

CASE STUDY



UNITED
KINGDOM



GOVERNMENT

COUNCIL ACCELERATES DIGITAL SCHOOLS PROGRAMME WITH ROBUST NETWORK



Establish a robust network for all schools in the region to underpin a robust digital platform that enables more agile learning and teaching experiences.



Wales has ambitious plans to reshape its approach to education. A new curriculum will begin from September 2022 and an additional £50m has been allocated to expand Hwb, the Welsh Government's programme for improving the use of digital technology for teaching and learning in schools.

The changes are necessary to prepare students for an increasingly dynamic world. The Welsh Government says: "We want children to enjoy learning and develop skills, knowledge and emotional resilience. By the age of 16, they should be confident, ethical individuals who play an active part in their community and society. They should be prepared to thrive in the new world of work."

TRANSFORMATION BUILT ON SOLID FOUNDATIONS

These changes are being built on solid foundations. The Welsh Government has agreed a catalogue of network infrastructure components, enabling all 22 Welsh councils to create their own network architecture. This establishes a set of performance standards on which new digital functionality can be applied by individual schools.

"We've worked with our schools throughout the whole process to create a set of design principles," says Aled Griffith, IT Infrastructure Services Manager, Flintshire County Council. "Infrastructure was always phase one, but it was important we created a robust platform."

Flintshire is the largest local authority in North Wales. It is a high performing council known for innovation in public services and has a proud track record of protecting and

REQUIREMENTS

- Centrally manage and secure high-performance connectivity across 78 schools
- Provide full Wi-Fi coverage throughout all corners of the schools
- Right-size network architecture to deliver cost and deployment savings
- Streamline fully secure network access for students, staff and guests

SOLUTION

- Aruba AP-535 Series Indoor Wi-Fi 6 Aps
- Aruba AP-575 Series Outdoor Wi-Fi 6 Aps
- Mobility Controllers
- Aruba CX 6300 Switch Series
- Aruba AirWave for network management
- Aruba ClearPass for network access control
- Aruba NetEdit

OUTCOMES

- Establishes robust platform for digital transformation of schools
- Enables blended learning environment, accelerating the adoption of digital applications and remote learning
- Completes network upgrade across 78 schools within six months
- Provides secure seamless roaming across all sites for public sector workers
- Saves £500,000 in costs versus alternative vendor, freeing funds to invest in learning devices



valuing community-based services. It is home to 78 schools, serving approximately 23,500 students.

"No two schools are the same," says Aled. "We need a scalable network architecture that can accommodate different requirements for different sites."

ESTABLISHING APPROPRIATE NETWORK TEMPLATES

Flintshire's school network upgrade is built on a unified architecture comprising more than 1,500 Wi-Fi 6 access points and more than 600 access switches. The infrastructure is centrally managed via Aruba AirWave for all



“Aruba provided an end-to-end approach – and saved us £500,000 compared to the alternative vendor. This money has been used to provide additional devices for schools.”

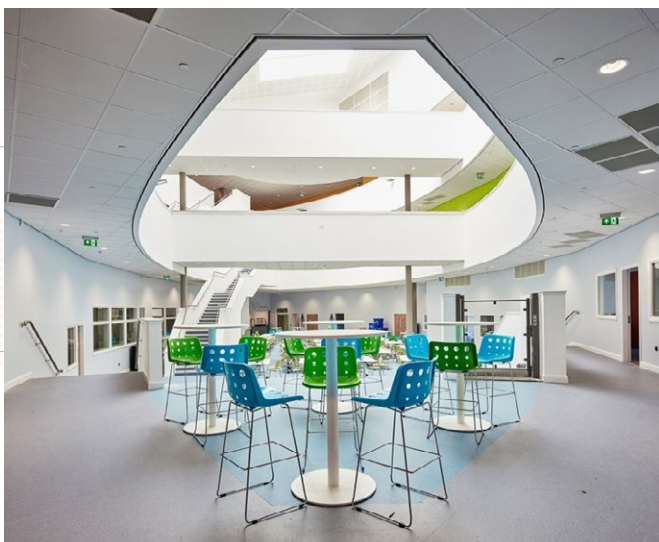
ALED GRIFFITH

IT Infrastructure Services Manager, Flintshire County Council

78 schools. Network access and secure authentication for Govroam are defined and orchestrated using ClearPass Policy Manager. The core network has high availability designed across the local authority's data centres. An initial pilot ran successfully in September 2020, with the full roll-out complete by April 2021.

