



## EXECUTIVE SUMMARY

**Customer Name**  
Brunel University

**Industry**  
Education

**Business Challenge**  
With increasing numbers of students, applications traffic, and various campus expansion projects, the University wanted to upgrade its core network to ensure future scalability, take advantage of new technologies such as wireless security, and optimise its e-learning platform

**Solution**  
Cisco Catalyst 6500 series LAN switching platform

Cisco Capital financial solution

**Business Value**  
Migration to a new infrastructure at the optimum time, from both a technology and price perspective

Protection against obsolescence with built-in technology refresh options

Improved optimisation and management of the network

Provided the technology foundation to modernise the university's Virtual Learning Environment (VLE)

Strengthened the university's competitive position and ability to attract even more students in the future

## Brunel University earns technology distinction with a finance solution from Cisco Capital

**Brunel University understands the importance of connected education. Its Cisco intelligent information network connects over 40 buildings with converged fixed and wireless access – making research, teaching, learning and other key information available to all, as well as supporting a host of IP-based applications. Teaming with Cisco Capital, Brunel has future-proofed this prize asset and strengthened its competitive position in the UK higher education marketplace.**

### Business Challenge

Brunel University continues to push the boundaries of knowledge and learning. A centre of excellence to over 14,000 students, the university is investing over £150 million in developing teaching, research, accommodation and sports facilities, as well as offering large numbers of additional academic appointments.

Brunel's information and communications technology (ICT) strategy forms an integral part of this success, ensuring its Virtual Learning Environment (VLE) remains at the forefront of connected education and e-learning. At the heart is a converged campus-wide intelligent information network that connects together over 40 buildings located at the main site in Uxbridge and auxiliary sites over five miles away in Runnymede and Osterley. The converged infrastructure – based on end-to-end Cisco technology – includes over 80 wireless access points at the Uxbridge site and enables the university to make information available and accessible to all.

Norman Bonney, IT Director for Brunel University takes up the story: "We laid the foundations a number of years ago. Partnering with Cisco has enabled us to exploit convergence and leverage our network, which now supports IP-based applications, such as IP telephony, IP Contact Centre, IP Television and total integration with our new wireless network."

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—Norman Bonney, IT Director,  
Brunel University



This critical applications environment is underpinned by the university's network optimisation programme – ensuring efficient and cost effective management of the network. Increased numbers of students, more network devices, greater demand for bandwidth and 24\*7 access to larger applications have placed extra importance on the programme. Faced with these challenges, the university decided to upgrade the core local area network (LAN) switching platform to deliver up to 1 Gigabyte bandwidth to the desktop and take advantage of new technologies, such as wireless security.

### Solution

Having decided on the technical solution – an upgraded core network based on the Cisco Catalyst 6500 Series switching platform – in accordance with the University's finance and procurement strategy various Cisco partners were invited to submit proposals accompanied by financing options. Norman Bonney explains the approach: “Ownership of the assets delivers no direct value to the University whereas financing allows us to rapidly acquire, deploy and protect our technology investments.”

Despite fierce competition from other finance companies, including the university's incumbent provider, Brunel selected Cisco Capital. With a five-year leasing agreement, the university was able to trade in existing equipment based on a residual value in-line with the economic life of the assets – reducing total cost of ownership (TCO) and delivering instant bottom line improvement. The contract also has built-in refresh options that allow Brunel to easily migrate to new technologies in the future.

### Business Value

The project has provided the essential foundation technology to enable Brunel to complete the modernisation of its Virtual Learning Environment with the planned migration to the WebCT Vista solution – a state-of-the-art teaching and e-learning platform. The result is a blueprint for excellence, where more students benefit from 'anytime, anywhere' access to better information management, focused content delivery and improved collaboration tools to aid connected learning. In recognition of this achievement Brunel recently won the coveted national University and Colleges Information Systems Association (UCISA) 2006 award for excellence and remains well placed to attract even more students in the future.

From a technical perspective the project met all of the objectives set by the network optimisation programme. Simon Furber, Network Manager for the university summarises: “The technology upgrade has enabled us to change our routing and switching base architecture – moving away from a flat layer 2 structure to a distributed flexible layer 3 configuration – for improved day-to-day management of the network.”

With increased scalability to meet future bandwidth requirements, in-built Cisco network intelligence has provided better quality of service (QoS) control and detailed traffic analysis. The new resilient infrastructure has ensured high availability of service and allowed the introduction of new security and identity management modules to protect the campus network. Best of all, flexible refresh options allow Brunel to continue to 'ride the technology curve' and benefit from future advancements.

This success owes much to Brunel's finance and procurement strategy and choice of Cisco Capital. Norman Bonney is in no doubt: “Cisco Capital played a key role in helping to ensure we obtained value for money – identifying the best price and best method for acquiring the very best Cisco technology, with protection against future obsolescence.”

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### Technology Blueprint

The Cisco Catalyst 6500 Series switching platform forms part of the Intelligent Information Network (IIN) – Cisco’s vision and technology strategy – enabling pervasive services such as security, virtualisation, and application-awareness features designed to directly enhance the connected learning environment. Other benefits include more efficient scaling, and better management and control of the network, based on policies such as self-configuration, self-provisioning, self-defending, and self-healing processes.

This core infrastructure supports a wide range of Cisco Unified Communications applications, including six Cisco CallManagers. The software extends enterprise telephony features and functions to packet telephony network devices such as Cisco IP Phones, media processing devices, voice over IP (VoIP) gateways, and multimedia applications. At the Uxbridge campus one CallManager server acts as a publisher and two others as subscribers, each with a physically separated back-up device, to provide geographic as well as logical resilience.

The sixth Call Manager provides services exclusively for the Osterley campus with the option of PSTN break out.

Brunel’s converged network currently integrates with Cisco’s Unity unified messaging and voicemail application to support around 2,200 Cisco IP phones. The addition of Cisco IP Contact Centre enables ‘virtual call centre’ flexibility and powerful automatic call distribution features, including conditional routing, call-in-queue and expected-wait-time messages, enterprise data displays, real time data, and historical reporting. The platform also supports the rapid deployment of rich media applications such as IP Television and other collaborative voice and video services.

A Cisco structured wireless-aware network (SWAN) extends wireless awareness into important elements of the network infrastructure, providing the same level of security, scalability, reliability, ease of deployment, and management for wireless LANs that organisations have come to expect from their wired LANs.



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