Empowering Next-Generation Talents and AR/VR with WiFi 7 Technology

Overview

In today's fast-paced digital landscape, wireless network technology drives innovation across industries. Ling Tung University's Digital Content Design Department nurtures talent in film, animation, gaming, and interactive design, blending design and development techniques with close industry collaboration.

To ensure high performance and academic success, the department installed Zyxel Networks' WiFi 7 access points and 10G Multi-Gigabit smart managed switches. These upgrades enhance students' efficiency in digital media creation while making a significant impact on the AR/VR digital content industry.

Challenges

Previously, slow speeds and high latency made it difficult to implement AR/VR applications effectively in the classroom. The shortage of IT specialists and delays in support compounded these issues, making network troubleshooting a time-consuming task. Also, the department lacked a comprehensive solution integrating wired networks, wireless networks, and security equipment, which further limited overall network performance and security. These challenges severely restricted the department's ability to fully utilize AR/VR technology.

Solutions

Zyxel Networks' WiFi 7 access point, equipped with a Qualcomm quad-core CPU, deliver high speeds of 22 Gbps and significantly increased capacity to meet real-time demands of AR/VR applications. The smart antennas reduce co-channel interference, continuously monitor connections, and dynamically adjust antenna patterns to ensure optimal WiFi performance for every connection, preventing inconsistencies and delays caused by interference.

Customer
Department of Digital Content Design, Ling Tung University

Industry
Education

Location
Taichung, Taiwan

Customer Background

Ling Tung University's Digital Content Design Department nurtures talent in innovative fashion design and AR/VR technology. The department offers hands-on computer animation and digital games courses, promoting student participation in AR/VR projects and fostering digital media design exchanges. By partnering with industry leaders like Eastern Multimedia Group, Sanlih E-Television, and TransWorld Television Production Company, the department ensures students are well-prepared for the evolving demands of the digital content industry.

Solutions

The WBE660S access points, built with high-quality components, were deployed to ensure exceptional performance and an extended lifespan. These access points empower the department to fully utilize AR/VR technology, enhancing efficiency and fostering innovation. Additionally, a range of security features, including CDR, Secure WiFi, CNP, DPPSK, and advanced authentication methods, work together to create a robust and protected environment.

The deployment also included PoE12-30W 2.5G PoE+ Injectors, which reduced cabling costs and increased flexibility. The XS1930-10 10G Multi-Gigabit Lite-L3 Smart Managed Switches automatically detect the connected device's speed and adjust to the highest possible speed based on cable quality and length. These switches' exceptional PoE capabilities support high-performance WiFi 7 access points, while the 10G fiber ports enable network expansion and connection to 10G fiber aggregation switches.

Product List

- WBE660S WiFi 7 Access Point

- XS1930-10 Lite-L3 Smart Managed Switch
- PoE12-30W 2.5G PoE+ Injector

Results

The new network supports high-bandwidth applications, delivering high speeds, minimizing latency, and enhancing user experiences. Teachers and students benefit from fast and seamless connectivity. Additionally, simplified network management allows the school to quickly identify and resolve issues remotely via mobile devices, boosting operational efficiency. For technical support, the Nebula cloud networking platform enables direct inquiries about settings, with prompt responses from dedicated staff, eliminating the hassle of phone communication or unavailability.

- Enhanced AR/VR experiences and digital media creation
- Improved network efficiency through flexible management and timely technical assistance
- Fast network deployment with reduced cabling costs
- Comprehensive management of wired and wireless networks along with cybersecurity protection