

Case Study

Enterprise Network Cabling

FS Builds 10G Redundant Cabling Solution for A Charitable Organization

FS employs 10G hardware topology and high-density FHD[®] wiring products to construct a mixed fiber and copper cabling solution for a health care charitable organization. This enables the client to establish a new 10G network and operate their data in a more streamlined and flexible cabling.



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Country

 Canada

Industry

 Healthcare

Network Type

 Small Campus Network

Solutions

 Enterprise Network Cabling

Highlights

- A 2G to 10G upgrade network solution via deploying 10G network switches, PoE switches, firewalls, etc., meeting expansion needs. This upgrade achieves unprecedented reliability and resiliency for network operation experience.
- 1U FHD® multimode fiber pre-connection wiring scheme (up to manage 144 LC fibers) helps customers build faster and more streamlined wiring environments, and enhances cable management capabilities.
- Pre-configuration and cabling of redundancy functions are conducted in advance, ensuring uninterrupted network transmission during the upgrade process.

Key Stats

- 1 stacking expansion connection scheme. Deploying 5 network switches for 10G upgrade, and stacking 2 fiber switches to provide redundancy and failover functionality for stable network connectivity.
- 3 FHD® cabinet interconnection wiring schemes, providing 10G fiber rate upgrades and supporting connection to existing 2G networks.
- The existing Cat6 and other terminal devices are connected to the new 10G network through six servers for better data transmission and storage.

Overview

The client is a charitable organization providing supportive services to those with long-term health care needs. They provide quality healthcare projects like caregiver programs, transitional care, etc. However, with the growth, the client requires a higher speed network for handling the larger volumes of data like patients and donor information. Also, they rely on collaborative care and consultations with professional hospitals, which also need high-speed networks for timely patient case and treatment plan discussion, ultimately improving patient care and outcomes.

Thus, the client plans to upgrade their 2G networks to 10G speed, in response to the rapidly increasing demand for data. They aim to relocate one of their office servers and require precise cabling for this task. Additionally, the client seeks a redundant connection to prevent unexpected shutdowns during the upgrade. They also hope to build a cost-effective cabling solution that is compatible with the older Cat6 devices and is easy to manage.

Challenges

The client seeks to implement fiber connections for the 10G upgrade, with a focus on ensuring the selected devices offer sufficient port density to meet current and future expansion needs. However, due to a lack of expertise, they are unable to determine the appropriate number of ports required. Additionally, they require a comprehensive network topology design for the new 10G infrastructure.

The upcoming 10G transmission will pass through three cabinets, and each needs to connect Cat6 devices, but the new infrastructure relies on fiber links. Thus, planning a cost-effective mixed fiber and copper cabling poses a challenge for them.

Solutions

After numerous technical deliberations and compatibility checks, the customer ultimately opts for the FS solution to execute the 10G upgrade. This upgrade package is customized to meet the specific requirements of the environment and business, encompassing a well-defined layout topology of 10G network switches, storage servers, and firewalls. The dependable hardware from FS establishes a sturdy groundwork from 2G to 10G rates transition, accommodating the existing Cat6 end-device connections while reserving multiple fiber ports for potential future business expansions.

