Case Study

Enterprise Network Cabling

An ISP Achieves High-Speed and Seamless Connectivity with FS Enterprise Office Network Cabling Solution

Achieve seamless connectivity and strict network security with FS's advanced office network cabling solution, supporting 200+ employees and high-speed 1G/10G-T Ethernet.

FS

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Country

🌐 Singapore

Industry

🖥️ ISP

Network Type

🏢 Enterprise Data Centers

Solutions

🗄️ Enterprise Network Cabling

> " *Many thanks to the FS team! Their products are not only affordable but also easy to install and use. After I outlined my requirements, the FS solution team quickly provided a complete network cabling solution, and during the installation phase, they also provided us with very detailed installation instructions and documentation. The customer service team is knowledgeable, and helpful, and always goes out of their way to answer my questions and resolve my issues. Furthermore, the solution has been proven to fully meet our expectations and is performing at a high level. I highly recommend FS to anyone looking for a high-quality enterprise office network cabling solution.* "
>
> - From Erik Myers, Network Engineer at the Office Software and Service Provider Company

Highlights

- A high-speed and reliable data transmission network is achieved using office network cabling based on copper systems.

- Office space is maximized for efficiency, ensuring seamless connectivity for large meetings with the use of Cat6 slim Ethernet cables.

- Strict internal network security is guaranteed through firewalls and gateways deployed at network exits.

- Seamless Wi-Fi coverage throughout the office facilitates and improves overall productivity through a combination of APs and ACs.

Key Stats

- Meets the internet needs of 200+ employees and covers all office devices.

- The network supports a maximum frequency of 550 MHz and 1000Base-T Ethernet speeds, reaching up to 10GBase-T.

- L2-L7 network security ensures strict protection of intranet data.

Overview

The Internet Service Provider (ISP) industry plays a critical role in modern society by offering essential connectivity services to both consumers and

businesses. High-quality network performance is paramount in this field, as it directly impacts everything from streaming and online gaming to remote work and cloud computing. With the increasing reliance on digital communication and data-intensive applications, ISPs are under constant pressure to provide fast, reliable, and secure internet access.

Founded in 2005, the client is a provider of office software and services, specializing in the design, development, and marketing of office software products and services. Currently, the company employs 200+ staff in Singapore. As its business rapidly expands, an increasing number of global users are utilizing the client's products and services. To support its network needs and achieve smart office capabilities, the client requires a seamless, secure, and reliable office network cabling system, which will enhance efficiency and reduce costs for the enterprise.

Challenges

The increase in office equipment within the workspace has strained the limited network bandwidth, resulting in poor online experiences for employees, including video conferencing delays and slow webpage loading times, which in turn affects work efficiency. The new office network cabling system must accommodate the internet needs of over 200 employees and cover all network devices in the office area, ensuring high-speed and stable network transmission.

The limited cabling space, coupled with the growing number of office devices like desktop computers and printers that have high aesthetic requirements, increases the difficulty of office network cabling installation and management. To address this, the solution must maximize space utilization and feature

