ensign
Communications Ltd

CASE STUDY: Hardenhuish School

The Challenge

• *To completely design and install a campus-wide 802.11ac wireless infrastructure capable of supporting BYOD for over 1000 devices.*

The Solution

• *Aruba AP-225 Access Points*
• *Aruba 7210 WLAN Controller*
• *Aruba 3600 WLAN Controller*
• *Scalable network infrastructure for future expansion*

The Results

• *A fast and reliable network, delivering BYOD WiFi to 6th form students and staff.*
• *Indoor and outdoor WiFi coverage to allow flexible learning.*

Ensign Communications Ltd
20/21 Sandford Lane, Wareham
Dorset, UK, BH20 4DY

Tel: +44(0)1929 556 553

sales@ensign-net.co.uk
www.ensign-net.co.uk

LinkedIn   Google+   Twitter   Facebook

Ensign Delivers a Campus-Wide 802.11ac Network and BYOD Management to Chippenham School

Located in the market town of Chippenham in Wiltshire, Hardenhuish is a mixed secondary school and sixth form supporting around 700 pupils. Founded in 1975 the school was granted Academy status in 2010 and offers 11-18 year olds an advanced and ever-growing learning environment, with specialisms in Science, Mathematics and Computing.

Future-Proof Networking

Boasting some of the most impressive educational facilities in the county, the quarter-mile site is made-up of a mixture of both ultra-modern and older buildings which make robust wireless networking a continuous challenge.

After identifying a requirement for an improved site-wide wireless LAN, which would support both school-owned and student-owned devices (BYOD), the IT team at Hardenhuish approached Ensign to build upon their current solution with a network that would facilitate their immediate and future needs.

In order to make their scalable, future-proof, solution a reality, the school required Ensign to address a two of key areas. Firstly, the coverage provided by the current access points was not sufficient, including across some outdoor teaching spaces. And secondly, the school's existing wireless LAN controller solution - two Aruba Networks 3400s - was not sufficient to support the demands of a fully operational, mission-critical school Wi-Fi network and would need to be upgraded.

E-Learning

Hardenhuish, like many other educational organisations, had identified that ubiquitous coverage across the school campus is an essential component of any dynamic mission-critical Wi-Fi environment within which technology plays a starring role.

Modern wireless infrastructures must provide a stable foundation for an increasing dependence on technology within classrooms whilst having the flexibility and scalability to cope with inevitable future advancements and developments. High-speed, and above all, reliable wireless networks are now as importance as blackboards and chalk once were and the challenge for schools, colleges and universities alike is to make this migration as manageable and secure as possible.

The capacity of the network – its ability to cope with the high demands of hundreds of simultaneous clients – and its coverage - the extent to which clients and their devices are able to roam – were the two most important building blocks for Hardenhuish and the smooth execution of their forward-thinking e-learning strategy.

Campus Coverage

Ensign's technical team were charged with achieving wireless coverage across the school's extensive playing fields as well as in the newly-built woodwork facility. In order to tackle the coverage of the playing field, Ensign's engineers fitted three Aruba AP-224 access points inside the main school building, pointing the external antennas in the direction of the playing fields to achieve the external coverage.

With the outdoor coverage now in place, teaching staff are now able to use mobile devices to take digital registrations and to enhance the learning experiences of students during outdoor sessions, whilst sixth formers are able to access learning resources across the campus which offers them a more flexible approach to their studies.

Aruba 802.11ac

Adding to the school's existing access point estate, Ensign supplied **19 Aruba Networks AP-225 802.11ac access points**. These access points are perfectly suited to high-capacity, highly-dense, Wi-Fi environments, accommodating both 802.11n and 802.11ac clients. As one of the most advanced enterprise-grade wireless access points on the market, the AP-225 was a perfect fit for this school deployment. The 225 is equipped with two Ethernet ports, giving Hardenhuish the option to power each unit at a higher throughput – up to 1.9 Gbps – resulting in a superior end-user experience; loading webpages faster, video streaming with improved quality and supporting a high-density of devices at the highest levels of performance.

Wireless LAN Controller Upgrades

The second and most significant part of the Hardenhuish project was to address their existing wireless LAN controller setup. Given the school's plans for future growth of their network, an upgrade from their singular 3400 Aruba controller was necessary in order to provide both scalability and network resilience in what was fast becoming a mission-critical infrastructure.

Ensign deployed and configured one Aruba Networks **7210 controller and one Aruba Networks 3600 controller**, with the former acting as the master and the latter acting as the local. Within this configuration, should either of the WLAN controllers fail, the network would automatically switch to the unaffected backup without any network downtime or performance degradation. This level of redundancy is becoming increasingly important for educational establishments, many of whom are investing more and more in e-learning and as a result are heavily reliant on wireless networks that consistently perform.

BYOD Stage One

The new and upgraded wireless LAN is now supporting up to 200 school-owned devices and around 100 student-owned devices every day. The current BYOD implementation has initially been rolled out to sixth form students and staff only with a further extension to include the remainder of the school's pupils planned for the near future.

Nick Reed, ICT Support Manager at Hardenhuish, said: "Our Sixth Form students expressed a desire to use their own mobile devices and the new Aruba 801.11ac network allows them to access their work from anywhere across the entire site, including some outdoor areas, without any drops in performance. Ensign's installation and site survey skills were a great help in accurately calculating the number and positions of the wireless access points. Their expertise removed any guess-work and made the process an enjoyable one".

Predicting that BYOD will become increasingly integral to the way children are educated, Hardenhuish School are confident that the Aruba 802.11ac network will be able to cope with additional demands as student-owned devices increase to far larger numbers.

"The next challenge will be the extension of our BYOD policy to include all pupils and the subsequent management of all the devices on our network. We are currently exploring various Mobile Device Management (MDM) solutions, with which to deliver applications and to control security policies", explained Mr Reed.