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CASE STUDY

UNIVERSITY OF THE WEST OF SCOTLAND

When University of the West of Scotland requested tenders to link its four campuses, THUS came back with more than they'd hoped for: a next-generation solution that enabled them to look to the future.

Formed when the University of Paisley and Bell College merged on 1 August 2007, University of the West of Scotland is Scotland's largest modern university. It boasts more than 19,500 students and almost 2000 staff, based at campuses in Ayr, Dumfries, Hamilton and Paisley. The University offers an extensive range of programmes, from degree and certificate level to MSc and PhD, and offers courses in business, computing, engineering and science, media, language and music, health, nursing and midwifery, social sciences and education.

In preparation for the merger, data links needed to be installed between the four campuses that would make up the new body. It was also necessary to provide diverse routing to the external data centre, leased by the University from South Lanarkshire Council. The new any-to-any connectivity network would improve access to resources for all users. In addition to requiring a resilient network infrastructure that could cope with projected demand in the future, the University also wanted to rationalise its existing server infrastructure. It was as Dr Brian Mullins, ICT Services Director at the University of the West of Scotland, puts it, "a mess of boxes scattered across our four campuses". The University wanted to reduce its 150-plus varied servers down to below 50 blade and workgroup servers in the data centre.

TENDERING PROCESS

Having secured funding for the wide area networks aspects of the project, the University began a tendering process to look for a supplier. From the outset, THUS exceeded the university's expectations. "We were pleasantly surprised," explains Dr Mullins. "We'd engaged Computacenter for consultancy services to manage the tendering process. Initially, we'd been looking for a specific type of technology, a point-to-point, resilient network. THUS was the only supplier to come back to us with something that added value."

THUS proposed an IP VPN solution based on its next-generation MPLS network technology. It provided practical advantages in terms of increased flexibility, resilience, scalability, and offered the university the necessary security it required. "THUS's solution was technically and commercially preferable to our original idea," says Dr Mullins. "It was easily the best of the tender responses."

IN SUMMARY

THE BUSINESS

University of the West of Scotland (www.uws.ac.uk) offers a wide range of courses.

THE CHALLENGE

Linking the new University's four main campuses to provide equality of service for all users.

THE SOLUTION

Provisioning a network based on next generation MPLS technology, with diverse routing to the external data centre.

WHY THUS?

THUS was a credible supplier with a proven track record in the education sector, and the only supplier which responded to the tender with an innovative solution that added value.

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INSIDE MPLS

A key factor in University of the West of Scotland's decision to select THUS as its preferred supplier was the fact that its innovative solution was based on next-generation MPLS networking technology.

THUS, as part of Cable & Wireless, has one of the most technologically advanced telecommunications networks, spanning the length and breadth of the country with points of presence in more than 190 key business centres. Its network consists of 10,600km of fibre-optic cable, which includes 'self-healing' technology – so if the network is damaged in any way, information is speedily rerouted to ensure it arrives safely. This gives THUS's MPLS IP VPN solution unparalleled resilience, flexibility, and security, and offers the university much greater QoS than its existing point-to-point network, with the opportunity of diverse routing to provide enhanced disaster recovery. With the MPLS IP VPN service, traffic can be prioritised, so that time-sensitive traffic, such as voice and video streaming, can be given precedence over other data – allowing the university eventually to invest in new technologies that will enable it to adapt to a changing student population.

With increasing demands being placed on the University's existing infrastructure, time was of the essence. THUS began work in May 2007 at the University's Paisley and Hamilton campuses, rolling out services to the rest of the University's sites and external data centre over the months that followed. To manage provisioning within the required timeframe, strong project management was provided by the dedicated education team at THUS. "Communication was very good," agrees Dr Mullins. "We had weekly teleconferences throughout the whole of 2007."

QUALITY OF SERVICE (QoS)

One of the University's key concerns was to improve QoS throughout its network and enable any-to-any connectivity so that all campuses had equal access to services. "We're looking to ensure equality of service at all of our campuses," says Dr Mullins. To enable this, all campuses have initially been provided with a bandwidth of 200Mbps, although Dr Mullins says that this will reviewed to ensure demand is satisfied across the network. Initially, this extra bandwidth has been used to provide multi-campus access to facilities such as student record systems, library services, virtual learning environments, timetabling systems, shared file stores and centralised print facilities.

Improvements to the network's QoS, backed by industry-leading service level agreements, have enabled the University to think about other more time-sensitive technologies such as migrating its voice calls on to the same data network using Voice over IP (VoIP). "Currently, all of the university's voice infrastructure is based on PSTN, but we'll be looking to save money and improve voice services," says Dr Mullins. It's likely that VoIP will be implemented from the outset when the University's brand new campus is built at Ayr in 2010, and then rolled out across the rest of the University's facilities. THUS's MPLS IP VPN solution will enable the University to deploy its innovative VoIP offering, IP Exchange Lines.

The new MPLS network will also help equip the university for the diverse nature of its educational challenges. "More than half of our students study part-time," explains Dr Mullins. "Many are involved in distance learning. That's likely to become an increasing priority in the future." Not only does the new network provide the greater resilience required to carry an increased volume of traffic, it also allows the possibility of secure, external access via IP VPN that students could use to access centralised resources or educational materials such as streaming lecture broadcasts.

With most of the new network now on stream, Dr Mullins is pleased with the results so far, adding that in addition to providing the University with the benefits of next-generation technology, the new network provided by THUS was "cost-effective compared to the alternatives".

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> Dr Brian Mullins, ICT Services Director, University of the West of Scotland