Cisco helps University of Wolverhampton become champion of higher education in the West Midlands

EXECUTIVE SUMMARY

CUSTOMER NAME
- University of Wolverhampton

LOCATION
- Wolverhampton, West Midlands

INDUSTRY
- Education

COMPANY SIZE
- 2,000 employees

BUSINESS CHALLENGE
- Act as a catalyst in the community to encourage more people to enter higher education
- Provide students and staff with a high quality teaching and learning environment
- Deliver ubiquitous access to learning facilities

NETWORK SOLUTION
- Cisco Connected Learning
- Cisco Unified Wireless Network
- Network Admission Control for 3,000 people

BUSINESS RESULTS
- Helps increase Wolverhampton's reputation as a leading regional UK higher education institution
- Supports one of the UK's most widely accessed learning portals
- Improves communication and information sharing for students and staff
- Significantly reduces security risk, despite allowing network access to thousands of student laptops
- Provides a platform for developing and implementing future services and applications

University of Wolverhampton uses Cisco Connected Learning to deliver advanced learning solutions.

Business Challenge

The University of Wolverhampton is fast developing a reputation for providing its 23,000 students and 2,000 staff with a high quality, state-of-the-art learning environment. A £60million, seven-year building programme launched in the late 1990s incorporating a network platform supporting Cisco IP technology has helped the University of Wolverhampton to increase its reputation as a leading education institute in the West Midlands, with many modern and advanced learning facilities.

The University of Wolverhampton has a mix of regional students and a number of foreign and distant learning students. Students are predominantly part-time and mature. The University has ten schools offering over 340 undergraduate and postgraduate courses and also has well over 1,000 students from around the world join each year.

The University of Wolverhampton aims to become a first class regional university and an agent of change for its diverse mix of students and the community as a whole. It already has the highest number of undergraduates in the West Midlands and was the first university in the UK to open a high street shop offering higher education advice to the general public. The new building programme at the University of Wolverhampton was an opportunity to review the networking infrastructure and to seek ways of improving its functionality and increase return on investment.

At the start of every academic year – and in just one week – some 3,000 new students, many with laptops, need to gain access to the University's on line facilities. But the University has little or no control over the potential security risk from these computers, so it needed a fast and cost effective way to allow students access to the online resources without risking network security.

Network Solution

The University of Wolverhampton is deploying Cisco foundation technologies across three separate sites – the Wolverhampton campus, plus locations at Telford 20 miles away and Walsall 10 miles away – to enable it to converge voice and data on to a single network infrastructure. The three locations are linked together using the West Midlands Regional Network. The network supports over 5,000 network access

points, as well as wireless networking across key learning and open access areas across all campuses and student residences. The network platform is a multi-service network which improves management with features such as the ability to deploy existing and future security services without needing to change the network.

The Cisco solution is enabling the University to develop and build the Cisco Connected Learning plan. This is a step-by-step approach for a university to transform itself into a globally-focused, student-centric institution delivering benefits such as 24/7, anytime, anywhere access to teaching and learning facilities, improved and automated management of a campus estate and access resources outside a university.

One of the major challenges for Wolverhampton is network security because students use their own laptops to access the University's network and thousands of new students arrive each September. To solve this issue, Wolverhampton has implemented a Cisco Self-Defending Network strategy which uses the Cisco network and Cisco security products to provide a secure and integrated environment for both wired and wireless networks.

One of the most significant aspects of the Cisco Self-Defending Network strategy is a Cisco Unified wireless network across Wolverhampton's three sites. Cisco's Network Admission Control (NAC) appliance security solution is integrated with the Cisco wireless network to enable the University to automatically check every device that attempts to access the network for potential security threats.

The University has over 700 Cisco Lightweight Wireless Access Points controlled by four Cisco 6500 Series Wireless Service Modules (WiSM). The wireless network is the primary method of access for students. When a user connects to the network their laptop is scanned to confirm it has up to date operating system patches, anti-virus software and active personal firewall. Users who do not fully comply are quarantined off and automatically lead through a process to bring them up to date.

