As one of the UK’s largest further education colleges, New College Nottingham prides itself on producing the highly-skilled graduates today’s enterprises need. It offers a range of full and part-time courses, everything from GCSEs through to degree-level study across a broad range of subjects, and is a significant contributor to the local economy.

Operating across multiple campuses, the College attracts a diverse mixture of local and international students, aiming to provide each and every one of them with the resources they need to achieve their aspirations. It’s committed to ensuring every graduate leaves the College with the essential skills and experience demanded by today’s knowledge-driven economy.

The Challenge

Delivering robust, sustainable ICT services is now a top priority for every education provider. New College Nottingham (ncn) is no exception and recognised that in order to stay competitive and provide optimal resources to its students and staff, a significant investment in ICT Infrastructure was needed. As Paul Lonsdale, ncn Deputy Principal, pointed out: “Our existing provision was struggling to cope with the demands placed on it by today’s technology. Sustainability and recoverability were two key objectives that we needed to address. The project became known as Big Bang.”

As a long-standing IT partner, Softcat proposed a solution that would enhance ICT services across the board, focussing in particular on improving Core Networking, Telephony and Wireless services.
Furthermore, Softcat understood ncn’s need for an ICT infrastructure that ‘just worked.’ A technological environment capable of facilitating the up-to-the-minute working practices was required to develop the next generation of skilled graduates, and reflecting ncn’s drive to deliver excellence. A seamless service that would help learners learn and teachers teach, regardless of where they were located across multiple campuses, was also desired. ncn’s existing infrastructure was acting as a barrier rather than an enabler to such aspirations, so investment in improved network infrastructure became a critical element of the College’s on-going strategy.

Enterprise lies at the heart of ncn’s activities. Collaborating with industry partners not only strengthens the College’s reputation but also underpins graduate employability. The solution had to enable the interactions, communications and in-workplace learning with commercial partners and ncn’s own Learning Companies that play a critical role in the College’s offering. In short, the College needed the type of hi-tech learning environment demanded by today’s tech-savvy learners to prepare them for today’s increasingly technology-focussed businesses.

The Solution

A three-phase implementation was recommended, encompassing a complete network upgrade, establishing a secure, ubiquitous wireless network and radically improving ncn’s existing Cisco Call Manager system. ‘Big Bang’ would significantly improve Core Network performance, reduce overall telephony costs and improve communications across the College and beyond.

A critical success factor during the implementation hinged on the ability of Softcat’s engineers to configure the replacement core switches under challenging timescales. Disruption to the network was not an option during normal working hours, so work was instead scheduled for completion after hours over two key weekends. This ensured systems were up and running, fast and efficiently ahead of students returning for the new academic year.

Effective Networking

With the rise in use of media-rich learning resources, a resilient network plays a critical role in the effective delivery of education. Regardless of how good the underlying technology is within the College, if the network can’t cope with streaming video, high usage and larger and larger files, it can’t provide the service demanded by users. Factoring in the shift towards Bring Your Own Device (BYOD) policies and ncn’s desire to increase its use of VOIP telephony, it becomes clear that bringing the network up to speed was critical.

ncn’s existing LAN infrastructure had outdated, unsupported Cisco switches and was incapable of delivering the required network performance. The Clarendon campus underwent a Cisco networking with Nexus OTV technology 10Gbps backbone and switch upgrade. Switches were also replaced at two other sites in preparation for an upcoming backbone upgrade. The subsequent increase in bandwidth
would prove more than adequate in meeting the demands of ncn’s current and future requirements, including virtualisation projects and thin client solutions.

**Wireless availability**

Instant, reliable access to college resources through a secure wireless network was essential too. Emerging technologies, such as Wireless AC, which enable users to download large video or music files more quickly, needed to be supported to provide the very best user experience on the very latest devices. A Cisco Meraki Wireless installation was the obvious answer because of its capacity to handle multiple users, simplify network management and provide robust security.

**Telephony**

Effective communications between ncn’s nine sites and Learning Companies was addressed through the implementation of a Cisco Unified Communications platform. Although other vendors’ solutions were considered, the scalability, reliability and manageability of the Cisco platform enabled ncn to deliver commercial-class services capable of enhancing site-to-site collaboration and driving down year-on-year telephony costs.