“We were able to pick from an approved list of equipment,” explains Aled. “Aruba provided an end-to-end approach – and was the significantly cheaper option. That is money we have used to provide additional devices for schools.”

Flintshire can scale a network design template to each school, with full wireless coverage and a resilient LAN – ensuring the network is right-sized, optimising costs and improving deployment speeds. Each school network is then managed centrally, with policy-based access control for students, staff and guests. Every switch has a dual power supply extending network redundancy and high availability from the core to the edge.



RECOGNISING THAT ALL SCHOOLS ARE DIFFERENT

The Aruba engagement enables Flintshire to roll-out a network upgrade across all schools, with the flexibility to consider the requirements of each location. “We have schools that may operate across multiple sites, or with older buildings or in rural locations,” says Vicky Barlow, Senior Manager for School Improvement, Flintshire County Council.

As demanded by the Welsh Government, it creates a base from which new digital methodology can be applied. “We've taken the school experience up a level,” says Aled. “Phase two is devices and teaching resources. Each school will have a fund to invest in the resources they decide they need.”

While the network is managed centrally, it is now far quicker for schools to add new users and devices to their network, giving each school full autonomy and reducing the often very long onboarding process down to seconds.

“There are no delays,” says Aled. “Schools have more control over who uses their network but spend less time managing and administrating the network.”

ALLOWING SCHOOLS TO EXPLORE DIGITAL LEARNING AT THEIR OWN PACE

The Aruba platform allows schools to progress their digital journey at a pace that suits. Argoed High School has replaced face-to-face parents' evenings with video sessions, lessons can be conducted outside of the classroom and there is a blended teaching approach for those on site or learning remotely. Microsoft Teams is now an established platform; staff and the school's 550 students are comfortable exploring new applications.

“We know that whatever software our teachers find to help students' learning, we have the infrastructure to support it,” says Matt Morton, the school's IT Manager. “We're moving from a paper-based environment to web-based.”

LOCAL IMPLEMENTATION OF A NEW, NATIONAL CURRICULUM

Wales' new curriculum will be phased in from September 2022. Each school will have responsibility for developing and designing its own curriculum based on the national framework. The aim is to encourage local ideas and inspiration, recognising that within this framework, schools and



practitioners are best placed to make decisions about the needs of their learners.

Flintshire's role is now to motivate the sharing of innovation and best practice among its 78 schools. "We have created digital ambassador roles across clusters of six to seven local schools," says Vicky. "We recognise that some teachers are more comfortable with digital. We want to help share their experience."

CONSISTENT, SECURE ACCESS ACROSS ALL SCHOOLS

The architecture creates a singular network across all schools in Flintshire. Aruba enables Govroam access, meaning public sector partners can access the network from any school – for example, health and social workers. Guest access is also consistent across all sites.

In education terms, perhaps the biggest impact is the fact that teachers in one school can work in partnership with other schools; for example by video teaching collaboratively courses that expand the curriculum offer for post-14 and post-16 learners.

"Nothing can replace face-to-face teaching but digital platforms do allow us to provide skilled teaching delivered remotely, when circumstances require and most notably during lockdown periods of the pandemic."

ACCELERATING THE JOURNEY TO DIGITAL

Digital has been the direction of travel for some time but the impact of COVID-19 has accelerated that journey.

"There was no way we would have been able to react so quickly without the network infrastructure," says Vicky. "We



were told we had to close on the Wednesday and we had emergency childcare provision on the following Monday, with a blended learning model shortly after. We've taken a five-year plan and condensed it to less than a year."

Argoed High School taught five classes a day to 550 pupils. "We did 16 Teams calls every hour, all on the school network – and it worked brilliantly," says Matt. "Now that staff and students have experienced digital platforms they don't want to go back to the old ways. The network infrastructure allows us to consider new teaching ideas."

The long-term impact, Vicky adds, is that the entire concept of 'school' has been reimagined: "We were stuck with a Victorian idea that learning needed to take place between 9am and 3pm and from a school building behind a desk. We're not so rigid anymore."