JAN YPERMAN HOSPITAL FUTURE-PROOFS ITS PATIENT CARE SYSTEMS WITH A HIGH AVAILABILITY, HIGH-PERFORMANCE NETWORK

Summary

Company:
Jan Yperman Hospital

Industry:
Healthcare

Business Challenges:

- *Improve patient care by delivering critical medical applications, imaging systems, and real-time communications over a high-performance network*
- *Support high levels of data growth by building a data center network with high network availability and headroom for years to come*
- *Provide seamless and secure mobile access to the network*

Selection Criteria:
Jan Yperman Hospital was looking for a highly available, high-performance wired and wireless network that would scale for future requirements without requiring high operational overhead.

Network Solution:

- *QFX3000-G QFabric System*
- *EX3300, EX4200, and EX8200 Ethernet Switches*
- *SRX Series Services Gateways*
- *WLA532 Wireless LAN Access Point and WLC2800 Wireless LAN Controller*
- *MAG6610 Junos Pulse Gateway*

Network Solution:

- *60% increase in network performance.*
- *Reliable and secure access to applications and patient records.*
- *Scalable system for future expansion securing the network investment for years to come.*

Jan Yperman Hospital is a regional hospital in Belgium, with a capacity of 500 beds. The hospital employs 120 doctors and specialists as part of a workforce of over 1,000 employees, with activities largely centralized on one modern campus in Ypres following the merger of three smaller hospitals in the region in 1998. At Jan Yperman Hospital, patient-centered care is paramount, and it offers a wide range of medical services as well as guaranteeing high-quality multidisciplinary medicine with specialist care.

Challenge

Over recent years, the hospital has experienced a surge in the amount of data it needs to access and process, particularly patient records. The hospital's aim is also to share information around the hospital and with General Practitioners, so links have to be established between several systems simultaneously.

"In recent years, our hospital has had to contend with the explosive growth of digital data," says Francky Deleu, IT manager at Jan Yperman Hospital. "We have nine digital operating theatres which generate a lot of images, and video conferences are also organised frequently. Every day the radiography department carries out 3,000 to 4,000 exams, and these have to be made available to various doctors in different departments, sometimes even during surgery. As a consequence, the availability of data is a critical part of offering high-quality medical care."

The hospital's data center had become outdated and was no longer able to cope with the projected growth in traffic and applications. It also suffered from insufficient network bandwidth, leading to unstable connections and unscheduled downtime.

As Doctor Dieter Van Der Linden, orthopedic surgeon at Jan Yperman, explains: "Timely access to patient information has become a critical part of our work here at the hospital. The medical specialists simply can't work without it."

"I am convinced that our new network provides an answer to the big data challenges in Healthcare IT. Costs will also be reduced in the long term and we will have the necessary flexibility to rapidly expand our capacity thanks to our new network technology."

- Francky Deleu, IT manager, Jan Yperman Hospital

Selection Criteria

Jan Yperman Hospital was looking for a new technology that would meet all of their needs, particularly:

- Extremely high network availability
- High performance and bandwidths that would scale for the future
- Low latency for better, more consistent application performance
- Storage convergence

The hospital also required a system that would enable the sharing of information both around the hospital's own medical staff and also with General Practitioners, so it needed to support data flows passing between several systems simultaneously, increasing the need for scalability.

The IT team at Jan Yperman Hospital conducted extensive research and consulted with a variety of experts before selecting a solution from Juniper Networks.

Solution

Jan Yperman Hospital selected Juniper Networks® QFX3000-G QFabric™ System as its new platform for the high-performance data center, giving it the potential to scale to more than 6,000 10GbE ports on a single switch. The scale of the switching fabric has enabled all servers and storage to be interconnected by a single network hop, significantly reducing application latency.

"The innovative QFabric System data center network technology meets our strict requirements: it is highly efficient, offering good availability of our network and a latency of less than 5 microseconds. This minimal latency ensures that our medical staff has the required patient information at their disposal in no time at all. Besides this, our capacity is not restricted and we can expand the new network over a seven or eight year period to keep pace with our new needs and growth. The QFabric System is the best technology for this hospital," Deleu says.

The hospital also deployed the highly reliable Juniper Networks EX Series Ethernet Switches and SRX Series Services Gateways to extend the network across its campus, along with Juniper Networks WLA Series Wireless LAN Access Points and WLC Series Wireless LAN Controllers. The hospital implemented quality of service (QoS) across the entire network to support a range of network services such as VoIP and video alongside its core healthcare applications.

Jan Yperman Hospital outsourced network operations to Juniper's local partner, SecureLink.

"People are increasingly using IT for themselves in their everyday lives—computers, cell phones, tablets—and they expect the hospital to be using technology to serve them better too. We are already seeing the advantages of this new system—we are working faster and better than ever before."

Doctor Dieter Van Der Linden, Orthopedic Surgeon, Jan Yperman Hospital

Results

Since deploying the QFabric System, network performance at the hospital has increased by more than 60%, along with increased network availability, so that medical personnel now have virtually instantaneous access to the applications and records they need.

With the network management outsourced to Juniper's partner, SecureLink, this has also allowed the IT department to focus on its core tasks of supporting medical and administrative staff, and in turn its patients, without having to worry about the data center infrastructure.

The new network infrastructure has had significant advantages for the hospital, its staff, and its patients.

"Firstly we have seen our capacity and network performance increase by 60%, which is a significant increase," Deleu says. "Secondly, our internal IT team can now focus on its core business because we have outsourced the management of our data network. This allows my team to respond faster to the new requirements and trends to ensure that the technology is in tune with the hospital's information needs. Now we only have to concentrate on the internal coordination while our technology partner is in charge of our data network."

Next Steps and Lessons Learned

Doctor Dieter Van Der Linden added, "People are increasingly using IT for themselves in their everyday lives—computers, cell phones, tablets—and they expect the hospital to be using technology to serve them better too. We are already seeing the advantages of this new system—we are working faster and better than ever before."

The hospital now has enough capacity to see it through into the future, enabling a potential data growth of 30 terabytes a year, or approximately 100 gigabytes per day.

"I am convinced that our new network provides an answer to the big data challenges in Healthcare IT," concludes Deleu. "Costs will also be reduced in the long term and we will have the necessary flexibility to rapidly expand our capacity thanks to our new network technology."

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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