Network Switching Solutions

"When implementing a system, I know that I can access great resources from the D-Link team. D-Link provides free tech support, along with the tools and the support to manage our network easily and efficiently. Plus, while D-Link is well known for its hardware, many purchasers don't realize that D-Link offers an end-to-end solution to the education sector."

- Kelly Jacques, Information Support Manager for New Brunswick School District 16

New Brunswick School District 16 Controls its Growing Information Load and Stretches its IT Budget with Environmentally Friendly D-Link®

The Challenge
This School District is committed to providing its students with all the advantages they will need to succeed in today's connected world. "They are learning sound editing and creating complex videos, for instance," says Kelly Jacques, its Information Systems Manager. "Every classroom has a SmartBoard connected to projectors, Front Row Pro infrared sound systems, and class computers. Plus, each school has Polycom conferencing facilities."

The sheer volume of information that needed to pass through the network was too much for its 10 /100 megabit switches. Kelly needed switches strong enough to quickly push out Gigabits of data, and enough speed to image computers at all the schools within its geographically dispersed district. The switches would also need the modularity to accommodate the district's legacy infrastructure: they had to provide connectivity for a 10 Gigabit fiber backbone between cable closets across the school, and to the network access storage cluster in the data cabinet. Every computer in the schools required a 1 Gigabit port.

Naturally, Kelly required "really good, reliable functionality and redundant paths to the switches," he says.

Tight budgets, shrinking staff numbers in the education sector and the moral imperative to go with affordable, environmentally focused and sustainable technology were additional requirements.

"We needed to build out our requirements, but it was a challenge financially," he understates.

The Solution
Kelly had been purchasing D-Link for 15 years, and was already impressed with its products and price points. "They really deliver," he says. "I actually donated the first switches I ever installed in 1996 to another district, where I am told they are still in operation."

Not only that, when he updated the switches for their high schools to a faster model, he was able to "pull out some D-Link switches that we've had for 10 years and reuse them in the elementary schools, where the requirements were less," he says. "D-Link switches just keep going! They are still completely functional after 10 years, and they are still supported by D-Link."

Still, he knew he wanted to upgrade his network with standards-based high-end Layer 2 xStack switches that have 10 Gigabit backbones and redundant connections, and he did his due diligence. "We compared D-Link's products with others in the industry," Kelly says, "And the difference in price between D-Link and a comparable product was amazing – they were 40-50% of the price, for the same quality and level of support. Plus, they offer great value – there is no additional function that I want in a switch that is not delivered by D-Link."

"Based on the costs, the fact they understood our business challenges and the incredible

With high Gigabit port densities for desktop connections, SFP fiber connectivity, 10 Gigabit uplink options and enhanced Layer 2+ functions, the DGS-3400 series of switches comprise the workgroup access-layer stack for seamless integration with L3 core switches to form part of a multi-level network structured with high-speed backbone and centralized servers.

Photo courtesy of New Brunswick School District 16
http://www.district16.nbed.nb.ca/school/harkins-elementary-school

DGS-3426 > **24 Gigabit Ports L2+ Gigabit Stackable Ethernet Managed Switch, 2 Optional 10 Gigabit Uplinks**

- **24 Gigabit Ports & 4 Combo Gigabit/SFP Slots**
- **2 Open Slots for Optional 10 Gigabit Uplinks**
- **Virtual Stack or Physical High-Speed Stacking**
- **Enhanced L2+ With Static Routing, Multi-Layer ACL and QoS**

DGS-3427 > **Managed 24 Gigabit Ports L2 Switch, 4 Combo SFP, 3 10 Gigabit Slots**

- **24 Gigabit Ports & 4 Combo Gigabit/SFP Slots**
- **3 Open Slots for Optional 10 Gigabit Uplinks**
- **Virtual Stack or Physical High-Speed Stacking**
- **Enhanced L2+ With Static Routing, Multi-Layer ACL and QoS**

customer support that is part of D-Link's customer service protocol, there was really no other option but to choose D-Link again."

D-Link's switches provided all of Kelly's schools with the flexibility to be set to a redundant 10Gbps ring topology or as an uplink port to a server or SAN, greatly improving overall data flow between servers and computers – for students and teachers alike.

Now imaging computers over LAN connections throughout is quicker and more efficient than ever. "We can now image a computer from an empty machine to a fully loaded machine in any of our schools in about an hour – without physically touching the computer," says Kelly. "It takes a lot of bandwidth – but what an efficient use of resources!"

The switches' Loop Back Detection has been another welcome feature. If a user on the network accidentally creates a network loop (one cable plugged into the same switch twice), the network isn't affected, and the problem is resolved very easily. In addition, its DHCP Screening allows for detection of unauthorized DHCP servers on the LAN, which can provide other users with incorrect network settings.

Plus, with its environmentally friendly manufacturing practices and RoHS compliance, D-Link was also a "Green" choice. A number of D-Link switches also include D-Link Green™ technology, which conserves energy by recognizing when a port is active or inactive, automatically detecting link status and network cable length, then adjusting its power accordingly, conserving energy without any loss of performance.

Proof of the wisdom of Kelly's decision came within weeks of installing the D-Link xStack solution. "A technician noticed that one of the ports had excessive activity and thought it was storming, so he went to the classroom to check the computer," recalls Kelly. "He found a teacher working with a huge "raw" video file, 27 Gigabits in size. The teacher hadn't realized he should have copied the file to his local hard drive first. But he could manipulate this large file across the network just as seamlessly as if he was working locally."

That's the speed Kelly was looking for and the reason D-Link holds his allegiance. "D-Link is tried and true – they've been around since I have been buying switches, and I will continue to purchase from them. In my experience, D-Link has always come through to embrace my needs."

Photo courtesy of New Brunswick School District 16
http://www.district16.nbed.nb.ca/image-galleries/smart-learning-environment-research-project

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