Case study

Joseph Chamberlain Sixth Form College boosts network performance

Birmingham-based sixth form college deploys new HP Networking solution

Industry
Further education

Objective
Deploy a new wired networking infrastructure to increase performance, capacity and scalability, support the existing virtualised server environment and wireless network and sustain growth

Approach
Opened discussions with several prospective vendors, accelerated the vendor selection process by choosing two JANET-approved suppliers and visited a technical centre to verify the proposed network designs

IT matters
• Provides a reliable, high-capacity wired networking infrastructure, increasing performance 10-fold
• Delivers the bandwidth, scale and connectivity to support network-intensive applications, satisfying the college’s current and future needs
• Offers an open, standards-based secure architecture, creating an agile and easily managed infrastructure

Business matters
• Improves the teaching and learning environment, reinforcing the college’s prestigious reputation and educational credentials
• Supports new applications and other technologies, satisfying student and staff expectations
• Lowers Total Cost of Ownership significantly, offering a sound return on investment

“HP and ADA Networks understood our needs well and proposed a robust network design compatible with our virtualised server environment and expanding Meru wireless network. ADA Networks provided a professional approach, good pre-sales engagement and sound consultancy and implementation services. Discussing both the commercial and technical aspects of the options was great.”

– Purdip Bahra, IT manager, Joseph Chamberlain Sixth Form College

Leading UK sixth form college opts for HP Networking solution

Joseph Chamberlain Sixth Form College, a leading independent UK further education establishment, deploys a wired HP Networking solution to replace an outdated Cisco network. The new network boosts performance 10-fold, delivers the capacity and scale for the foreseeable future, simplifies network manageability and lowers ownership costs whilst enhancing the teaching and learning environment.
Challenge

Embracing IT
Like all good educational establishments, Joseph Chamberlain Sixth Form College (JCC) has embraced IT for many years as it endeavours to create a high-quality teaching environment, improve the students’ learning experience further and maintain a reputation for educational excellence. The college continued to apply these principals while seeking a new, higher performance wired Local Area Networking (LAN) solution to replace an outdated Cisco infrastructure.

Located in Birmingham, independently governed JCC offers numerous courses and vocational programmes for students aged between 16 to 19 years and more mature adults. It delivers full-time and part-time courses leading to Advanced Level, GCSE, BTEC National Diploma qualifications. Vocational programmes include art and design, early years, nursery nursing, performance arts and teaching assistant. Over 1,600 full-time and about 870 part-time students study there.

JCC is one of 20 UK colleges and universities that have received the Queen’s Anniversary Prize for Further Education. After receiving the award, the college opened a new £40 million campus in 2008. For the last academic year, JCC boasts an A-Level pass rate of 97 per cent, making it one of the best-performing independent sixth form colleges in the region.

Report highlights strengths
A recent Ofsted report attributed the college with the following strengths: “It provides an inclusive and harmonious environment for students in which they feel very secure and make very good use of the excellent learning spaces.

“"The curriculum is responsive and well matched to the needs of the local community. Teaching and learning are consistently good in health, social and child care, visual arts and media, and humanities and social sciences. The behaviour of students is exemplary and senior leaders demonstrate a strong commitment to improving the quality of teaching, learning, assessment and outcomes for students.”

“This report reinforced our success with an important remit; to deliver student services that satisfy the needs of the nearby community," says Purdip Bahra, IT manager, Joseph Chamberlain Sixth Form College.

Performance, capacity and scalability issues
“"Our new campus employed a Cisco wired network with a 1GB backbone and 100MB to the desktop to serve our 90 classrooms, six IT rooms, open learning centre and administration offices,” explains Bahra.

“As we grew and with students and staff becoming increasingly IT dependent, we knew we’d require a network refresh after four or five years. We had to avoid any performance and capacity issues whilst introducing sufficient scalability to support further growth and deliver an effective curriculum.”

Like all further and higher educational establishments, JCC is connected to Joint Academic NETwork (JANET), a private, UK government-funded organisation that provides computer network and related collaborative services to UK research and education. A metropolitan area network connects the college to JANET. During recent years, JCC has adopted a server virtualisation strategy to support expansion, deployed numerous wireless devices such as laptops and iPads® and introduced several new applications to enhance the students’ learning experience.
"With many developments taking place, our new wired network infrastructure had to readily accommodate any planned changes without detrimentally affecting speed and capacity whilst supporting JANET connectivity," continues Bahra. "However, while we were making plans to refresh the network, some users were already commenting about a sluggish log-on process at the beginning of the day, wireless connectivity issues and slow application performance. Moreover, we were becoming increasingly concerned about the ownership and support costs of the existing network and our IT team frequently expressed worries about network manageability."

