CANTERBURY COLLEGE

Elevating Student Experience with BYOD-Ready 802.11ac Wave 2

CASE STUDY

OVERVIEW

Canterbury College is located in the southeast of England and serves 9,000 students. Canterbury College has significantly updated the technology available to its students in recent years, as well as recognized the need for student-owned devices to connect to the Wi-Fi network throughout the campus.

REQUIREMENTS

- WLAN infrastructure that is scalable and innovative
- Reliable network that meets the high density needs of students and faculty
- Campus-wide mobility
- Easy deployment and network maintenance

SOLUTION

- High performance network solution that meets the current and future Wi-Fi needs with superior connectivity and coverage
- Deployed 2 SmartZone 100 for ease of management
- Deployed 177 R500 APs, 25 R710 APs and 5 T300 outdoor APs to provide campus-wide mobility

Benefits

- Improved density capabilities and overall throughput
- Enhanced student experience
- Added visibility and easy management for the IT department
- Secure network to protect and safeguard the students and their Internet usage

DIGITIZED CAMPUS IMPROVES THE TEACHING AND LEARNING EXPERIENCE

Universities across the globe are in constant competition in student recruitment. As students prepare for this next step in their lives, they search the colleges for course content, academic reputation, quality of academic facilities, distance from home and of course reliable Wi-Fi. The advancement in technology has changed the way professors teach and the way students learn. From registering for classes to turning in assignments, everything can be accomplished with mobile devices.

CHALLENGE

Canterbury College is located in the southeast of England and serves 9,000 students. The college prides itself on offering a wide range of vocations—from beauty, to mechanics—and as technology advances, so does the learning environment for the students. According to industry analysts, Gartner, £900m was spent on technology in UK schools during 2015 and the government is backing this with further spending by making digital transformation one of its top priorities. Figures suggest that more than three quarters of teachers across the UK use some form of technology in their lessons. With innovations like interactive smart whiteboards, remote-link video training, and collaborative learning tools to connect students and teachers, this number is only expected to rise. The onus is now firmly on how technology can be adopted to help further education, so Canterbury College begun looking at ways to embrace digital and IT technologies to improve the teaching and learning experience.

Canterbury College had seen a 50% increase in the number of personal devices connecting to the network. This generation of digital natives are born with technology intrinsically instilled into them, and expect to be social, mobile and always connected anywhere on any device. The college found that they were above the national average, with 95% of students using their smartphone on campus. These users expected reliable Wi-Fi as they roamed from classroom to classroom. This meant that the number one complaint the IT team was receiving was about the quality of the Wi-Fi connection and drop-outs in service.

To meet the demand of a digitally native generation, Barry Boden, head of IT and Nicole Cook, infrastructure engineer at the college deployed 1,600 laptops in classrooms to help students engage in their personal learning growth. This change meant the college's IT team needed to invest in a solution that would support the new device ecosystem, and provide college-owned devices and personal mobile devices alike with the same connectivity performance.

"Our IT team isn't very big, and we need the time spent dealing with Wi-Fi issues and improving the network infrastructure to be used in more productive ways, by investing in the future of the college. At the moment, network management isn't something that is simple enough that we can leave it with junior members of the team," comments Cook.

The incumbent network couldn't cope with the significant uplift in user demand, and as a result it wasn't delivering the performance required. What started off as a 60 access point (AP) deployment, ended up with an additional 30 APs installed over the years, trying to fix coverage blackspots without any strategic planning behind their

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positioning. The network also lacked a centralized controller, which meant identifying issues on specific APs was a lot more complicated than it should be, and any system updates needed to be carried out on each AP individually – an extremely time consuming task in itself. Canterbury College needed a solution that could handle the capacity requirements for the 2,000 students that were on-site at any given time and allow the IT team to prepare for any ongoing future-proofing when it came to upgrading or scaling out of the network.

SOLUTION

The college reached out to value added reseller (VAR) AN Security, its trusted technology partner, to help solve its wireless network needs. In an industry where IT budgets are frequently monitored and sometimes restricted, AN Security carried out a virtual site survey on the campus for free, identifying key blackspots and mapping out where APs needed to be placed for maximum coverage.

Together, AN Security and Ruckus Wireless addressed these problematic areas, demonstrating how to effectively overcome coverage short comings. Proof of concept was put to work at the college with a number of Ruckus R500 wireless APs, these combine patented adaptive antenna technology and automatic interference mitigation to deliver consistent, predictable performance even in a busy classroom or dining hall. AN Security also provided a Ruckus SmartZone 100 controller, which immediately gave Boden and Cook advanced visibility into the behaviour of not only connected users but the performance of the individual APs within the network.

"The expert knowledge of AN Security and the power of the Ruckus Wireless access points (APs) was excellent. As soon as we put them into the network, the difference in performance was truly impressive. We tried a couple of different competitors but none provided us with the same level of insight into the performance of our wireless network as accurately as the SmartZone controller."

BARRY BODEN
Head of IT, Canterbury College

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Following the proof of concept, the virtual site survey was proven to be completely accurate, giving Canterbury College even more confidence in the partnership. The AN Security team then designed the deployment based on the college's specific needs and requirements to provide the best level of coverage across the entire campus. Over the course of six weeks, to coincide with school holidays and moments of downtime, on-site engineers installed the Ruckus products. They deployed 157 R500 access points providing two-stream MIMO 2x2:2 with up to two times the extended range and coverage and 13 R710 access points with unprecedented 4x4:4 MU-MIMO to address the need of high density wireless deployments. For extended coverage outside, 3 T300 access points were deployed. Managing the access points are 2 SmartZone 100s that support up to 25,000 clients per device with easy to monitor networks stats and client data storage.

Canterbury College has elevated the student experience on campus, as proven with an initial survey of students and faculty which resulted in unanimous positive feedback. Additionally, since the installation Canterbury College has seen a 60 percent reduction in the number of complaints to the IT team regarding the quality of the Wi-Fi. The college is now able to offer guest passes from the reception desk to visitors, something they've never been able to do before.

However, by far the biggest change has been how much added visibility and management the SmartZone controller has given the IT team over the entire wireless local area network (WLAN).

"Education wireless needs to be secure, but we also need to be able to track it," Boden said. "With our duty to protect and safeguard our students and their Internet usage, AN Security and Ruckus Wireless have made this process simpler, and the ability to remain compliant has become a lot easier."

Cook added: "From start to finish the AN Security team have gone above and beyond to ensure we received the best possible service. The team's knowledge and expertise alongside the outstanding performance of the Ruckus Wireless solution has meant we can begin to invest our time and resources into more ways we can use technology to help our students and staff improve the entire classroom and learning experience."

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