AI-driven Wi-Fi takes digital experience honours at University of Oxford

UNIVERSITY OF OXFORD

The University of Oxford is a renowned university and the oldest center of learning, teaching, and research in the English-speaking world. To deliver a better Wi-Fi experience to students, faculty, and staff, The University of Oxford IT Services is deploying AI-driven networking from Juniper.

OVERVIEW

Company	University of Oxford
Industry	Higher Education
Products Used	AP43, AP63, AP63, Wi-Fi Assurance, Marvis VNA, Edge
Region	EMEA

CUSTOMER SUCCESS AT-A-GLANCE

25,000 students, including 12,510 undergraduates and 13,044 post-graduates

Provide AI-driven Wi-Fi to support central administration, libraries, colleges, and departments

Quickly identify and resolve transient and hidden problems in the network

CHALLENGE

A better Wi-Fi experience for daily learning and living

"During the height of the pandemic, technology became more important than ever," says Robert Jones, manager of the Managed Network Services Team.

Expectations for digital services and learning technology were high.

"We wanted a clean start for the wireless network," says Patrick Frost, the technical lead for the wireless replacement project.

Managed Network Services sought a Wi-Fi solution that would provide enhanced network visibility, control, and troubleshooting, enabling the group to deliver a premium campus Wi-Fi experience.

Attaining world-class Wi-Fi is complicated not only by Oxford's historic buildings, some of which date back 800 years, but also the university's organizational structure. Oxford colleges and halls are self-governing and relate to the central university in a federal system. They can choose to use the Managed Network Services from IT Services or go their own way.

SOLUTION

The power of AI for network service delivery

Oxford's central networking team deployed the Juniper Wireless Access solution, driven by Mist AI, for predictable, reliable, and measurable service levels in key administrative buildings, libraries, and Colleges.

Juniper cloud services, including Juniper Mist™ Wi-Fi Assurance and Marvis Virtual Network Assistant, give IT clear visibility into the user experience and can speed troubleshooting when issues arise.

The Juniper solution adapted easily to some unique challenges. For instance, gaining permission to make changes to historic buildings can take many months. But fortunately, Juniper Wi-Fi 6 (802.11ax) access points fit snugly into the mounting brackets from the previous Wi-Fi network, speeding installation. In other locations, the wall-mounted Juniper AP12 access point created minimum disruption.

Colleges and departments that choose to use the Managed Wireless Service from IT Services have the visibility and control they need. Juniper Mist Edge uses VLANs to extend the microservices architecture to these stakeholders. That allows, for example, Colleges to set up their own Wi-Fi infrastructure for special events and run their own help desks, empowered by AI-driven Juniper tools that optimize the wireless experience for their users.

OUTCOME

World-class Wi-Fi for a world-class university

Wi-Fi is prerequisite in the university's efforts to create a home-like experience for students.

Beyond using Wi-Fi to study online and access academic resources, the goal will be for students to set up personal wireless LANs in their rooms to connect their laptops, gaming consoles, and tablets. Juniper Mist, with Pre-Shared Key (PSK) functionality, provides a basis for simple, secure way to onboard BYOD devices.
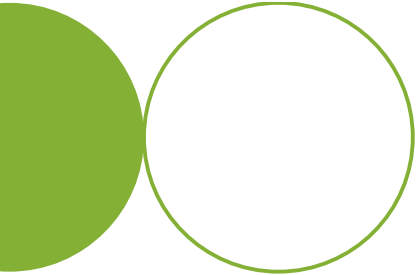
AI-driven networking from Juniper has delivered on the requirement to improve network visibility and control for Oxford's colleges, libraries, and dorms.

"Mist AI helps us find those transient problems that you can blink and miss," says Frost. "Now we can quickly analyze a problem and solve it faster."

The Managed Network Service team are exploring the deployment of Juniper Wi-Fi in additional buildings, including museums.

"The use of Juniper wireless will grow naturally as we take on more customers," says Jones.

"With Juniper and Mist AI, we have given ourselves the visibility to see what is happening with a client device and the tools to resolve issues quickly. The insight provided by Mist AI is phenomenal."

Robert Jones
Manager of Network Services, University Administration and Services, Oxford

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. AtJuniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

Corporate and Sales Headquarters

Juniper Networks, Inc.

1133 Innovation Way

Sunnyvale, CA 94089 USA

Phone: 888.JUNIPER (888.586.4737)

or +1.408.745.2000

www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V.

Boeing Avenue 240 1119 PZ Schiphol-

Rijk

Amsterdam, The Netherlands

Phone: +31.207.125.700