



Ensuring Efficient Network Management and Reliable Connectivity via the Cloud

Overview

Huge Bamboo, a leading textile manufacturer, has expanded into international markets with ambition and innovation. Its fourth factory, Jyulong, built in 2023 in Vietnam's Chon Thanh I Industrial Park, required a high-performance network to ensure seamless operations. Key project requirements included centralized management, network redundancy, reliable connectivity, and full wireless coverage. It adopted Zyxel Networks' Nebula cloud networking solution, integrating a cloud-managed wired and wireless system. This deployment streamlines network management and enables the factory to operate efficiently on a large scale.

Challenges

Huge Bamboo needed a stable, reliable, and scalable network infrastructure to support its growing industrial operations. With reliable connectivity essential for smooth factory operations, the company sought a solution that could automate network management while providing seamless wireless coverage across the entire site. Additionally, maintaining network health and ensuring operational continuity in the event of a failure were top priorities. As the company continued to grow, it needed a robust and secure system capable of adapting to increasing connectivity requirements without compromising performance or reliability.

Solutions

eSafe360, which specializes in network system planning and installation, managed the project for Jyulong Factory. It deployed Zyxel Networks' Nebula solution, enabling centralized network management for real-time monitoring and adjustments. The cloud platform featured network topology visualizations and dashboards, providing an instant overview of the network's status, and allowing quick issue detection and continuous awareness of network conditions.

WAX510D APs were deployed in the office and factory. WAC5302D-Sv2 APs were installed in the dorm to ensure seamless WiFi connectivity. The centralized WiFi SSID setup simplified distinguishing and assigning SSIDs to specific APs using tags, enhancing management efficiency.

Customer

Huge Bamboo Enterprise Co., Ltd.

Industry

Manufacturing

Location

Binh Phuoc, Vietnam

Partner

eSafe360

Customer Background

Huge Bamboo is a globally recognized textile company specializing in dyeing, finishing technology, and fabric knitting. With a focus on high-quality and sustainable textile solutions, the company continuously expands its offerings to meet diverse customer needs. It works with leading brands such as Adidas, Under Armour, Uniqlo, Decathlon, and more.



Solutions

Two stacked XS3800-28 switches served as the core switch, connecting to XGS2220 switches by high-speed 10Gbps fiber connectivity. This setup boosted data transfer, reduced congestion, and ensured bandwidth for high-performance applications and future scalability. The network also included GS2220 and GS1915 switches, offering reliable access, PoE support, and streamlined management of various connected devices. Intuitive port configuration simplified settings across multiple switches.

To ensure a stable and secure network environment, Access Control Lists (ACLs) were used to prevent unauthorized DHCP IP allocations. Besides, IT staff could access network usage analysis with valuable insights into bandwidth consumption and power usage, helping to optimize performance and energy efficiency. The platform also enhanced visibility and control through log reviews, event analysis, and configuration change tracking.

For reliable communication, the factory adopted a ring structure with Rapid Spanning Tree Protocol (RSTP) to prevent loops and ensure redundancy. Dual-line connections to the main data center enabled automatic failover, minimizing downtime and maintaining continuous service. Loop Guard further enhanced stability by enabling automatic recovery and eliminating manual intervention.

Product List



- WAX510D WiFi 6 Access Point
- WAC5302D-Sv2 WiFi 5 Access Point



- XS3800-28 L3 Aggregation Switch
- XGS2220-30/30HP L3 Access Switch
- GS2220-10HP/28HP L2+ Managed PoE Switch
- GS1915-8 Smart Managed Switch

Results

Zyxel Networks' Nebula cloud networking solution transformed the factory's network management, providing a centralized, intuitive platform for real-time monitoring and configuration. With automated redundancy minimizing manual intervention, the factory now operates with greater efficiency and reliability. The deployment of WiFi 6 APs and 10Gbps switches has strengthened connectivity and stability across both office and factory areas, ensuring seamless daily operations and future scalability.

- Centralized network management with full visibility
- Network redundancy and loop prevention guarantee uninterrupted connectivity
- Factory-wide WiFi coverage ensures consistent, high speed wireless access
- Reliable network infrastructure boosts operational efficiency and productivity

