

## CASE STUDY

# FOSTERING DYNAMIC LEARNING EXPERIENCES AT WORLD'S OLDEST SCHOOL.



The King's School is an independent, day and boarding school in Canterbury, England. It is a member of the Headmasters' and Headmistresses' Conference and the Eton Group. It is held to be the oldest continuously operating school in the world, having been founded in 597 AD.

Digital transformation, mobility, and IoT are major themes.

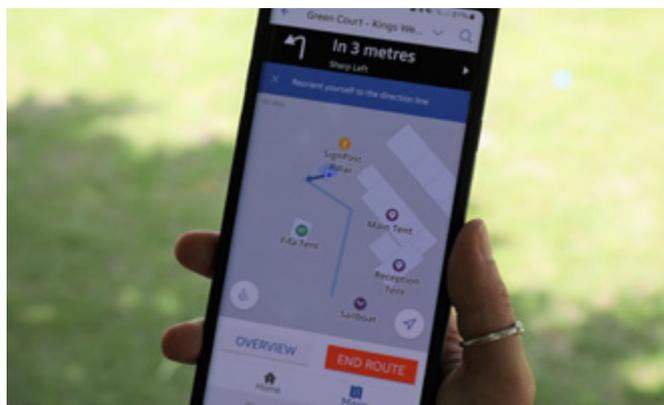
"The whole nature of The King's School is it's both ancient and modern," says Peter Roberts, Headmaster of The King's School. "Education has changed enormously in the last decade. Today, every one of our students is a digital native."

The challenge for King's is to create a network infrastructure that is secure, scalable and simple to manage.

### CREATING A CONSISTENT DIGITAL EXPERIENCE

If education is changing, so too is King's. The school is expanding into new buildings around Canterbury, including a new nursery school and drama department. It is also opening an outpost in Shenzhen, China.

Roberts says a digital infrastructure will enable the school to knit together these different elements: "How this impacts the teaching at King's is perhaps the most exciting aspect. We'll have direct, digital contact with classrooms and students throughout the school."



This presents a physical and logistical challenge for the King's IT team. The school comprises several medieval buildings, with thick flint walls, all listed. Blanketing the school with wireless connectivity is not straightforward. There are also greater demands on the network, with new requests made daily.

"When I joined in 2012, we had 80 access points," says The King's School's Network Manager, Simon Reynolds. "We're now up to 380 and climbing. The change has been dramatic."

### REQUIREMENTS

- Ensure consistent network access for three groups of users: students, staff and visitors
- Support the digital transformation of the classroom, simplifying connectivity for Apps and devices
- Demonstrate and deliver a secure communication platform for pupils to parents
- Simplify network management in the face of increasing demands on IT resources

### SOLUTIONS

- Aruba 802.11ac access points
- Aruba-7210 Mobility Controllers
- Campus Core Switches
- Campus Edge Switches
- ClearPass Policy Manager – BYOD, Guest, NAC
- AirWave Network Management
- Meridian location services for the King's App
- Aruba BLE Beacons
- Integration with Palo Alto Firewall
- Integration with LobbyConnect Guest Registration
- Integration with iBoss

### OUTCOMES

- Establishes high-performance wireless coverage throughout a challenging built environment
- Secures role-based access and consistent experience for students, staff, visitors, and IoT devices
- Paves the way for more modern, engaging teaching technologies and experiences
- Delivers first-rate network experience, demonstrating value for money for fee-paying parents
- Ensures the scale to expand network usage, whether onboarding new users, new locations or expanding IoT

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**SIMON REYNOLDS**  
NETWORK MANAGER, THE KING'S SCHOOL

### Universal connectivity and control

The engagement with Aruba pre-dates Simon Reynolds. It continues to expand and evolve.

"We use two Aruba 7210 Mobility Controllers to manage all access points and we update the access points regularly," he explains. "We

have the 300 Series right now but we'll upgrade to the 500 Series and 802.11ax (Wi-Fi 6) over the next year. Yes, we know 5G is coming, but we believe Wi-Fi 6 will ensure the best speed and experience for users."

