

Incheon logistics warehouse

Optimizing Wireless Networks for Uninterrupted Warehouse Operations

Customer at a glance



Customer Name

Incheon logistics warehouse



Industry

Logistics



Organization Size

10,000 square meters



Location

Incheon, Korea



Customer Background

The multifunctional warehouse in Incheon spans approximately 10,000 square meters and accommodates various logistics activities such as storage, packaging, and distribution. Within this expansive setting, efficient movement is facilitated through transport or forklifts. The warehouse employs PDAs for inventory management. However, navigating distinct sections like conveyor-belt, low, and high shelving areas can lead to WiFi signal drop-offs, requiring frequent reconnections. Maintaining seamless wireless communication is imperative for uninterrupted operations.

Summary

The warehouse in Incheon aimed to build a seamless wireless network to avoid disruptions that could halt operations, particularly for the logistical processes dependent on wireless connections. They used a limited number of high-performance APs across the vast space, minimizing channel settings and roaming intervals between APs. The chosen WAX650S 802.11ax 4x4 AP covers 80m, simplifying network management and significantly reducing deployment and management costs compared to traditional setups. The APs were supported by the multi-gigabit 10G PoE XS1930-12HP switch, which supports PoE++ and is capable of handling large amounts of data. It can also manage high power consumption of up to 375W for connections of up to 8 WiFi 6 APs. Additionally, SSIDs were customized for each usage section, with separate VLANs designed to match the warehouse environment. To manage the network devices in the vast logistics environment, the Nebula cloud networking solution was adopted for effective network management, offering real-time insights, device visibility, and security monitoring. Automated topology simplifies complex configurations, automatically generating network diagrams upon device connection. Additionally, IT staff can remotely monitor via smartphones or tablets, optimizing efficiency without on-site presence.

Challenges

- Provide seamless roaming services in a large warehouse with varying storage characteristics in different sections
- Differentiate configurations and settings to meet diverse needs
- Centrally and efficiently manage multiple network devices

Benefits

- High-performance network connections with minimal AP deployment, reducing channel interference, and installation and management costs
- Efficient network usage via zone-specific configuration by applying individual or simultaneous SSID network settings based on different environments
- Nebula offers real-time insights of device status, simplifying network management

Products used

- WAX650S WiFi 6 Access Point
- XGS2210-28 L3 Access Switch
- XS1930-12HP Lite-L3 Smart Managed PoE Switch
- VPN300 VPN Firewall
- GS1920-24HPv2 Smart Managed PoE Switch