The platform’s resilience – including built-in redundancy and load balancing techniques that ensure low latency and optimal call handling capability – and Call Centre functionality meant that ncn could scale for expansion with the minimum of fuss. Although built for 1 100 users it has the capacity to scale to 2 500 when necessary. ncn could also re-use much of its existing equipment, thereby extending the life of that investment and reducing the cost of deploying the solution.

**Storage**

A final phase of the project involved the installation of resilient HP 3PAR storage across two sites, to handle the increasing demands of data usage within the College. ncn identified 3PAR as their preferred storage platform choice based on its ease of management, alongside the ability to offer a single system storage facility in support of a virtualised environment. Features such as Automated Tiering, 3PAR Thin Suite and 3PAR Replication Software Suite ensured resilience, performance and scalability, which were critical considerations in the College’s plans for future growth.

**The Benefits**

ncn now has an ICT infrastructure that is fit for purpose and capable of effectively servicing the demands of today’s users and devices. Disaster Recovery capability has been significantly enhanced and as Chris Atkinson, Softcat Account Manager says: “We’ve replaced out-dated, unsupported and unreliable ICT technologies with a solution that will deliver 21st Century operability long into the future.”

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**Solution Highlights**

- Multiple designs and proof of concept lab
- Cisco networking with Nexus OTV technology
- 10Gbps fibre from core to edge
- Cisco Voice and Unified Communications
- HP 3PAR storage implemented across two sites
The investment has enabled ncn to re-use and extend the lifecycle of between 2500 to 3000 devices due to the improvements in network capability. The solution’s ‘single pane of glass’ visibility makes it much simpler to track and log activities and helps to ensure that ncn can maintain critical ICT services easily and efficiently.

The telephony upgrade delivered improved functionality and significant cost savings. ncn was able to rationalise its telephony provision, which, combined with the capability to route calls to both fixed and mobile handsets through VOIP, means the College expects to make savings of between £40 - £45,000 year-on-year.

It’s also much easier now for ncn to monitor network activity and load balance accordingly – an essential function given the demands placed on its network by resource-hungry activities such as gaming projects and the ubiquity of media-rich content. As Paul Lonsdale was keen to point out: “Gaming is a hugely important industry and the College sees itself as being at the forefront of learning within this sphere. Our existing infrastructure would have made it really difficult to deliver the services required to effectively teach these subjects. With the new network we’re in a much better position to facilitate such teaching.”

Most importantly of all, however, ncn now has a network that’s better equipped to cope with ever-increasing demands and both staff and students have the peace of mind that critical resources are easily accessible, always available and ready for the future.

Why Softcat?

Softcat’s long-standing relationship with ncn was a significant factor in the decision to implement the recommended solution. As a trusted IT partner, ncn knew it could rely on Softcat to deliver the network transformation needed to stay at the forefront of education provision. As Paul Lonsdale said: “Softcat’s levels of service are excellent and response time has always shown their commitment to our business. We found that Softcat fully understood our drive and ambition to become the outstanding college in the Midlands.”

Summary

The ‘Big Bang’ has helped to transform ncn’s capacity to deliver the services its staff and students need to achieve their aspirations. Over a two-year working relationship Softcat has proved its worth as a tried and tested provider that listens to the customer and brings significant added value to any project.

ncn now has the network capability that will underpin the innovative ways of working the college hopes to implement going forward. It has big plans to extend the collaborative working relationships it has with its own Learning Companies, local businesses and schools. Plans are also being drawn up to establish a Network Operations training centre that will help students get the real world experience they’ll need as they enter the world of work. It fully expects Softcat to play a vital role in realising these ambitions.

About Softcat

Softcat is a leading provider of software licensing, hardware, security and related IT services. Softcat was founded in 1993 by Peter Kelly, remains privately owned and currently employs over 600 people. It achieved a turnover in excess of £400 million in its last financial year and has been profitable since inception, resulting in a strong balance sheet and very firm financial foundations. The company sells and supports products and solutions from all the world’s leading IT companies. On all its portfolio products and solutions it offers a full range of services, including advice and guidance, technical design, product sourcing, implementation, support and project management. It enjoys a trading relationship with over 5,000 longstanding customers, predominantly from the UK corporate sector but also including large enterprises, small businesses and public sector organisations. As an organisation Softcat cares passionately about two things – outstanding employee satisfaction and world-class customer service. It believes the former drives the latter.