Cambium Networks™

Orbex Solutions Ltd in partnership with Cambium Networks

CASE STUDY

Beacon Multi Academy Trust Delivers Excellence in Education With 15% Fewer Wi-Fi Access Points

Two separate schools with 3,500 users are covered with one Wi-Fi 6 network

The Forest Academy (TFA) in the UK focuses "on making sure their staff are able to do their job to a high standard." Students study the whole range of national curriculum subjects from Y7-9 including art, music, drama, design technology, food technology, PE, and many more. 100% of their students have gone on to high-quality education, employment or training. There are two campuses: Beal High School and Forest Academy sixth form.

Orbex
voice & data systems specialists

www.orbex.co.uk

Challenge

Reliable connectivity enables excellence in education. TFA had stretched their Wi-Fi 5 network as long as they could. Over time, the login process was slow. Streaming content was an unsatisfying adventure and users frequently experienced buffering. Disconnections were an everyday occurrence.

> **The physical** devices were easy to install and more cost effective than the major competitors."
>
> *- Vincent Lloyd, IT Manager*

Because of the high-density APs and increased performance, the solution required only 210 APs – a savings of 15% of the hardware.

To manage costs, the schools were trying to avoid upgrading two independent on-site controllers. As a result, the existing Wi-Fi was becoming unreliable with most of the access points well past their effective life. Over time, their network was outdated and in a state of minor disrepair. They reached out to an experienced system integrator to develop and implement a solution.

Orbex Solutions is a Managed Service Provider (MSP) in London that provides a full range of IT services to business enterprises and they designed the new solution. In many cases, adding Wi-Fi 6 is now a requirement. This is moving more and more services to cloud-based solutions.

"The system that was in place was outdated," said Vincent Lloyd, Senior IT manager "The controllers that managed the access points could not be upgraded to the latest security patches and firmware due to end-of- life technology. The system was also not Wi-Fi 6. As new devices with Wi-Fi 6 compatible, they were introduced to the organisation it was in the school's best interest to upgrade to take full advantage of this new technology."

Solution

The new technologies offered some significant savings based on higher performance. In this case, Orbex designed a solution where Beal High School and The Forest Academy could both be managed on a single cloud controller.

In addition, new Wi-Fi 6 indoor access points would offer higher capacity and performance.

- **XV2-2X** is a dual-radio Wi-Fi 6 access point (AP) designed to deliver next generation networks with edge services at a value-based price. Wi-Fi 6 technology delivers higher network speeds and enables more connected devices at higher packet quality.
- **XV3-8** high density AP includes seamless roaming, fast roaming, automatic RF optimization and interference avoidance to automatically optimize performance to specific local needs. This Software-Defined 8×8 multi-radio AP is equipped with dedicated scanning radio and BLE, WPA3 secure public access, Application Control and 802.3bz Ethernet optimized for high density deployments.

"The physical devices were easy to install and more cost effective than the major competitors," said Lloyd. "The onsite team installed the AP brackets in the weeks leading up to deployment. The APs were also provisioned and tested in the weeks leading up to the deployment along with internal infrastructure changes."

All of the APs were deployed in one week without incident when the students were away during a half term. Teething issues were down to existing switches that required some minor configuration changes.

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Results

Students and staff immediately noticed the difference in the system.

- They now have 100% coverage within all the buildings and no longer experience disconnections from the Wi-Fi.
- Random checks show in excess of 500 devices attached at any one time.
- Login processes via Wi-Fi are also quicker along with all the popular streaming services.
- Proven high use of the Wi-Fi guest portal
- The new system also accommodates 3,500 student and faculty users with ease.
- The new solution met all the requirements for a replacement system and has operated flawlessly in the months since installation.
- A one for one replacement plan had originally specified 250 APs to provide the needed coverage and capacity. Because of the high-density APs and increased performance, the solution required only 210 APs. 206 were installed with 4 spares or for expansion where required.
- The system that covers both schools is managed and supported by Orbex Solutions Ltd.

The new system also accommodates 3,500 student and faculty users with ease. The school has 100% coverage within all of the buildings.

Cambium's ONE Network

ONE Network enables excellent online experiences with fewer resources and IT personnel. Enterprises, managed service providers, broadband service providers, and government agencies can shift to managing the network holistically, freeing up IT resources to focus on their business and specific applications.

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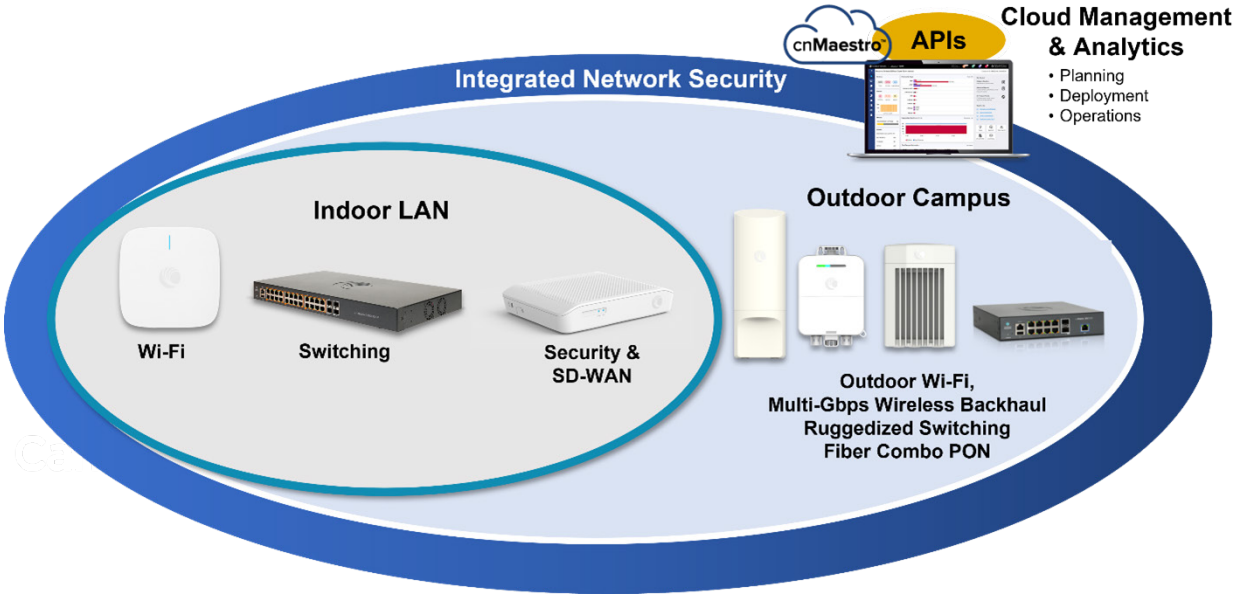
Our broadband fabric weaves together numerous networking standards and reduces complexities, helping network operators create purpose-built, reliable networks that are cost efficient and secure.



About Cambium Networks

Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences, and device connectivity, with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We make connectivity that just works.

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