

Project Scope Overview	
Customer:	New College Durham
Installer:	Ultimate Communication Systems Ltd
Site Location:	Framwellgate Moor, Durham
Requirements:	<ul style="list-style-type: none"> • 3500 10/100 Ethernet outlets across three buildings • Single and Multi-mode fibre supporting Gigabit Ethernet between 16 wiring closets and the main communications room in a star network with a ring back-up • Cisco 6509s at the core of the network with 3550 on the edge running a complete converged network including all data, Voice over IP and CCTV requirements • New build winning numerous accolades including: Network Project of the Year (for Tech World), Best LAN project CIB Awards and an LSE Exempla project for the education sector.
Equipment:	Category 6 UTP

Project Brief

New College Durham is a college of further and higher education in County Durham, England. It was founded in 1977 as a result of a merger between Neville's Cross College of Education and Durham Technical College. The college operated on two main sites near the city of Durham: Neville's Cross and Framwellgate Moor.

In 2002, the college was given planning permission to build a new £35 million campus at Framwellgate Moor. The HE campus at Neville's Cross closed and moved to Framwellgate Moor. Construction work began in 2003 with the new buildings being constructed around the old buildings. When the new buildings were completed, work began to demolish the old buildings. The first phase was opened and completed in September 2004 with the second phase opening in September 2005.

Ultimate Communication Systems Ltd (UCS) were contracted via Shepard Engineering Services (the M&E contractor) to install the structured cabling. HPG were the principle contractor. The UTP Cat 6 infrastructure would support voice (VOIP), data and video surveillance applications across the three new buildings in the middle of the original campus. Connections to the old buildings were also installed and maintained during construction.

"Our old network was inflexible and out of date, and we wanted an IT infrastructure that corresponded to the innovative new buildings and provided an enhanced learning experience for staff and students," explains Alan Race.

Project Summary

The ICT team and partners designed a resilient IP network for the faculty; using Connectix Cat 6 high density patch panels with integrated cable management, LSZH cable, outlets, ST 24 port fibre panels, fibre optic cable and cabinets. Cisco supplied 6509 and 3550 equipment for the core infrastructure and IP telephony and video equipment from DVTel and NMI security (for surveillance). The security cameras (both IP and analogue) are now connected directly into the IP network and can be viewed anywhere there is a network presence.

The IP-based software offers the functionality required for effectively responding to any security challenge. The new backbone has given the college the capacity to connect all services over Category 6 structured cabling and therefore IP, which will eventually enable staff and students ubiquitous any-time access to their IT information. The college will also be able to benefit from improved online learning delivery platforms and adopt new technology with ease. The first results of this are the initial deployment of a unified messaging system from TopCall.

Equally, as New College Durham has previously invested in Storage Area Networking, video streams can be stored on traditional media or the college's server complement. One network ultimately means reduced costs, as the infrastructure is easier to manage and optimise accordingly. The college now benefits from a system that has considerably lower operational costs, compared to the disparate solutions previously used.

For the duration of this project, UCS had to support the ICT team with the installation of the new network and provide interoperability with the existing network, which was still in use by students and staff.

"This was a challenging project; all the systems for New College Durham were focused on the Cat 6 copper and fibre infrastructure. The fibre network alone with 16 satellite cabinets connected back to the comms room, and the back up, took some real planning. We had some really testing moments but with an experienced team and Connectix as back-up we always found a solution. The results are great a quality finish which has won awards from independent sources..."

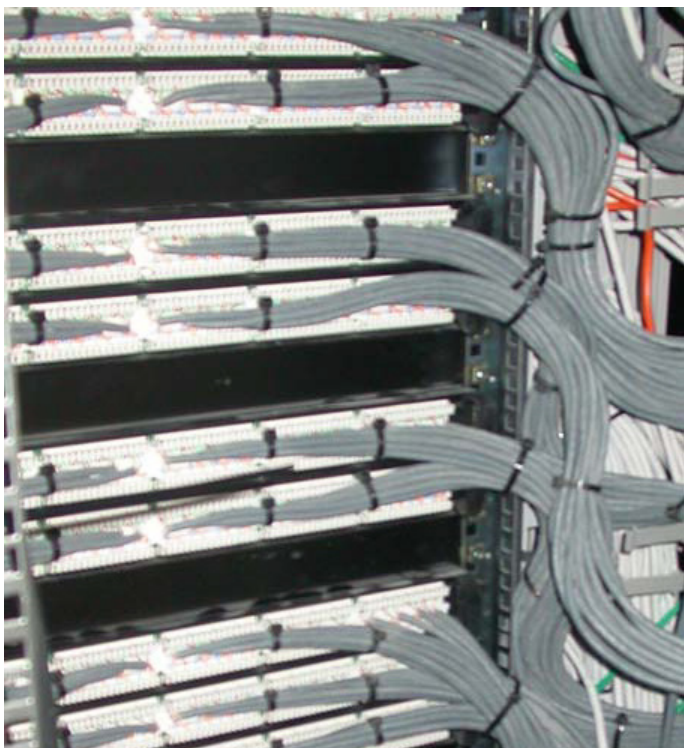
Paul Kidd, Project Manager at Ultimate Communication Systems Ltd

"£37M and this type of build creates a lot of pressure and that's when you need good engineers who are flexible and helpful..."

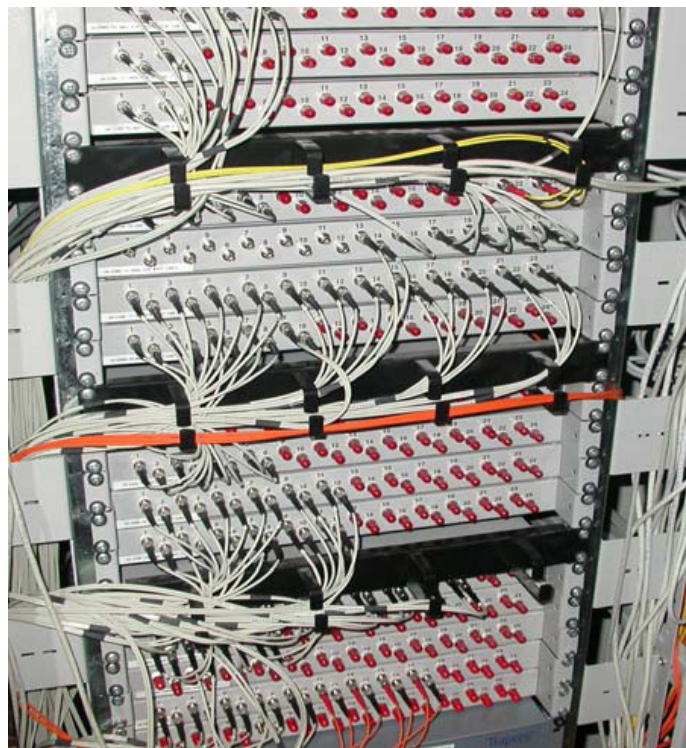
John Graydon, Head of Estates and Facilities at New College

“The key was good communication lines and excellent technical support from UCS team to myself and John giving us the opportunity to make the correct decisions technically and financially. The possibilities with the new network infrastructure are endless. We now have an end-to-end solution, with a clear roadmap for adding productivity enhancing applications; all at a low cost of deployment. We have the capacity for wireless and video streaming, for example, which I’m sure we will take advantage of in the future. Our new network infrastructure is everything we wanted- efficient, reliable and able to support our vision of being a leading UK college.”

Alan Race, Asst. Director - ICT and Purchasing at New College Durham



Rear of patch panels in the main communications room



Fibre optic patching in main communications room