Although JCC initially approached several vendors, the college eventually decided to liaise with JANET-approved suppliers. This methodology would accelerate the vendor selection process whilst ensuring due diligence. After considering the vendor candidates, one supplier represented the incumbent whilst ADA Networks Ltd, an HP Preferred Gold Partner and Professional Network Specialist, represented HP Networking.

“We’re no stranger to ADA Networks and HP Networking because we’d used their technologies in our older building,” comments Bahra. “Whilst working with ADA Networks, we discussed current challenges and established various options, taking into account cost and functionality. During the consultancy process, they even took us down to the HP Technical Centre in Bracknell to look at the switches and verify the proposed network design.

“HP and ADA Networks understood our needs well and proposed a robust network design compatible with our virtualised server environment and expanding Meru wireless network. ADA Networks provided a professional approach, good pre-sales engagement and sound consultancy and implementation services. Discussing both the commercial and technical aspects of the options was great, especially when you have to be mindful of the ever changing environmental challenges,” adds Bahra.

Solution

Powerful core and scalable edge switching
The HP Networking solution comprises two HP Networking 5900al core switches and 30 HP Networking 2920 edge switches. The new 10GB backbone delivers 1GB to the classrooms’ Smart Board interactive whiteboards, computers and projectors and all other desktops throughout the campus. The solution also involved enhancing network capacity by increasing the number of available fibre links to each edge location while ensuring sufficient space was available for future expansion.

The HP 5900 Switch Series is a family of high-density, ultra-low latency top-of-rack switches that forms part of the HP FlexNetwork architecture’s HP FlexFabric solution. Ideally suited for data centres’ server access layers, these switches are also sufficiently powerful to act as data centre core switches in medium-sized establishments such as JCC. The cost-effective HP 2920 Switch Series offers the college a scalable solution for the new high-performance network.

JCC faced several major IT challenges during the last five week summer vacation. The college not only wanted to refresh the wired networking infrastructure, it planned to relocate the server estate and introduce a new Windows® environment whilst minimising disruption to day-to-day administration and duties associated with student enrolment for the next academic year.

“With several important non-IT activities occurring during the summer vacation, we only had a very limited window to implement the IT changes. ADA Networks therefore pre-configured all the new switches to ease the transition period,” reveals Bahra. “ADA Networks had a genuine passion about the success of the project. One rarely sees this sort of added value with companies these days. The added value also extended to complete flexibility whilst ensuring other non-related network components functioned correctly after network installation.”

Bahra clearly remembers the day when they switched on the core switches, removed the Cisco edge switch from reception and plugged in the new HP Networking 2920 edge switch.
Customer solution at a glance

Applications
Local Area Network (LAN) provisioning

Hardware
• 2 x HP Networking 5900al switches
• 30 x HP Networking 2920 switches

“Reception was up and running again within half-an-hour, minimising downtime. This was the best transition we’ve ever conducted,” he states. “ADA Networks’ project management was excellent. It ensured a smooth switchover to the HP Networking solution, minimised disruption to other technologies such as the phone system and adopted a pragmatic Prince 2 approach to cover all issues. We expected a lot more problems but HP technology and ADA Networks made the transition bulletproof.”

ADA Networks Ltd
Formed in 1994, ADA Networks is a specialist provider of voice, video and data communications solutions. Customers include small-to-medium enterprises, corporate bodies, educational establishments, hospitality organisations, healthcare providers and local government authorities. Holding some of the industry’s highest accreditations, the company is one of the UK’s leading IP networking specialists.

“ADA Networks’ project management was excellent. It ensured a smooth switchover to the HP Networking solution, minimised disruption to other technologies such as the phone system and adopted a pragmatic Prince 2 approach to cover all issues. We expected a lot more problems but HP technology and ADA Networks made the transition bulletproof.”

– Purdip Bahra, IT manager, Joseph Chamberlain Sixth Form College

In addition to providing core IP networking designs, ADA Networks also overlays other IP technologies and related services including network switching and routing, IP telephony, video conferencing, wireless networking and network audits, consultancy and support.

Benefits

Five-star players
Today, JCC operates a modern, high-performance wired HP Networking infrastructure across the entire campus, enhancing the teaching environment and students’ learning experience. Network performance has increased 10-fold and there is sufficient capacity and scalability to cope with the most demanding applications for the foreseeable future. The new infrastructure also operates smoothly with the existing phone system and an expanding wireless network.

“Our IT team has found that this highly flexible HP Networking solution is much easier to manage and we’d undoubtedly experience lower ownership costs thanks to the switches’ lifetime warranty. We’ve seen a fair few IT companies since opening the new campus in 2008 but HP and ADA Networks are by far the best by a mile, truly five-star players,” concludes Bahra.

Learn more at hp.com/go/networking