ZYXEL NETWORKS | BUSINESS PLUS

Delivering Seamless Connectivity for High-Density Library Environments

Overview

The Dobong District Library in Seoul upgraded its wireless network with Zyxel Networks' WiFi 6 and Nebula cloud solution to deliver fast, reliable connectivity across all areas. The new infrastructure eliminates dead zones and creates a unified, seamless WiFi experience, supporting high user demand even in the challenging spaces such as archives and secluded rooms. With stable, high-speed performance and simplified cloud-based management, the network ensures consistent service quality and has received positive feedback from both staff and visitors.

Challenges

The library's existing network infrastructure faced several critical challenges. Growing user numbers led to frequent network congestion, while WiFi dead zones in reading rooms and other areas caused interruptions and slow speeds. These issues created considerable inconvenience for visitors. Additionally, the aging equipment could not keep pace with modern demands, such as high-bandwidth content streaming. To better serve its users, the library required a new wireless network that could deliver seamless, high-performance, and reliable connectivity.

Solutions

To overcome existing connectivity challenges, the library collaborated with a Zyxel Networks' partner, Business Plus, to transform its infrastructure. Guided by detailed floor plans and specific requirements, the team designed a layout focused on eliminating dead zones and ensuring seamless coverage throughout the building.

WAX610D WiFi 6 access points were strategically deployed throughout the library, with a focus on high-density areas such as reading rooms as well as transitional spaces like hallways between floors.

Customer
Dobong District Library

Industry
Public Sector

Location
Seoul, South Korea

Partner
Business Plus

Customer Background

The library in Dobong District, Seoul, functions as a public learning and comprehensive resource center for the local community. It encountered challenges with high user density as visitors increasingly relied on the wireless network for bandwidth-intensive tasks like online lectures, streaming, and video conferencing. The library sought to create a high-performance connected zone in its building, ensuring reliable wireless access for all users.

This design minimizes dead zones and ensures seamless, uninterrupted WiFi connectivity, allowing users to stay connected even while moving throughout the facility.

The result was a high-performance wireless environment that supports low latency and simultaneous connections for multiple users. Even during peak hours, the network delivers reliable, lag-free performance. Post-deployment testing showed average upload and download speeds exceeding 600Mbps, with stable connectivity extending to previously challenging areas such as archives and reading rooms.

To manage the growing number of devices, the library adopted the Zyxel Nebula cloud networking solution. All equipment is centrally managed through an intuitive platform, giving administrators real-time visibility into network performance, traffic usage, and device status. With automated alerts and remote troubleshooting capabilities, issues can be identified and resolved quickly without on-site intervention.

Product List

- WAX610D WiFi 6 Access Point
- GS1920-8HPv2 Smart Managed PoE Switch
- USG FLEX 500 Firewall

Results

Thanks to fast and seamless WiFi, online lectures, streaming, video conferencing, and other activities are now possible across multiple devices, including smartphones, tablets, and laptops. Learning convenience has been greatly improved, as the network allows for simultaneous connections, even in areas where WiFi was previously unavailable or the signal was weak. With a high-performance WiFi environment that supports seamless wireless usage, the entire library now operates as a fully connected space.

- Seamless wireless coverage throughout the library with average speeds exceeding 600Mbps
- Reliable connectivity even in previously challenging areas like archives and secluded reading rooms
- Supporting a high number of concurrent users without performance issues
- Simplified cloud-based management enables efficient monitoring and maintenance