



Case Study: Wireless

Mobile Libraries; Certainly not a thing of the past.

University of London Computer Centre (ULCC) has nearly 40 years experience of delivering high quality, cost effective IT services in education and public services. Their 90 professionals range from archivists, designers and e-learning advisers to programmers and network engineers.



Through its member institutions; the University of London (UoL) offers almost every subject covered in any university curriculum, delivering

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huge flexibility and choice to its students. This in turn puts high pressure demand on the IT service expertise at ULCC.

“Our customers are predominantly in education, but include a range of large and small organisations across the public sector” said Tim Bush, Sales & Marketing Manager at ULCC. “We need to understand their individual requirements and provide the appropriate technical solutions”.

“Students were coming asking if they could have wireless access”

Tim Bush
Sales & Marketing
Manager
ULCC

One such requirement was the demand coming from their customers’ customers; “Students were coming to our customers such as the libraries and institutes like the Warburg Institute and the Institute of Advanced Legal Studies, asking if they could have wireless access. They wanted to use their own laptops” said Bush. “We had small deployments of wireless, but it wasn’t as strategic or controlled as we would have liked”.

As part of a modernisation strategy, ULCC recognised the need to provide multi-channel access to the VLE (Virtual Learning Environment) for students. Traditional fixed access was no longer enough, students also wanted mobile and remote access too.

And don’t ignore the business; there was also the UoL Admin staff - HR, Purchasing, IT services, Finance as well as the teaching community – for whom ULCC must also provide effective and efficient access to business applications. ULCC has set itself apart as a forward thinking and expert IT Services provider to the UoL – however, implementing the wireless strategy this was not going to be an easy task.

ULCC recognised that to deliver superior performance, scalability and coverage, over a secure wireless network which could support hundreds of staff, thousands of students and gigabits of encrypted throughput, they would need a partner with expertise and experience in this field. ULCC chose Vanix to implement an Aruba “mobile edge” solution given their expertise and particularly their willingness to work as an integral member of the ULCC team.



“Previously ULCC had some disparate wireless AP installations, which they felt lacked the true control needed to ensure mobility for the students without compromising control or security for the IT staff” said Kevin Pask, head of network integration company Vanix.

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“The mobile edge allows control of users and devices that connect over the network as well as across the Air”

Kevin Pask
Business Unit Head
Vanix

“ULCC wanted to ensure that they provided the students what they wanted; mobility, but needed to convince key stakeholders that security, authentication and intrusion prevention were achievable”.

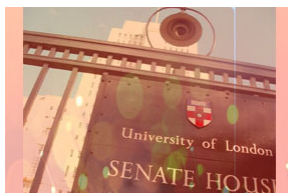
Vanix designed a resilient solution based upon the Aruba networks mobile edge system. The mobile edge allows control of users and devices that connect over the network as well as across the Air. Treated simply as an “additional layer” in the network this wireless environment logically sits on top of the existing UoL fixed network providing security, mobility and true convergence. This extends across both the private backbone network and access to the Internet.

“For security reasons, we wanted our mobile users and devices that do not connect through a fixed port, to be identified by the network before they actually join the network” said Bush. “Once this identity is known, customer security policies can be applied to the network so that access is only provided to the business needs of that individual user, thus eliminating excess privilege on the network while providing identity based auditing.”

Vanix also conducted the wireless site survey prior to the implementation of the project. “We were told to design for approximately 100 users per library floor” said Pask. Given an assumed 80:20 ratio between 802.11 “b” and “g” users compared to 802.11a wireless users; Vanix designed in the use of load balancing to ensure fairness of user count per Access Point (AP) whilst still providing high rates of data for each user.

Behind the Access Points, each main computer room was equipped with an Aruba 6000 chassis based controller. This controller supports up to 8Gbps of throughput with up to 8000 simultaneous users. “The [Aruba] 6000 is a high-performance networking platform built specifically to run centralised functions such as controlled access point management, 802.11 station management and 802.11x authentication and encryption amongst other features” said Lee Jeff, IT Strategy Officer with ULCC.

“Policy enforcement firewalls, layer 1 to 7 intrusion protection, endpoint integrity checking and seamless user roaming between access points all provide us with what we wanted; a more controlled wireless infrastructure for UoL”.



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Lee Jeff,
IT Strategy Officer
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The pilot has been successfully running at two of the key sponsors sites; Warburg Institute and the Institute of Advance Legal Studies and is proving to be a real hit with the students and staff alike; students register to access the wireless network. At this time, they are provided with a user name and password (linked to the library system) and receive an instruction card for logging on.

“We are absolutely delighted with the uptake of the new service so far” said Bush, “whilst it’s too early at the moment to give quantifiable operational KPI’s, anecdotally we know that the students think it’s a real boost to their research project learning.”

“We plan to hand out evaluation cards to the students using the system from December”.

Moving forward

ULCC now feel that they’ve acted to address the demands of their customers, and have met head-on the challenges around intrusion detection and prevention, security management and user authentication. “Now we have a secure, managed and controlled wireless access environment which does not restrict the students’ access to the VLE or digital archives, and also enhances our reputation for delivering successful IT Services” concludes Bush.

Marry this confidence in ability with a wireless access infrastructure that scales efficiently and you realise we have a new kind of “Mobile Library” for the 21st Century.



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