Also, there are five Aruba 5400R core switches, Aruba ClearPass to manage network access, and Aruba AirWave to manage network health. "The core at the moment is made up of 5400R core switches using the modules, of which we use six, all with a 10 Gigabit. The edge switches are gradually migrating to the Aruba 2930F and 2930M models."

Most recently, King's has added the Aruba Meridian location services platform and Bluetooth Beacons for proximity and wayfinding services.

"The Beacons are the next step. They'll allow us to push relevant information to students, staff, and visitors wherever they are, inside or outside the school buildings," says Reynolds. "We're working closely with KHIPU, an Aruba partner. They've been instrumental in upgrading our network plus providing support and aide not only through their helpdesk but also account management. Without this fantastic support, our system would be less effective."

### A dynamic teaching environment

The Aruba architecture provides the platform on which King's can deliver a dynamic teaching environment. Classrooms have smartboards and touchscreens, all connected to the network. Teachers work from iPads. All students now have access to a Virtual Learning Environment (VLE) and course content and feedback can be accessed through laptops, tablets or mobile devices. The network creates capacity for three devices per student.

"From an educational point of view, we see smartphones as a positive," says Roberts. "But we do have some really good protocols in place. Some of our classes operate a 'phone-free Friday' policy."

Universal mobility, and access to information, inevitably impacts the classroom experience, Roberts admits: "It means we can 'flip' the classroom. Pupils come to the classroom already informed and aware of what's going to be discussed. The class can then spend time problem-solving."

### SMARTER, SIMPLER AND MORE SECURE NETWORK MANAGEMENT

In the face of rapidly expanding network usage, and greater pressure on budgets, it is vital King's operational teams improve their productivity.

"ClearPass, in my opinion as a network manager, is invaluable," says Reynolds. "We can seamlessly segment different user groups via role-based policies, and we have a real-time understanding of who or what is coming onto the network."

Furthermore, visitor access through the LobbyConnect App is integrated with ClearPass which allows visitors to safely self-register and connect to the school's guest network.

This transforms network management into something smart and simple, he continues. King's has visibility of any connection problems, with staff able to take action quickly.

"We use the OnGuard feature on ClearPass as the persistent agent for laptops. This allows us to make sure the laptop is secure enough to be on our network."

To further strengthen security, King's can also integrate its Palo Alto Networks' Firewalls into ClearPass. "It works seamlessly," says Reynolds. "It allows us to resolve hostnames and DNS into our firewall. We're able to track back if we do have any kind of security issue."



### Solid long-term investment

The ongoing relationship with Aruba represents a solid long-term investment, says Dan Rogers, King's Deputy Bursar: "The independent schools' sector faces a very challenging time. Schools are having to adjust budgets; we have to be careful with how we spend our funds, and that we demonstrate value for money."

The combination of medieval buildings and 21st century technology is hugely impressive to parents. "King's is a premium brand, and people are paying a premium to come to the school. When they go into a classroom and see the technology available, and the teaching atmosphere their children are going to experience, that sends a really important message."

"Aruba allows us to flawlessly integrate the latest technology without damaging the heritage of the school."

### An evolving engagement

The network also provides scope to grow. King's already connects several building management systems to the network, and the future will include increasingly smart buildings. Smart door locks, CCTV and environmental sensors are coming.

"We're already connecting Alexa to the network with no fuss," he says. "People tend to panic when they hear of IoT and the risks to the network, but with ClearPass it's simple to manage."

Location-based services, with Meridian and BLE Beacons, are next up. The school is developing an App for visitors, with wayfinding; there are plans to track assets. The App premieres during the 2019 King's Week and will evolve from there.

"Moving forward with Aruba is a no-brainer," Reynolds says. "We continue to evolve. Our future strategy will involve the cloud and moving to Aruba Central is in the pipeline."