LONDON SOUTH BANK UNIVERSITY
CASE STUDY

DATA INTEGRATION
An Xchanging Company

Starting life as the Borough Polytechnic, London South Bank University has been part of the local landscape for over a century. One of the Capital's oldest universities, it has been providing students with relevant and practical employment skills since 1892.

Just as in the world of commerce, Higher Education institutions must compete for their customers which, in their case, are students. A recent LSBU survey revealed that students have very high expectations when it comes to IT provision, and informs their choice of where to continue their education. Wojtek Adamek, Director of ICT, says, "Being able to meet today's unprecedented demand for technology with the IT services we provide gives us a key differentiator from our competitors. In fact, we believe that those in the HE sector not able to meet this level of demand simply won't survive and will look to merge with other institutions to gain the scale required to support advanced IT."

It hasn't always been that way at LSBU, though. When Wojtek joined last year, fresh from the commercial sector, he arrived at the tail end of technical discussions about the implementation of a new network, the tender having been won by IT services and integration company, Data Integration.

The challenge
"The technology requirements of the HE sector vary greatly from those of a commercial environment. A network has to deal with requests that would simply not arise in the business world", Wojtek remarks. "In addition to the straightforward commercial applications, we have students using bandwidth-hungry Skype, YouTube, and Facebook, and researchers and academic staff demanding zero downtime on 24 x 7 Internet access. This heavy usage pushes the network to its limits, and the old network was simply not up to coping with this type of demand."

The approach
These very specific requirements called for a technology partner with a proven understanding of the HE sector. Wojtek comments, "Data Integration's experience of implementing projects with other universities was certainly a contributing factor to their being awarded the tender. "In addition, they understand that we have to accommodate requests that would never crop up in a commercial environment. For example, the security that Data Integration has built into the network allows us to close off part of the network so the Computing Department can offer an "Ethical Hacking" course."

The solution
With LSBU moving towards unified communications, the network, will at some stage, have to sustain data and voice. Data Integration's solution for the 7000 port network across 14 buildings was designed with a resilient core based on Extreme Networks BlackDiamond core switches split across two data centres, Extreme Summit X450s in the distribution layer,

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Wojtek Adamek
Director of ICT
London South Bank University

and Extreme Summit edges switches. Extreme Networks' EAPS (Ethernet Automatic Protection Switching) and QoS technology make the network very reliable, ideal for latency-sensitive applications such as IP telephony. The DNS and DHCP infrastructure has been made more resilient and manageable using Infoblox appliances.

The university increased its capacity into the SuperJANET network and implemented resilient connections which Data Integration secured with Juniper ISG firewalls using BGP (Border Gateway Protocol). The university's SuperJANET gateways are also secured with Fortinet multi-vector anti-virus gateways.

A Juniper Networks SSL VPN provides remote access for staff. Wojtek comments: "This can be a lonely place to work after hours, but the SSL VPN means staff can work from home late into the night if they need to."

The benefits
Security requirements
Security management is also a major issue in HE, with a constant stream of guests, visitors, conference delegates. There are also many of the 23,500 students bringing in their own laptops and connecting to the network to download applications, compounded by a fresh intake of 7000 new students each year. Whilst some downloads can be restricted, "We can't, for example", says Wojtek, "stop those that are used in a teaching environment, such as BBC iPlayer or Facebook.

"We're using ForeScout's CounterACT product to ensure that anyone wishing to connect to our network complies with our security policy. For example, we make sure that their machine is running up-to-date anti-virus software, a specified level of Microsoft Service Pack, and that there's an absence of malware. The ForeScout device also monitors network traffic for unusual or suspicious behaviour after a user has connected to the network, and if anything potentially damaging is detected, that traffic is quarantined to stop it spreading around the network and jeopardising continuity. This is really vital to mitigate security risks in our environment because we have very little control over the state of students' PCs."

Tight timescales
In HE the timing of major infrastructure upgrade implementations is critical because work can only be carried out during the University holidays. LSBU is closed for 10 days at Christmas and there's an unusually tight window of just 4 weeks in the summer break, from exam boards to Summer Recruitment. This meant that Data Integration's project management of the installation and commissioning had to be strictly managed.

Initially, Data Integration provided just hardware maintenance for LSBU, but now monitors the network 24x7, and a DI engineer is embedded on site. Wojtek comments, "This is proving a great success and helps our two organisations work even more closely together. Another advantage is 24x7 monitoring. Sarah, the DI engineer, has become a fully-involved, integral member of our network team. With her understanding, she is able to run all the reports we need, which helps me to prove the root cause of IT performance problems and resolve any network-based issues more quickly."

The new network has enabled Wojtek to run the network more efficiently and keep his headcount down to a team of 4. Annual benchmarking studies comparing LSBU with other universities bear this out. Wojtek comments, "Compared to universities of similar size, we're about 12 IT people less and £1.5m less in spend. We're significantly ahead of some of our competitors and in my opinion, that's down to the network."

The future
"We're very excited about the future," comments Wojtek. "We're now delivering our students first class IT services, and can enhance their learning and our ability to teach them through our IT. The new network has enabled us to roll out wireless and, as mentioned earlier, we are moving towards unified communications.

"24x7 monitoring has been identified by the faculties as critical, so Data Integration will also be monitoring our key services such as Exchange, Blackboard, and web services. This approach will save us in the region of £100,000 per year compared with alternative outsourced support."

Wojtek recently attended the UCISA Conference, the IT directors' forum for HE. "Someone said that networks are now a strategic part of IT, and I couldn't agree more", he comments. "We couldn't achieve our future goals without the network, and we couldn't start to deliver key courses in our Computing and Engineering schools or deliver critical new applications such as CRM. As we grow internally and the number of affiliated students working internationally increases, we must have a robust network for 24x7 delivery."

LSBU is now planning to bring its halls of residence network up to the same standard as their campus network, and Data Integration will be designing, installing, and managing this too.

About Data Integration
Data Integration specialises in managed networks, managed security services, mobility solutions and high performance IT platforms.

We provide these services to over 300 leading organisations in Higher Education, Insurance, Finance and the Public Sector, benefiting from reduced cost, simplified solutions and optimised performance.

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