



CASE STUDY

Birkenhead Sixth Form College

IT network standardised and simplified to deliver a superior performance. The college replaces over a hundred unmanaged switches within a unified, managed network to serve nearly 2,000 students and staff.

PROFILE

Company Name	Birkenhead Sixth Form College
Company size	1,300 students and 400 staff
Industry	Higher education
Company url	http://www.bsfc.ac.uk
Geographic Region	The Wirral, England

COMPANY BACKGROUND

Birkenhead Sixth Form College is an Academic Centre of Excellence, and the Wirral's top-performing inclusive sixth form institution, with an overall pass rate (99%) higher than the national and regional average. Students also make more progress at the College than at exclusive sixth from institutions in the area. Birkenhead offers over 100 qualifications, and sends over 300 students to University each year. Birkenhead also promotes Technology for Equality and has made steps to ensure that all students have access to the files and software they need from home or college via remote access.

CHALLENGE

Network manager John Paul Szkudlanski inherited an IT estate that had grown organically – and was difficult to manage and drive performance, and not supporting the College's progressive BYOD (Bring Your Own Device) policy. After thinning the College's 150 printers down to just 15 MFDs (Multi Function Devices), he tackled the next, far bigger problem – the network infrastructure. The College had over 100 switches from a wide range of vendors which had been added to the network on an ad hoc basis. The network had no core, and the network was difficult to manage. The College's management sees technology as a key enabler for students and staff, and encourages students to bring their own devices to the College.

To do this, he wanted to make it as easy for a student to connect their mobile device to the college network as it would be for them to use the same device at home. Cost was not the primary concern – a smarter, more reliable network was the primary objective.

SITUATION

The network within the College was becoming unmanageable. As the college grew, systems and devices had been added as needed and were from a mish-mash of vendors; 3Com, D-Link, Cisco and NETGEAR.

One of John Paul's first acts as the new network manager was to look at simplification and standardisation of the LAN in order to drastically improve performance, free users from complexity and ensure that users could expect, and get, a faster and more resilient network.

Cost was another area of concern, but not the primary focus. By removing 150 printers in 2011, and replacing them with just 15 MFDs, John Paul saved half a day a week spent supporting printers across campus.

"For the network, simple cash saving was not a factor – we just wanted a smarter network, one that students and staff could be confident about using. We just want them to come in, and have confidence in the infrastructure to enable them to carry out their work," says John Paul.
"The network had become very big – and we couldn't just add £200 switches every few months – we needed to have a strategic plan."

The plan was important for another reason; in the last 24 months, the College has added two new buildings which added another 10 classrooms. An extension to the science building is in progress which will add a further 3 classrooms. With the extra teaching spaces, the network would need to be flexible enough to cope with demand and be able to support new applications and loads.

"After a number of lengthy discussions with various network equipment vendors we decided in early 2011 to continue our relationship with NETGEAR. A full network audit was completed by NETGEAR and a report was produced detailing all of our existing equipment and any necessary replacement equipment to take our network to 'cutting edge'. This was timed perfectly to coincide with a number of refurbishments in the college and the addition of a new block for Humanities," says John Paul.

"As part of the audit we identified a number of cabinets that had multiple non-stacked switches which were just link-aggregated between each other. These were replaced with GS752TXS 10GB capable stackable switches. We then implemented a 'core' comprising of six GSM7352S switches and one GSM7328FS switch."

Each building was connected with OM3 fibres, boosting internal throughput from 4GB to 20GB. The main and backup datacentres were then linked by four 10GB full duplex links. As internal cabinets in the main building were already hooked up to OM3 fibres, they could be linked with GS752TXS switches. Each subsequent building added to the campus has been connected to the others with further fibre and multiple GS752TXS switches. Each building is now linked to the core network at a minimum of 20GB.

RESOLUTION

NETGEAR conducted a site survey, establishing what was needed. The new network offers high speed access and has been extended to two brand new buildings since it was first installed. A further upgrade to be delivered in the next six months is a brand new phone system, running over the NETGEAR infrastructure. The phone system will run over a dedicated VLAN, other services with their own VLANs include the CCTV system, student and staff network traffic, file, print and telephony.

The products installed include

- 2 x NETGEAR ProSafe GS752TXS GB Stackable Smart Switch connected via two 10GB links
- 4 x NETGEAR ProSafe GS752TXS GB Stackable Smart Switches in two further buildings
- 6 x NETGEAR ProSafe GSM7352S GB Stackable Layer 3 switches as a core, along with
- 1 x NETGEAR ProSafe GSM7328FS GB Stackable Fibre Layer 3 switch
- 3 x NETGEAR ReadyNAS Pro 6 as iSCSI targets for Microsoft Data Protection Manager 2012
- 1 x NETGEAR ReadyDATA 5200 Unified Storage Solution in procurement

IMPACT

Staff and Students at Birkenhead now have a network that is resilient, has the ability to scale to meet new demands in the future, and which supports the College's principle of Technology for Equality, meaning that students and staff have the choice of connecting and working from home, from within College buildings or even outside. Despite some 100 PCs in the College's learning centre, many people prefer to sit outside and work on their mobile devices....depending on the Wirral weather!

NETGEAR

Jonathan Hallatt, Regional Director NETGEAR UKI

"Birkenhead's experience is consistent with other forward-thinking schools and colleges. The gains it has made in terms of service to users and management of the network are significant. The process of taking stock of the network infrastructure and thinking long-term about how it can be done better is something we encourage everyone to do – not least because it can generate significant cost savings, efficiencies and increased reliability."

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