



FOUNDRY
NETWORKS

CASE STUDY: GRAFISCH LYCEUM ROTTERDAM

Foundry Power Unleashes Student Creativity at Grafisch Lyceum Rotterdam

**GRAFISCH
LYCEUM
ROTTERDAM**

SUMMARY

Grafisch Lyceum Rotterdam (GLR), one of The Netherlands' premier graphic arts and new media institutes, wanted to give students the freedom and power to create with always-on, continuously upgraded graphic and multimedia technology. When GLR began its search for new network infrastructure in 2005, it was clear that the current technology couldn't deliver on the institute's promise to deliver advanced technology to students and staff. With traffic having doubled over the past four years, the existing network was unable to meet users' current needs, let alone scale to meet future demands.

OBJECTIVE

The bulk of the curriculum at GLR is technology-driven. Students learn, create, and communicate primarily in a digital environment. They rely on advanced computer applications such as Apple Final Cut Studio, Avid video editing technology, and Adobe Creative Suite to produce and edit their work, and they depend on the network to store, send, and print their creative output.

To achieve optimum production quality and maximize the creative scope of their work, students and staff need immediate access to editing tools and production technology. They expect the network to enable them to edit any form of multimedia, make a VoIP call, watch video stream, and upload, download, and send files quickly and efficiently regardless of overall traffic load.

GLR's LAN Manager Mark Pleunes explains, "Our existing network was pushing its limits under the strain of increasing demands. We knew we had to make a difference quickly. We sought a network solution that would provide faster data transfer rates while coping with ever-increasing volume during the peak traffic moments between lessons."

Traffic patterns in educational settings such as GLR's differ from those in an enterprise environment. Networks in these settings experience huge traffic surges when the bell sounds to mark the start or close of lessons. "It's not uncommon to have more than 1,200 students uploading and downloading files from GLR's 70 servers at the same time," adds Pleunes.

GLR sought a network solution that would provide more than maximum power. In addition to handling increasing bandwidth needs, the new network infrastructure would also have to meet GLR's management and security requirements. "We have more than 4,000 students and 300 staff moving from one classroom or desktop to the next throughout the course of the day. Guaranteeing users constant access to their own data while managing authentication protocols for printers and other applications places complex demands on the network and the network managers," explains Pleunes.

The existing infrastructure was unable to keep pace with increasing security threats. "Users of networks in an educational setting are creative and anarchistic in nature. They are constantly pushing the limits of their own creativity, the limits of the technology, and the rules. Our legacy infrastructure failed to offer the network sufficient protection from damaging experimental behaviour. Though we want to do everything to enable maximum creativity and exploration, we needed a solution that would provide it without risking the performance and security of the network," says Pleunes.

WWW.GLR.NL

INDUSTRY

Education

COMPANY DESCRIPTION

Grafisch Lyceum Rotterdam (GLR), a leading educational institution in the Netherlands, offers courses in graphic design, management, and information and communication technologies. More than 4,000 students take courses at GLR to learn advanced media and communication design skills.

OBJECTIVE

- Deploy a single-vendor solution that adds bandwidth capacity while providing a rich set of standards-based management and security technology
- Implement a network solution that can support support traffic spikes from bandwidth intensive applications
- Reduce operational costs

SOLUTION

- The GLR network features Foundry BigIron RX-16 Layer 2/Layer 3 Gigabit Ethernet switches, which have a switching capacity of up to 1.536 terabits per second
- More than 50 Layer 3 FastIron edge switches deliver Gigabit Ethernet to the network edge
- IronView Network Manager Release 2.0 delivers scalable, cost-effective centralized management and security
- sFlow traffic monitoring and open source security applications and tools, such as Lancope, help manage applications, secure the network, and mitigate threats

