network Management

OUTCOMES

- Improves workplace mobility for clinicians, with faster access to critical information, whenever and wherever
- Paves the way for continued digital innovation, including use of healthcare IoT, wayfinding and asset tracking
- Secures critical data with role-based network access for users and devices
- Reduces time and resource needed to establish network functionality in renovated buildings

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MARCEL BUNNIK
TEAM LEADER, ICT DEPARTMENT, RKZ

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Pivotal to the Aruba architecture is ClearPass Policy Manager, orchestrating Secure Network Access Control. This provides RKZ with full visibility over all things connected to the network and simplifies network segmentation. Access is assigned through dynamic role-based control and seamlessly enforcing consistent security policies across the wired and wireless networks. RKZ reviewed proven use-cases for ClearPass among other Aruba customers in the Netherlands and in healthcare.

"Network access control from the other options was not so established," says Bunnik.

Seamless mobility and Wi-Fi roaming is now possible by connecting to almost 440 access points around RKZ. These are controlled by a clustered pair of Aruba 7210 Mobility controllers, individually located in two separate DC locations, connected via a VMware cloud environment and managed by a Mobility Conductor. At the core of these data centres lie two pairs of HPE FlexFabric 5900 switches acting as a single, highly available core. Campus access via wireless access points and LAN ports is provided by clusters of Aruba 2930M switches. The entire network is overseen by Aruba AirWave.

The solution was designed and implemented by Aruba's long-time partner, Zetacom.

Complete mobility across the site

The result is a network that is easier to manage and easier to access. It enables complete mobility for users and devices across the site, and allows RKZ to roll-out Microsoft Office 2016, VoIP, and computers-on-wheels at the patient bedside.

Staff are being issued company-owned smartphones, managed through Mobile Iron and integrated with ClearPass. It means nurses can access the hospital's Electronic Health Records from anywhere on-site, or scan medicine barcodes before administering to patients.

"For users, it is easier and faster to get online. We've had positive feedback from all of our stakeholders," says Bunnik.

The hospital is also piloting IQ Messenger, a platform for consolidating and tracking critical alerts, alarms and messages. The mission-critical operation and access of this platform is only possible thanks to uninterrupted access to the network. Asset tracking and wayfinding are planned.

Longer term, Bunnik says IoT, from smart band-aids to motion sensors, will transform the way the hospital operates. RKZ now has the platform to manage network access for a huge number of new devices and usages.

Simplified network management

From a network management perspective, the Aruba solution means more control, explains Bunnik. There is a clearer picture of what is taking place on the network. The hospital manages all first-line issues itself. There is less network downtime; if there is an issue, thanks to AirWave system administrators are spending less time finding and fixing faults.

He says Dynamic Segmentation is on the roadmap. This will allow RKZ to automatically enforce consistent policies across wired and wireless networks to keep traffic for any user or device separate and secure, regardless of the application or service.

"Our goal is maximum security, minimal human intervention," says Bunnik.

Real-time policies and security

ClearPass, says Bunnik, promises to deliver long-term impact. It will allow his team to drive automation and to create more real-time policies for different groups of users.

"ClearPass means we can create profiles and the administrator doesn't need to be on-site all the time. We can test the profiles in advance of any changes to the network," Bunnik continues. "We are facing a major challenge with the renovation at the hospital and that's where ClearPass will prove its worth. We can replace switches, do the testing, all without impacting production. It means users shouldn't notice any gaps in connectivity or services."

RKZ works with hundreds of volunteers, and there is a high turnover of patients and visitors. In such an environment with a constantly changing number of users, ClearPass simplifies the task of identifying and securely connecting authorised users and devices to the network and to the appropriate VLANs. It also means that the number of VLANs and SSIDs can be significantly reduced and the manual programming of switches and routers and access lists can be avoided, significantly reducing the impact of possible errors.

Certainty in a changing world

There is also value in the strategic engagement with Aruba, Bunnik adds. Topics such as artificial intelligence, machine learning and location-based services are being closely looked at by RKZ and are initiatives which can be readily enabled today, he says:

"We see a growing demand in healthcare in all these areas, and we know Aruba has a suitable roadmap in place to enable them. The only thing that is certain is that the network will be key and that change, when it comes, will come quickly."

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