



Having a resilient and robust core to support a 10GbE environment has enabled us to meet both current and future demands associated with BYOD and other data-hungry services running across our network.

John Paul Szkudlapski,
Birkenhead Sixth Form College

COMPANY NAME:
Birkenhead Sixth Form College

COMPANY SIZE:
1,300 students and 300 staff

INDUSTRY: Education

COMPANY WEBSITE:
www.bsfc.ac.uk

GEOGRAPHIC REGION:
The Wirral, England

CASE STUDY: EDUCATION

BIRKENHEAD SIXTH FORM COLLEGE MEETS DATA DEMANDS AND BYOD EXPLOSION WITH CORE NETWORK OVERHAUL.

BACKGROUND

Birkenhead Sixth Form College is a "Centre of Academic Excellence" for sixth form studies based in the Wirral. State of the art facilities complement expert teaching to ensure that students learn within a supportive atmosphere, underpinned by a strong work ethic. Each year the college attains outstanding results that exceed both local and national levels, placing it within the top 22 per cent of sixth form colleges nationwide, with some courses featuring in the top ten per cent. Promoting and facilitating the use of technology for all students plays a key role in enhancing their propensity to learn and the success that they achieve.

PROBLEM/OBJECTIVE

Birkenhead Sixth Form College sees technology as a key enabler for both students and staff. As such, "Bring Your Own Device" (BYOD) is part of the college's policy to actively encourage and support students using their own devices and ultimately offer high quality education for all.

However by actively encouraging BYOD, the college faced multiple devices connecting to the network at any one time. With more than 1,500 devices and counting, many of which would simultaneously log on at peak times (such as the start of lessons), the college's network was placed under significant pressure. With IT being a key component of everyday college life, it was important the network could keep pace with the users' growing demands.

These growing demands on the network, coupled with the addition of new buildings requiring connectivity, prompted a review of the existing network infrastructure. By exploring options which provided greater network capacity, it meant the college would avoid compromising the IT user experience for staff and students.

While the college's existing infrastructure was seen to offer a good network backbone, it did not provide the required resilience, speed, performance and capacity to support increasing demand, new applications and loads. This could only be achieved by upgrading to 10GbE within the server environment.



Having 10GbE at the core has never before been a prime consideration – now it's a key component. It's working so well, I don't even know it's there.

John Paul Szkudlapski,
Birkenhead Sixth Form College

SOLUTION

Overseeing the upgrade was IT and Technical Services Manager, John Paul Szkudlapski. Working with existing networking provider NETGEAR, he evaluated the current network and site layout to define the best possible deployment.

A key part of the process was upgrading the core switches which simply didn't have the necessary capacity to facilitate the transition to a 10GbE environment. NETGEAR's ProSAFE M6100 Chassis Series, the high-density chassis alternative to stackable switches, was selected to meet this need and sit at the heart of the solution. This was due to its ability to expand 10GbE capability, from the core to the edge of the college's network, with no impact on the existing infrastructure.

As part of the upgrade, the college required significant port density in a 4U chassis footprint, as well as full management and power redundancy. While other vendors would only offer this at a premium, NETGEAR was able to provide this as standard.

With more devices now supported by PoE, the ProSAFE M6100 had the ability to add PoE daughter cards. Should the college choose to upgrade to PoE in future, this capability eradicates the requirement to replace any existing blades or switches – so avoiding any associated additional expense. This means the deployment is not only cost-effective, but also future-proofed.

A need for enhanced storage was also identified as part of the upgrade, to help the college store and manage ever-increasing volumes of data flowing around the network.

Products installed as part of the upgrade included:

- 1 x NETGEAR ProSAFE M6100 Chassis Series
- 2 x NETGEAR ProSafe M7100 10GbE Managed Switches
- 3 x NETGEAR ReadyDATA 5200

RESULTS

Most important to Birkenhead was a smart network; an infrastructure that students and staff could have confidence in, knowing it would enable them to carry out their work. By upgrading its entire infrastructure at the core to facilitate a 10GbE environment, the bandwidth capacity has quadrupled. This means the college has not just met, but exceeded its aims despite increasing demands and data requirements.

The new deployment has allowed the college to leverage more 10GbE into the network's core, plus push further 10GbE out to the edge of the network. This has resulted in improved control and support of the college's progressive BYOD policy. The ProSAFE M6100 also supports additional key college services such as CCTV and VoIP – as well as a virtualised environment across different campus buildings.

Through its "Technology for Equality" initiative, all students have access to the files and software they need from home or college, via remote access. The network upgrade – specifically the ProSAFE M6100 – was a key driver in facilitating this, ensuring that all students can have access to what they need, when they need it.

Three ReadyDATA units provide additional resilience and help the college cope with the sheer volumes of data. They also provide a disaster recovery and back-up element, should systems fail or primary information become inaccessible meaning the critical information is safe and available at all times.

Staff and students at Birkenhead now have a fast, resilient network which can not only provide essential support to key services running across it, but grow with future demands and ensure that BYOD remains an integral part of both teaching and learning.