RESULTS

- Students and teachers can maximize their creative output
- Desktop maintenance tasks that used to require many hours of on-site maintenance can now be managed with extreme efficiency from a central location
- GLR's team of five support engineers can reinstall, format, and configure the more than 2,000 desktop units within 1.5 days
- GLR's team of two network managers can monitor and manage the entire campus easily
- By improving monitoring and enforcement of user policies and integrating them into a single tool incorporating standard 802.1x technology, GLR has reduced its expenses so it can invest in more innovative multimedia technology
- Network security has improved, as IronView protects the network by monitoring traffic flows using embedded sFlow packet sampling

SOLUTION

GLR selected Foundry Networks for its ability to deliver a single-vendor network solution that provided the necessary bandwidth upgrade and a rich set of standards-based management and security technology. "No other vendor was able to provide us with a package that met our capacity and management needs," Pleunes explains. "Foundry's solution is by far the best suited to technology-driven educational settings such as ours."

To improve network performance and reliability, GLR and Foundry Networks built a network based on Foundry Networks BigIron® RX 16 Layer 2/Layer 3 Gigabit Ethernet backbone switch and more than 50 Layer 3 FastIron® edge switches. These powerful switches deliver Gigabit Ethernet bandwidth throughout the entire network.

"With the world's most powerful Ethernet switch at its core, high port density, non-blocking architecture, excellent redundancy, and multicast support throughout the network, our new infrastructure enables us to provide reliable, always-on connectivity to more than 2,200 PCs and Macs as well as the capacity to scale cost effectively to meet volume requirements well into the future," explains Pleunes. With the new network, GLR's team of five support engineers can reinstall, format, and configure the more than 2,000 desktop units within 1.5 days. The significant time savings allow for reinstallation up to six times a year, thereby ensuring that application software is always up to date and that the hardware performs at its peak.

All switches in GLR's network are equipped with field-proven, standards-based management and security technology including IronView® Network Manager Release 2.0 (INM R2.0), a scalable, cost-effective centralized management and security solution. To provide network-wide security, INM leverages sFlow traffic monitoring, embedded in each port of Foundry's switches, and open source security applications and tools, such as Lancope, to deliver highly scalable application management as well as security and threat mitigation, without the cost of ancillary security sensors.

RESULTS

Now that Foundry solutions are deployed in the GLR infrastructure, network reliability and availability issues are a thing of the past. Network-wide gigabit connectivity gives students and teachers the freedom and power they need to maximize their creative output.

Foundry's IronView management and security technology integrated throughout the network enables GLR's network managers to manage the entire network from a single location. Desktop maintenance tasks that used to require many hours of on-site maintenance can now be managed with extreme efficiency from a central location. Using IronView technology, GLR's team of two network managers can monitor and manage the entire campus.

Foundry's management technology has also dramatically simplified the monitoring and enforcement of user policies, integrating them into a single tool incorporating standard 802.1x technology as well as authentication at the Microsoft Active Directory level. "Foundry's management technology has so effectively simplified network management that we can invest our budget in what we promise our users—more top-of-the-line technology," says Pleunes.

The security capabilities in Foundry's solutions are especially important to Pleunes. IronView's security technology enables network-wide detection and restoration of problems or security threats at the desktop level. IronView monitors traffic flows using embedded sFlow packet sampling at switch ports.

"Foundry's implementation of sFlow into the hardware makes it possible to capture all the relevant statistics without degrading the performance of the switch," Pleunes notes. "We're delighted with the network. Foundry's total package is perfect for us. The network offers students and staff the bandwidth to maximise their capacity to create while at the same time allowing that process to take place efficiently and without compromising the security or reliability of the network."

" NO OTHER VENDOR WAS ABLE TO PROVIDE US WITH SUCH A PERFECT PACKAGE TO MEET OUR CAPACITY AND MANAGEMENT NEEDS. FOUNDRY'S SOLUTION IS BY FAR THE BEST SUITED TO TECHNOLOGY-DRIVEN EDUCATIONAL SETTINGS SUCH AS OURS. "

— Mark Pleunes
LAN Manager
Grafisch Lyceum Rotterdam

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