University of Plymouth sets course to better Wi-Fi with Mist AI

Based in South West England, with a mission to advance knowledge and transform lives, The University of Plymouth is renowned worldwide for its high-quality research, teaching and innovation, along with its spirit of enterprise and deep commitment to sustainability. To meet digital expectations, the university needed to upgrade its network, improve the Wi-Fi experience, and bolster security.

The Wi-Fi refresh began in the university's residence halls, with an AI-driven wireless network from Juniper supporting a home-like internet experience for students—and their favorite personal devices.

OVERVIEW

Company	University of Plymouth
Industry	Education
Products Used	AP45, AP33, Edge, EX4100, EX4650, EX4400, Wi-Fi Assurance, Wired Assurance, Marvis VNA
Region	EMEA

CUSTOMER SUCCESS AT-A-GLANCE

18,500
Students on main campus

10,000+
Wireless devices used by students and staff

900
Access points installed in residence halls in three weeks

15 minutes
To install each access point

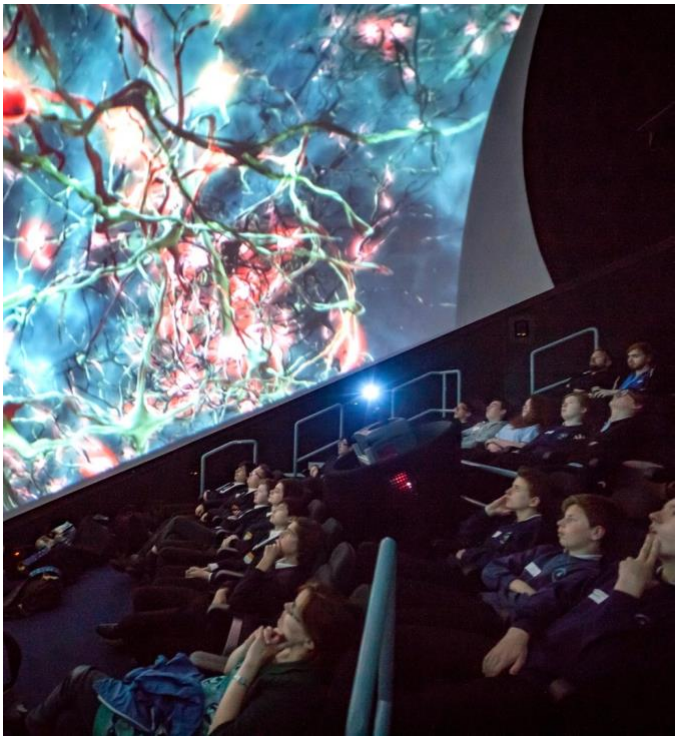
CHALLENGE

Improve experiences and heighten security without disruption

A lot changed with technology and learning since Plymouth last updated its network. The campus Wi-Fi was aging out with slow performance and limited coverage. Students couldn't easily connect their collection of personal devices, including laptops, gaming consoles, and smart speakers, in the residence halls.

The campus core network also showed signs of age. It was stable, but updating the core switches to the latest software was risky business. The entire upgrade needed to be done in one fell swoop.

Like other universities across the U.K., Plymouth was stepping up its cybersecurity efforts. To maintain its Cyber Essentials certification, a requirement for cyber-insurance, Plymouth needed to better segment the academic and student traffic on its campus network.



Those weren't the only problems. Like most universities, students needed advance notice before IT technicians could enter their rooms to replace the APs. But unlike most universities, which take advantage of the summer months to do technology upgrades, Plymouth rents out its residence halls to tourists. The upgrade needed to happen fast.

SOLUTION

Full transformation with simple installation and strong security

Plymouth made a sea-change in its choice of network vendor and deployed an intelligent, AI-driven Juniper® Mist™ network. Juniper APs and switches are connected to Juniper Mist cloud, driven by Mist AI™ to deliver optimized network experiences for students, faculty, and staff and their devices.

Juniper improved the efficiency, flexibility, and scalability of Plymouth's campus core network. With Juniper EX Series switches and a campus fabric based on EVPN-VXLAN, Plymouth has a more scalable and secure network, with the ability to enforce consistent security policies and segment traffic to meet the Cyber Essentials requirements.

Juniper Mist Wi-Fi Assurance and Wired Assurance continuously optimize the connectivity experience and automate network operations. The IT staff use Marvis™ Virtual Network Assistant to identify and resolve problems proactively. For instance, while Plymouth was testing the Juniper wireless, Marvis identified that a client VPN was inadvertently using IPv6, which was not supported on the university's network.

OUTCOME

AI and automation speed roll out, improve network visibility

The network refresh started in the residence halls, then expanded across campus. To accelerate the Wi-Fi 6 rollout in the residence halls ahead of the summer tourist season, the IT team set up the network using templates in the Juniper Mist dashboard. Once onsite, the installation team used the Juniper mobile app to scan the AP's QR code, which automatically registered itself and mapped its location on the floor-plan map.

Plymouth replaced more than 900 APs in three weeks. At first, cabling contractors were tasked with installing 50 APs per day, but the rollout was accelerated when it became clear that an AP could be installed in 15 minutes. An added bonus: the Juniper APs fit into the existing AP brackets, making deployment go even faster.

The university was also able to right-size its network for today's mobile-first lifestyle. Reducing the number of switches and ultimately power usage, helps meet its sustainability goals. Before the pandemic, the network typically connected 12,000 wired and 8,000 wireless devices. Today, that ratio is reversed, and IT adjusted accordingly, expanding the Wi-Fi and scaling back the wired network.

> "Juniper and Mist AI provide a home-like internet environment for students, while supporting the latest academic research, and adhering to the highest security standards. Marvis helps identify and solve the most common issues experienced by network users, reducing logged tickets."

Alex Israel
Senior Infrastructure Architect, University of Plymouth

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