



UNIVERSITY OF LAUSANNE

IP NETWORK

University of Lausanne Gets an Education in Improved Bandwidth and Security

EXECUTIVE SUMMARY

Challenge

Build a more scalable, secure, and state-of-the-art networking infrastructure to support research and innovation at a leading university

Solution

- Brocade MLX Series Routers
- Brocade FastIron WS and FastIron GS Switches
- Brocade Turbolron 24X Switch

Results

- Increased throughput, enabling 10 Gigabit Ethernet (GbE) connections to support multiple types of student and education applications
- Improved network security, dramatically reducing network failures due to attacks and viruses
- Increased reliability by eliminating Denial of Service (DoS) attacks and firewall failures

Founded during the Renaissance period in Europe in 1537, University of Lausanne (UNIL) started as a school of theology before becoming a university in 1890. Today, UNIL's seven faculties, located near the picturesque Lake Geneva in French-speaking Switzerland, are home to almost 12,000 students and 2300 researchers.

Over the years, UNIL had built a campus-wide network to keep its students, faculty, and administration connected. This network includes 6000 active Ethernet ports and approximately 2000 daily Wi-Fi users. UNIL has about 20 buildings spread throughout the city of Lausanne, all of which are connected to a main data center by fiber. Each building contains a distribution switch that connects all floors.

Because of its reputation as a leading research institution in Europe, UNIL has been among the first to deploy the latest technological trends and developments, including regularly updating its networking infrastructure. "As an academic establishment that promotes research and innovation, we're always on the lookout for the latest technologies," says Serge Botkine,

Network and Telecom Engineer at UNIL. "We want our network to keep up with the latest technology so that we can offer our students and researchers an up-to-date framework that is conducive to their work."

RESEARCHING A NEW NETWORK

In 2005, Botkine and his team decided to upgrade UNIL's network equipment from 100 Mbps connections to Gigabit Ethernet (GbE) speeds for all users. They were interested in finding a network provider that could support the increased bandwidth and manage that bandwidth in a secure manner.

A vibrant university community, UNIL encourages interaction and exchanges among students and professors—which are facilitated by the high-speed data network. In addition, UNIL supports a rare philosophy of maintaining an open network, available for multiple types of users. "We are in an academic environment, and we want to offer students and researchers as much freedom as possible to help them develop and apply their knowledge, which is why this network is freely accessible," explains Botkine.

BROCADE

Of course, such freedom creates security challenges. Since UNIL was committed to an open network that could be accessed by all, it needed to ensure 24x7 uptime along with strong network security. To meet these requirements, UNIL needed the appropriate network equipment. The networking team started looking for a new technology partner, because its supplier at the time was unable to deliver the technology upgrade the university required. After a year-long decision-making process and rigorous evaluation, UNIL selected Brocade.

“Brocade offered us the perfect combination of cutting-edge networking solutions and the flexibility to adapt their equipment to our needs, especially in terms of security,” notes Botkine.

NETWORK EQUIPMENT MAKES THE GRADE

In early 2006, UNIL purchased a Brocade® MLX-16 router and several Brocade FastIron® WS and FastIron GS switches through local partner BNC Business Network Communication AG. With this equipment, UNIL increased its bandwidth throughput and offered 1 GbE connections to all users. “We have scaled our network so it can respond to the growing number of users and their needs, not only in terms of browsing, but also information sharing, which is essential for fostering research,” Botkine continues.

The networking infrastructure also allowed UNIL to automatically manage Denial of Service (DoS) attacks. In addition, the number of network failures has dropped dramatically since the Brocade solution was installed.

BROCADE GRADUATES WITH HONORS

“Brocade provided an outstanding solution that meets our hardware needs and aligns with our management and security philosophy. In addition, the support we received from BNC during the deployment was exemplary. BNC, together with Brocade, allowed us to design a network that perfectly met our requirements and ensured that the roll-out was problem-free,” Botkine says.

UNIL was so impressed with the Brocade networking solution that it chose to go back to the company in 2010, when the university wanted to further upgrade its network.

UNIL deployed a Brocade MLX-8 router equipped with 10 GbE ports and purchased several 10 GbE Brocade Turbolron® switches, which will gradually replace the existing FastIron switches.

“The Brocade equipment is open, designed with the latest technologies, and upgradable,” Botkine concludes. “We paid close attention to the strategy they presented this year on network unification, and we’ve chosen to migrate our equipment now so it’s capable of supporting converged networking when we’re ready.”

For more information, visit www.brocade.com.

WHY BROCADE

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— Serge Botkine,
Network and Telecom Engineer
at University of Lausanne

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