



Keeping a Korean Academy Connected with WiFi 7 and Secure Networking

Overview

The self-study retake academy in Mok-dong, South Korea operates in a high-density digital learning environment where students rely on personal digital devices for online lectures. To support continuous learning, the academy deployed a unified network combining wired and wireless infrastructure with a security framework centered on the USG FLEX 700H firewall. The network runs on a 10G backbone, with the XS1930-12HP PoE++ switch providing reliable connectivity and power. WBE630S WiFi 7 APs are used in high-density areas, while WAX610D WiFi 6 models serve smaller classrooms to balance performance and cost. All devices are centrally managed via the Nebula cloud platform, enabling real-time visibility and efficient operations.

Challenges

The academy faced a high-density network challenge because most students use personal devices such as tablets and laptops to stream online lectures, resulting in simultaneous connections. Key requirements were to ensure a stable WiFi environment for uninterrupted learning and to maintain student focus by restricting access to non-educational content such as YouTube, games, and social media.

Solutions

The USG FLEX 700H firewall was deployed as the academy network gateway to segment the network and block non-learning applications. Leveraging DPI technology, it analyzes and controls traffic beyond simple URL blocking. It precisely detects and blocks applications like YouTube and KakaoTalk, even when they use multiple IPs. With continuous cloud-based signature updates, it adapts to new bypass methods and ensures a stable learning environment. Student and teacher networks share the same infrastructure but require different policies. The network was divided to enhance security and efficiency via VLAN segmentation. The student network applies whitelist-based access, allowing only learning platforms while blocking distracting applications such as social media and games. In contrast, the teacher network is designed to offer an open internet environment that supports class preparation and administrative tasks.

Customer

Self-Study Retake Academy

Industry

Education

Location

Seoul, South Korea

Customer Background

Located in Mok-dong, Seoul, the Self-Study Retake Academy is a dedicated learning facility supporting full-day, self-directed study. It offers diverse learning environments, including individual study areas, private rooms, and 40- and 80-seat classrooms for special lectures and premium mock exams. The academy also offers dedicated spaces for college admissions counseling, meals, and rest, creating a comprehensive environment for focused learning.



High-density areas such as study spaces and large lecture halls were equipped with WBE630S WiFi 7 APs to balance cost and performance. Designed for heavy concurrent use, they deliver stable, high-capacity connectivity for FHD streaming with 4x4 MU-MIMO, 4K-QAM, 320MHz bandwidth, and MLO, while smart antennas reduce interference. The BandFlex technology enables flexible switching between 5GHz and 6GHz, improving spectrum adaptability and reducing total cost of ownership. A small lecture room with a capacity of approximately 40 people has relatively low user density. WAX610D WiFi 6 APs ensure cost efficiency while enabling a seamless online lecture experience.

The academy deployed the XS1930-12HP switch with 10GbE on all ports to support high-performance APs. It delivers 375W PoE++ (up to 60W per port) for a stable power supply and uses 10G uplinks to handle high-volume traffic without bottlenecks. This configuration supports the WBE630S AP deployment, ensuring stable and high-speed network performance across the entire academy environment.

Product List



- WBE630S WiFi 7 Access Point
- WAX610D WiFi 6 Access Point



- XS1930-12HP Lite-L3 Smart Managed PoE Switch



- USG FLEX 700H Firewall



- Nebula Cloud Networking Solution

Results

The redesigned wired and wireless network delivers flexible and stable coverage optimized for performance and cost across the academy's varied learning spaces. Nebula provides secure cloud management with real-time visibility through an intuitive dashboard. IT staff can remotely monitor device status, client connections, and network load without on-site visits. Nebula proactively detects traffic spikes and AP overload. Additionally, QoS optimization and instant push notifications and email alerts enable quick response, minimizing disruptions to learning.

- Focused learning environment for students with minimal distractions, and an efficient workspace for teachers
- Seamless WiFi experience in high-density learning spaces with WiFi 7 APs
- Stable, high-capacity 10G network enabling uninterrupted online classes
- Enhanced network protection through segmented networks