The NAC appliance sits alongside other Cisco network security solutions, such as Cisco Intrusion Detection Systems, that are standard with Cisco foundation technologies to provide a secure, yet flexible network infrastructure. Another feature of Cisco's wireless security solution is central management. Cisco's management tools allow the University's IT team to monitor, in real time, every device that attempts to access the network whether via a fixed or wireless access point.

The Cisco NAC appliance has had a considerable and beneficial impact on the University's operational staff because it has freed up their time from constantly fire fighting security issues to focus on more valuable learning applications and services for students and staff. For example, the NAC appliance enables the University of Wolverhampton to deploy new and updated security policies quickly and reliably across the whole environment. The deployment of the NAC appliance over both the wired and wireless networks at the University is one of the largest of its kind in UK education.

"The University of Wolverhampton has set its sights on being more than a higher education establishment. It wants to help raise the level of education attainment for the whole region, particularly for those people who would not normally consider higher education. The use of technology from Cisco is having, and will continue to have, a significant impact on our ability to achieve that goal."

Dr Phil Range, Director of IT Services, The University of Wolverhampton

Cisco networking equipment was first used at the University of Wolverhampton in 1992 and has been upgraded to provide a platform for delivering additional services and applications that can be implemented in the future. The Cisco solution at the University of Wolverhampton has been implemented by Logicalis, a Cisco Gold Certified Partner.

Business Results

The Cisco network is now fundamental to the education, management and administration of the University. It provides e-learning, email and communications to all our staff and students accessible either on campus or via the Internet; it provides access to a huge variety of information about the University to everyone; it is used to place orders and monitor budgets, arrange meetings and a whole variety of administrative tasks. Cisco has unified everything on to a single network. Basically we couldn't manage without it," says Dr Phil Range, director of IT Services, the University of Wolverhampton.

PRODUCT LIST

Routing and Switching
- Cisco Catalyst 6500 Series Switches
- Cisco Catalyst 3560 Series Switches
- Cisco Catalyst 3750 Series Switches
- CiscoWorks LAN Management Solution
- Cisco Lightweight Wireless Access Points

Security and VPN
- Cisco's Network Admission Control (NAC)
- Cisco Intrusion Detection Systems
- Cisco Firewall Services Module

As part of its objective to become a beacon of learning in the West Midlands, the University of Wolverhampton has developed one of the UK's most used on-line learning portals –WOLF (Wolverhampton Online Learning Framework). It has over 23,000 active users in an academic year – almost all the University's student population. It provides both students and staff with a range of learning and teaching resources covering every aspect of the University of Wolverhampton's academic curriculum.

Essential to WOLF is the Cisco network which enables students and staff to access and use the portal from offices, classrooms or the University's social learning spaces such as commercial-standard cafes. Cisco wireless technology across all sites makes access even easier.

Range says, "The University of Wolverhampton is committed to excellence in its teaching, research and business activities. Integrated and unified networking technologies from Cisco alongside our multi-million pound facilities, dedicated study and support staff, and dynamic ethos, means we are a first-class regional university with a learning environment fit for the 21st Century."

The wireless capability is particularly useful for foreign students – of which there is a high number at the University – because they can use their own laptops with native language versions of software, but still have access to all the information and communication benefits of the University network. Cisco wireless networking is also instrumental in enabling Wolverhampton to rationalise space and make use of learning facilities more flexible because both teaching staff and students can be anywhere on the campus and still access all the information and communication systems the need.

As well as WOLF, administration and other applications like email, the Cisco network is used for high bandwidth applications such as computational linguistics and engineering.

In the future, the University of Wolverhampton plans to use the Cisco platform to enhance existing facilities like WOLF and adopt new technologies such as hosting on-line examinations and other possible applications like a CCTV system to help control physical security and site management.

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