

CASE STUDY



UNITED
KINGDOM



HIGHER
EDUCATION

AS-A-SERVICE NEXT-GEN CONNECTIVITY FACILITATES DIGITAL LEARNING, WHILE TRANSFORMING STUDENT EXPERIENCES



Establish next generation wireless connectivity across a city-wide campus to transform the student experience and underpin modern teaching.



It can be difficult to overstate the importance of network connectivity to the university experience. Teaching spaces are digital, coursework is digital, data-heavy applications are standard. And that's without factoring in the lifestyle demands of the student demographic.

"It's just about unacceptable for a young person not to have Wi-Fi nowadays," says Andy Powell, Head of Infrastructure, Canterbury Christ Church University. "We classify Wi-Fi as a hygiene service."

TAKING BACK CONTROL TO ENSURE CONNECTIVITY STANDARDS

Canterbury Christ Church University is home to 15,000 students and the vast majority expect high performance connectivity around the clock. The university is closely linked to the NHS, it has a large teacher training facility, as well as engineering, science and technology departments. Today, connectivity has become a basic imperative.

This was not always the case. Historically, with much of its accommodation internet connectivity outsourced, the university had struggled to establish minimum standards of network access. With fee-paying students demanding a consumer-grade experience – not just for learning, but for media streaming, Alexa and gaming – Powell says it was vital for the university to re-establish control.

"We began a programme to bring network connectivity in student accommodation back under our control and committed to delivering a next generation wireless experience," he says.



REQUIREMENTS

- Centrally manage and secure high-performance Wi-Fi across expanding city-wide campus
- Support the use of modern teaching methods and industry-leading applications
- Improve the connectivity experience for students, boosting corporate reputation in a competitive marketplace

SOLUTION

- Aruba Campus Access Switches
- Aruba Wi-Fi 6 Access Points – Indoor and Outdoor
- AirWave Network Management
- ClearPass Policy Manager & NAC
- Palo Alto FW Integration
- User Experience Insight sensors (UXI)
- ClearPass Guest Portal
- Aruba AirGroup as a service
- SSO for guests

OUTCOMES

- Enables students to create a 'home' network, with recognition of devices
- Ensures secure segregation between different user groups, including services shared with employers and public bodies
- Underpins £150m investment in new teaching and accommodation throughout the city
- Contributes to 82% satisfaction rating in the annual National Student Survey

DELIVERING A HOME-FROM-HOME NETWORK EXPERIENCE

Aruba is at the heart of the transformed network. Canterbury Christ Church University is blanketing its buildings with AP-515 Wi-Fi 6 access points to deliver high density coverage, efficiency and performance.

The access points are managed by Aruba-7220 controllers which are coordinated by a mobility conductor. The entire campus access layer is powered by Aruba-2930M switches. In addition, AirWave Network Management constitutes



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the monitoring platform, while ClearPass Policy Manager delivers orchestration and policy and role-based network access control.

As a differentiated service, the university offers AirGroup to each student. This Aruba feature allows a personal network segment to be created for each registered student, where they can create an environment which includes all their favourite and familiar devices, and to share them with their guests.

“It means students can bring any device and register it with Azure single sign-on,” says Powell.

The engagement transforms the network experience throughout the university buildings. It establishes, in Powell’s words, a “home from home” experience for students in the university residences.

“We also provide a gaming enabled network for our student gamers with the most demanding connectivity

needs,” says Jim Manuel, Senior Network Engineer. “Our students can register their gaming device via the portal and we can ensure it gets the level of service it requires using ClearPass and its device fingerprinting feature.”

It is a contributory factor in the university receiving an 82% satisfaction rating in the annual National Student Survey.

“We’ve been able to provide a wireless-only service in all student accommodation, such as the quality of the network,” says Powell. “It feels more like a hotel experience for students.”

UNDERPINNING THE UNIVERSITY’S £150M EXPANSION

The Aruba Edge Services Platform also underpins the university’s expansion plan. Canterbury Christ Church University recently opened the £65 million Verena Holmes building, a home for science, technology, health, engineering and medicine courses. The building is part of the university’s £150m plan to add new teaching and accommodation throughout the city, including a redevelopment of the former prison site.

The Verena Holmes building is an example of the university’s aspirations. It houses engineers, scientists, doctors and healthcare students together in an inspirational learning environment with industry-standard, hi-tech facilities on every floor. It provides space for research, experimentation and industry collaboration, all of which are supported by a high-performance network.

The building has been provisioned with over 160 Aruba AP-515 Wi-Fi 6 access points ensuring that the students get excellent Wi-Fi service whether it be while in the anatomy lab sharing content on their iPads or sitting with friends in the café overlooking the St Augustine’s Abbey. Outdoor areas are covered by the external Aruba AP-575 access points to allow simple roaming when heading to other buildings on the campus.

With a dark fibre ring connecting buildings around the city, it means the university, as it opens new buildings and refurbishes the old, is able to provide a comprehensive network experience wherever students and teachers need.





ENSURING CLEAR SEGMENTATION BETWEEN DIFFERENT USER GROUPS

Canterbury Christ Church University is now able to determine who is using the network and how. Control and visibility simplify the task of integrating university students and industry, while protecting sensitive data. For instance, the university's Kent & Medway Medical School (KMMS) works alongside Public Health England on its curriculum.

"KMMS is a partnership between ourselves, University of Kent (UKC) and the NHS," says Powell. "We have a number of shared services that span the two universities. Identity management helps control access to those systems."

Powell says further, deeper integration is inevitable as the university collaborates more closely with public bodies, industry and employers: "We're a much more hands-on university. Our teaching is closely aligned with the needs of employers. There is a greater expectation from students – our customers, at the end of the day – that we deliver a service and value for money. We need smarter ways of defining, managing and assuring the quality of these services."

REDUCING NETWORK MANAGEMENT AS ATTENTION SWITCHES TO INNOVATION

The next challenge is to further optimise the user experience. The university recognises the journey is not over and that it needs to be proactive about detecting potential issues and resolving them.



"We know students won't always contact a service desk but we shouldn't have to wait for a support call. We're looking at Aruba UXI Sensors to tell us about the true user experience. Connectivity from the control centre can often look green but what is it performing like from a client's point of view? UXI can be our network's eyes and ears." says Manuel.

Aruba Central is also on the roadmap to more as-a-service evolution. "Our strategy is cloud-first," says Powell. "Everything as a service, over time; software first, then infrastructure. Aruba Central is certainly in our vision as we look to simplify network management.

"Technology is going to play an increasing role in the education industry. Our efforts should be spent finding and applying that technology, not fixing it."