a tidy cabling scenario to achieve simple cable management, facilitating the client with minimized maintenance costs and time.
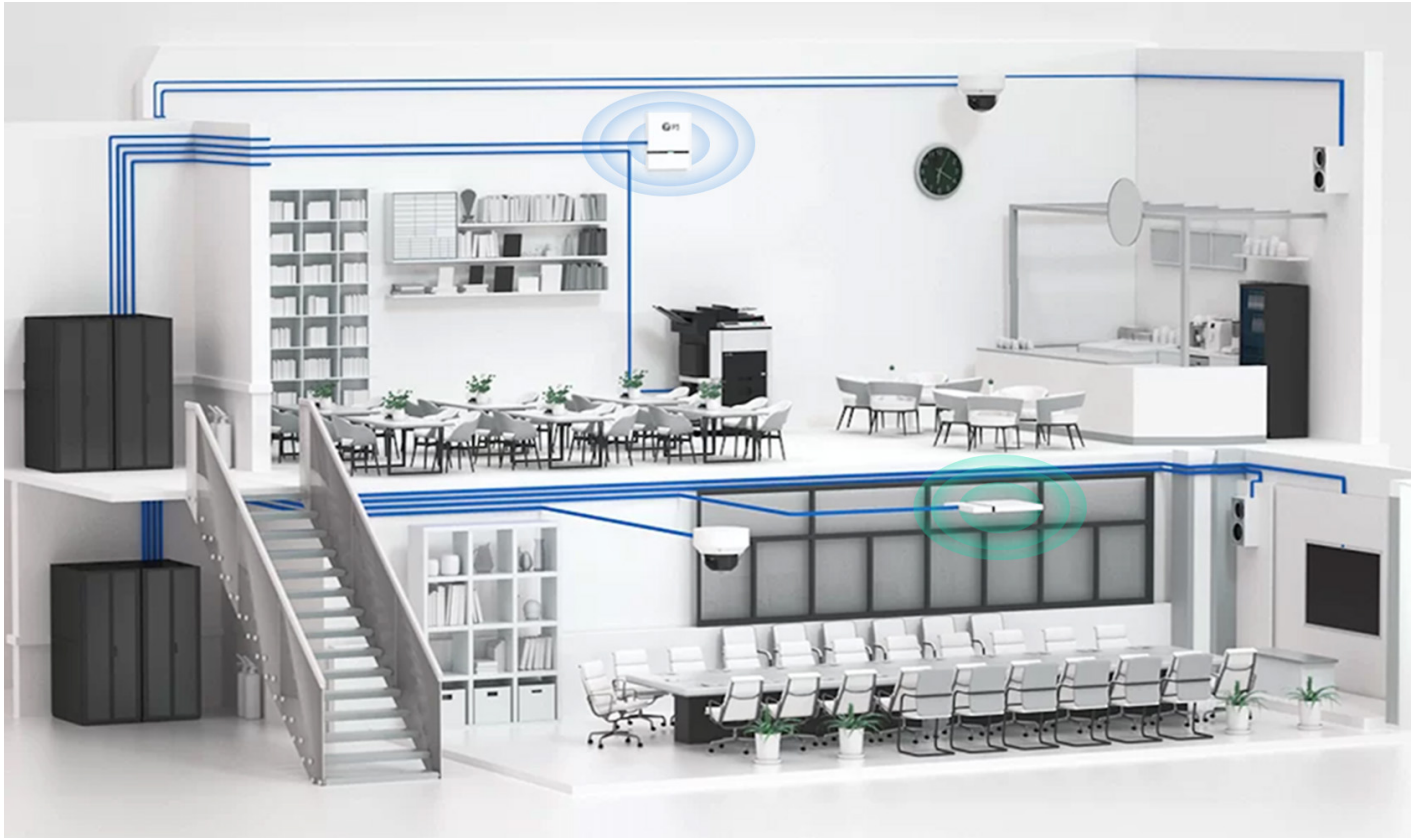
Given the client's internal information spans multiple levels, including R&D, design, and customer data, strict confidentiality is required. The client has high demands for network security, posing significant challenges to ensuring the safety of intranet data during the office network cabling configuration.

Solution

The solution utilizes two high-performance S5860-20SQ switches in a stack configuration as core switches to simplify management, enhance network performance, and expand network scalability. Office network cabling employs cost-effective Cat6 bulk cables and patch cords, supporting a maximum frequency of 550 MHz for 1G/10G-T Ethernet applications, ensuring a high-speed, stable network deployment.

For the backbone office network cabling, 305-meter Cat6 bulk cables are used, allowing the client to cut them according to actual cabling scenarios. When connecting space-constrained devices such as smart TVs/projectors, printers, and cameras in meeting rooms, Cat6 slim Ethernet cables are employed. These cables ensure faster speeds and more stable network connections for employees accessing large files or participating in video conferences. The 28AWG gauge takes up less space compared to standard cables, simplifying cable management.

To meet the internet needs of over 200 employees and cover all network devices in the office area, a combination of AP and AC is used. This allows seamless roaming for wireless users across different areas without altering any network architecture or

hardware, fully supporting Wi-Fi voice communication data exchange and smooth voice quality.

Network cable endpoints are paired with faceplates, surface mount boxes, and other accessories to enhance the aesthetics of the office network cabling setup and maintain an orderly layout. RJ45 dust caps, compatible with all RJ45 jack modules, protect any unused Ethernet ports from dust and debris, ensuring a neat and secure network environment for the client.

Additionally, firewalls and gateways are used at the network exit to ensure security. By providing L2-L7 network security protection through access control and intrusion prevention functions, the safety of internal network data is strictly safeguarded.

Results

The client successfully implements high-performance office network cabling, supporting a maximum frequency of 550MHz and 1G/10G-T Ethernet speeds. This upgrade not only increases the client's network bandwidth but also enhances employees' internet experience. It effectively addresses daily internet usage needs and resolves issues such as video conferencing lag and slow webpage loading, leading to increased work efficiency. Additionally, the configuration of various cable management categories significantly improves the aesthetic of the office network cabling setup, maintaining a neat and orderly network environment. This results in a tidy, organized, and secure networking atmosphere.

The professional solution team offers comprehensive services from project initiation to network deployment and remote testing. Timely issue resolution is provided via remote meetings to ensure all network equipment functions properly. With seven warehouses covering over 200 countries and regions, timely project delivery is guaranteed.

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