

Hospital Redefines Healthcare with Cisco Technology

Customer Case Study



Maasstad Hospital installs wired and wireless network, integrating voice, video and data services

EXECUTIVE SUMMARY

Customer Name: Maasstad Hospital

Partner: Vosko

Industry: Healthcare

Location: Rotterdam, The Netherlands

Number of Employees: More than 2800

Challenge

- Increase mobility and access to clinical services, information, and tools
- Provide patients with better information and more interactive facilities

Solution

- Cisco network architecture provides wired and wireless platform for integrating voice, video, and data services

Results

- Specialists can spend more time with patients
- Foundation for digitization of healthcare processes and location-based services
- Improved network availability: zero downtime to date

Challenge

Zuider Hospital merged with St. Clara Hospital to become Maasstad Hospital in 2008. As a leading clinical hospital, Maasstad also fulfills an important function as a training center. In 2011, it moved from the two separate locations into a new building.

Maasstad faced several challenges. Hospital specialization is increasing data exchange between hospitals. Maasstad Hospital is facilitating this with a portal for general practitioners. With specialists becoming more mobile and working increasingly from external locations, the hospital was looking to centralize its IT function and access to patient data, such as medical imaging material. To become more competitive in the future, Maasstad also wanted to provide patients with better information and more interactive facilities.

“The old network infrastructure just didn’t meet our needs any more,” says Simon Vermeer, information and communications technology (ICT) manager at Maasstad Hospital. “We had a lot of standalone medical solutions, the bandwidth was too tight, and the network management left a lot to be desired. What we wanted was full integration of all healthcare technologies: data, video, and voice.”

The hospital decided to put in place a single IP network capable of supporting medical images, video conferencing, surveillance cameras, streaming TV (replacing coax-cabled networks) and building management, plus wireless access for all: patients, personnel, and visitors. Also, because Maasstad provides services to external parties, such as the outpatient’s pharmacy, it had to create a multi-tenant environment that allowed users to share infrastructure, while still helping ensure communications and data security.



“Cisco scored well for quality, stable environments based on proven technology. That’s what clinched the decision.”

Simon Vermeer
ICT Manager
Maasstad Hospital

Solution

After a short evaluation, Cisco emerged as the best candidate for the job. The final choice was based on references. Maasstad personnel visited other hospitals to evaluate the quality and stability of their Cisco networks. “Cisco scored well for quality, stable environments based on proven technology. That’s what clinched the decision,” says Vermeer.

To ease the migration, the hospital used a strategy based on both networks running in parallel, and a quick phase-out for the old one. “A complex process,” Vermeer says, “in which Cisco’s partner Vosko played an important part. Vosko was also involved in the realization of the new network architecture, and it helped us to define our requirements and translate them to the architecture. The result was an excellent design, which the people at the hospital were very pleased with. Another important factor was that Cisco cooperated with us on constructing a lease arrangement, resulting in an attractive financing package put together by Cisco Capital.”

The solution is a redundant network infrastructure, based entirely on Cisco equipment, including core and edge switches. One special feature is that all the connections in the hospital are active network ports that came pre-patched, helping ensure automatic connection between devices. Because IT staff no longer need to work with all sorts of patch cables, fewer connection problems arise and patient safety is enhanced.

The new infrastructure also provides a wireless network for, among others, 1200 Wi-Fi handsets and computers-on-wheels, which are used during patient rounds. The wireless network not only provides hospital-wide Internet and network access, but also a public Internet connection for patients and visitors.

Telephony operates as voice-over-IP (VoIP) via the network. The Cisco® VoIP solution also provides call center functionality for the outpatients clinic. Patients now have Internet access via a public Wi-Fi hotspot, which can also be used by visitors. Bedside terminals have been installed alongside all 600 beds for accessing:

- Streaming TV
- Patient information
- Choosing meals
- Entertainment (games)
- Internet

Cisco Telepresence® solutions are used for communication with specialists in other hospitals, for example to assist with training.

Maasstad has introduced virtualization techniques on several fronts. To help ensure maximum use is made of these techniques, both external and hospital-internal data centers have been installed, as part of a redundant design.

Results

Maasstad Hospital has transformed mobility and access to data and communications. In addition, the Cisco network architecture has provided a foundation for the digitization of the healthcare process, enabling the hospital to offer medical specialists a comprehensive picture of individual patients on the basis of all available information.

“We wanted to be absolutely sure of the operational functions and reliability, so we chose equipment which has proved itself time and again in practice.”

Simon Vermeer
ICT Manager
Maastad Hospital

Thanks to the new hospital infrastructure, every specialist can view and assess data anywhere, including secondary data such as scans, electrocardiograms (ECGs), and test results. All medical equipment is also accessible via the network. As a result, specialists have more time to spend with the patients.

“The network has been up and running for a year now, and it meets all our primary requirements,” says Vermeer. “It has been very stable, and there has been no downtime to date. We have now entered the final phase of the implementation, which entails organizing external access to the hospital system via a new portal that is still to be built.”

A state-of-the-art wireless network is available throughout the hospital. One important wireless application is telephony. In the future more and more information will become available on Wi-Fi handsets. The wireless network is also ready for location-based services, which are expected to become important for the logistics in the hospital.

The importance of a good ICT system was underscored during a bacterial outbreak in mid-2011, which was brought under control much faster because it was possible to track historical data.

The hospital’s new network architecture will also assist with regulatory compliance requirements that are likely to become even more stringent in the future. “We didn’t opt for the very latest Cisco technology, “ says Vermeer. “We wanted to be absolutely sure of the operational functions and reliability, so we chose equipment which has proved itself time and again in practice. We have a very solid foundation for a technology refresh at a later date.”

Cisco HealthPresence Important Safety Information:

- Cisco HealthPresence is intended to allow healthcare providers to evaluate patients remotely or patients and healthcare providers to collaborate with specialists remotely.
- Cisco HealthPresence is not intended for use in emergency situations. In the event of an emergency, call 911 or your local emergency response system.
- Cisco HealthPresence is not for use in situations involving real time patient monitoring or alarming.
- For further important information, please see our website at: www.cisco.com/en/US/products/ps11966/tsd_products_support_series_home.html

For More Information

To learn more about Cisco solutions for healthcare, please visit: www.cisco.com/go/healthcare



Product List

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- Cisco Nexus® 1000v Series Switches

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- Cisco Catalyst® 4507 and 6500 Series Switches

Security

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- Cisco Video Surveillance Cameras with management software

Unified Communications

- Cisco Unified Communications Manager
- Cisco Unified IP Phones (6901, 6921, and 7965 models)
- Cisco Unified Wireless IP Phone 7925
- Cisco Unity®

Video

- Cisco TelePresence

Wireless

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