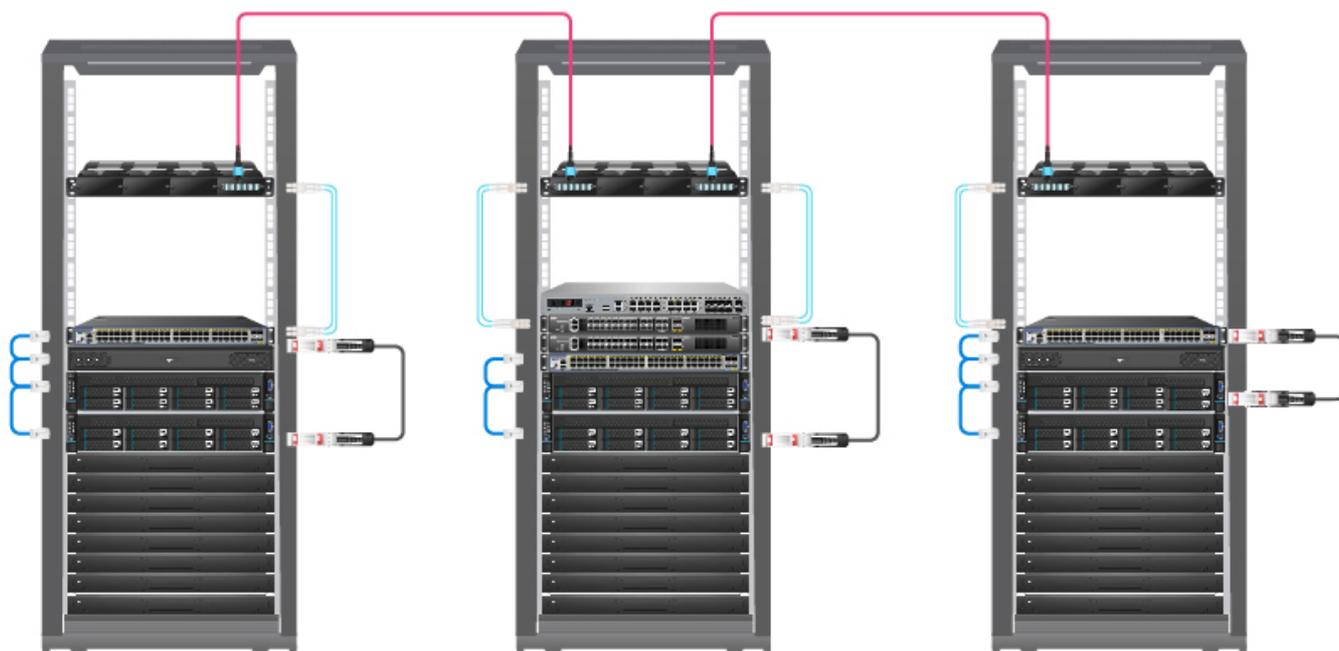
Subsequently, upon finalizing the precise cabinet layout and port allocation specifications for the project, the client uses FS FHD® MTP® fiber enclosure to create a hybrid cabling solution incorporating both fiber and copper. Three fiber enclosures are installed on the respective cabinets, allowing clients to freely integrate their copper and fiber connections within a single 1U rack when loading the FHD® multimedia copper/fiber panel. This satisfies the client's need to connect the existing Cat6 devices, and upgrade to 10G fiber links with great flexibility.

Results

The client adopts FS 10G topology solution, including S5860-20SQ switches, S3410-48TS-P PoE switches, RS5220 servers, NSG-5220 fiberwall, and NVR102-16C-16P PoE network video recorder. Those FS reliable hardware facilitate quicker 10G data transmission and perfectly provide link redundancy via port stacking, further enhancing network reliability and protecting business operations.

FHD® cabling solution appreciated by the client, comprised of 1U FHD® fiber enclosure, FHD® multimedia copper/fiber modular panel, MTP®-12 cassettes, MTP®-12 trunk A cables, and LC OM3 fibers, builds a dense and versatile cabling in cabinets. This multi-cabinet data center wiring solution integrates copper and fiber links, offering a cohesive connectivity solution for existing Cat6 devices and new 10G fibers. It also provides standardized and scalable wiring connections and somewhat reduces the client's budget.

The client's business would benefit from the FS solutions: the capacity to transfer 10G links and sustain current and future expansion via a reliable physical layer fiber infrastructure. And the flexible and easy-managed FHD® cabling demonstrated a robust budget, particularly regarding rack density, install efficiency, flexibility, and readiness for future speed upgrades.





United States

Address: 380 Centerpoint Blvd, New Castle, DE 19720, United States

Tel: +1 (888) 468 9910

Email: US@fs.com

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