Case Study

DCI Solution

High-Security 100G DWDM Solutions for Centralized Data Center Networks

FS 100G DWDM solution assists an aerospace company in establishing a high-speed, secure, and reliable 100G centralized data center network, ensuring efficient and robust data transmission essential for their operations.

High-Security 100G DWDM Solutions for Centralized Data Center Networks

Country

United States

Industry

Aerospace

Network Type

Data Center Interconnect

Solutions

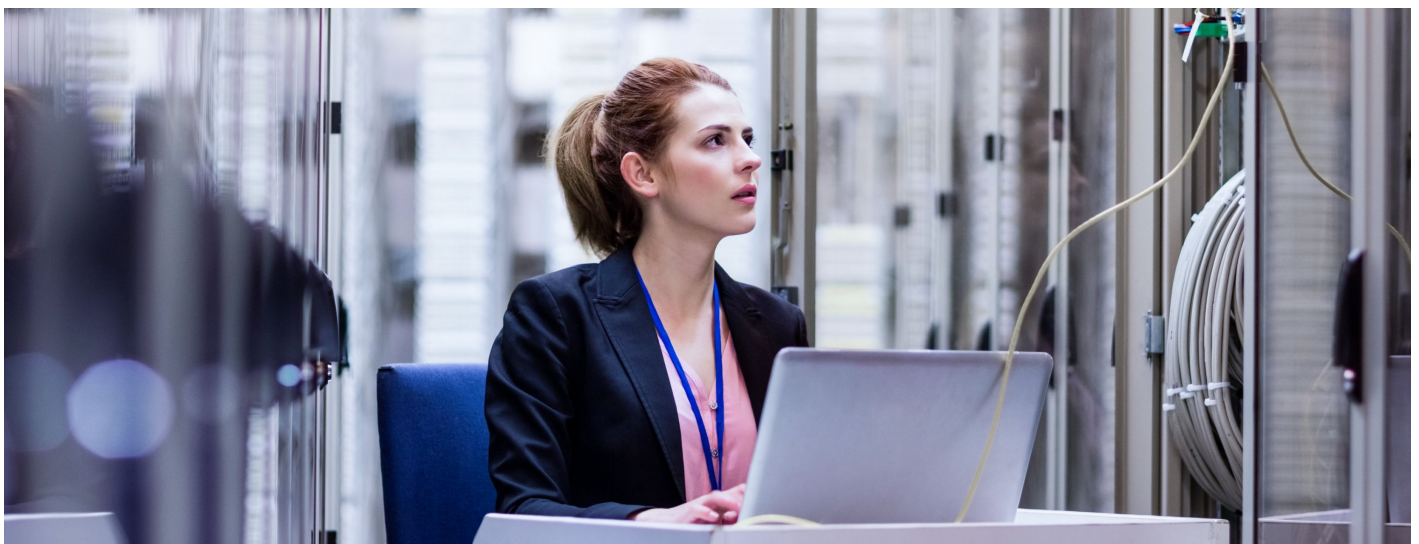Optical Networking

Highlights

- The product realizes 10CH 10G independent link transmission and can be expanded up to 48CH 400G.

- This point-to-point solution provides device + link redundancy protection and link redundancy protection options, which are customized according to the customer's actual network requirements to ensure security.

- Products with low power consumption and high energy efficiency for effective environmental protection.

- The solution completes testing before delivery and provides installation assistance afterward to ensure top-notch quality.

Key Stats

- The device supports 400G per wavelength, with a total capacity of 6.4T, which can effectively support the demand for high-capacity transmission.

- The solution supports LLDP, TACACS, RADIUS, and AES-256 to ensure network security.

- Highly integrated chassis equipment with power consumption as low as 53.23W.

Overview

The customer, the USA aerospace industry, has large volumes of data to store, process, and analyze. Customers require efficient data transmission, fast processing, and storage capabilities to ensure data security, quick response, and effective decision-making.

As the company experiences exponential growth in data operations and storage requirements, it requires solutions capable of transmitting 100G business capacity over point-to-point links exceeding 40 kilometers and seamlessly upgrading networks to larger system capacities. FS offers the NX N40 DWDM solution, leveraging products such as the 48-channel dual-fiber DWDM Mux/Demux, to achieve equipment redundancy and efficient data transmission.

Challenges

The customer's data center requires high-performance, scalable equipment to efficiently manage large volumes of data and requests. Due to the unique nature of their industry, ensuring information security is paramount. They need secure, interference-free 10G single-fiber links to over 10 endpoints, guaranteeing that each transmission is independent and safe. At the same time, redundancy was required to ensure continuous operation even in module failure.

Given the significant energy consumption of the data center, the solution must also optimize power efficiency and comply with environmental standards. This approach reflects the customer's commitment to sustainability and reducing their environmental footprint.

Solutions

To meet the customer's demand for 10CH 10G link capacity free of interference and future-proof expansion, FS offers the NX N40 series solution. This series currently supports 10G rates and can upgrade to 400G with the MXP400G board, expanding the system to 48CH 400G. The NX40 chassis also features high integration and low power consumption (53.23W), reducing data center energy costs.

The NX N40 solution addresses the customer's need for data confidentiality and redundancy. It includes AES-256 encryption for data security and an OPB-I 1+1 optical protection switch that automatically switches to a backup line in case of failure, ensuring data integrity and system continuity. FS also provides comprehensive support for NX N40 system testing, delivery, and installation. Before delivery, our engineers simulate the customer's environment for remote testing. FS assists with installation and debugging upon delivery to ensure a stable and reliable network operation.
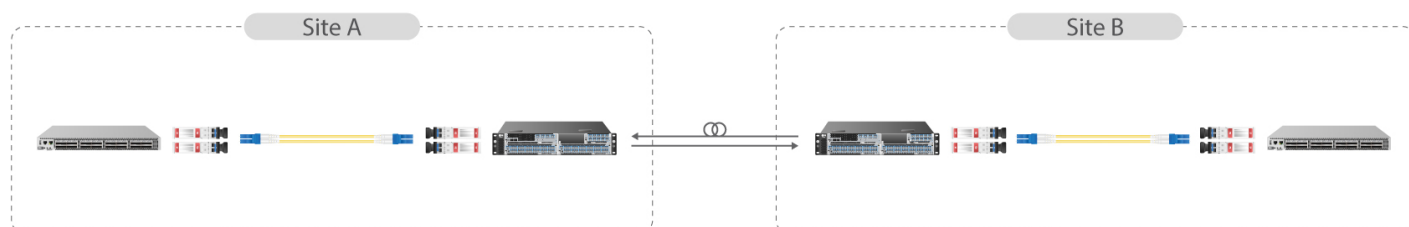
Results

Using the NX40 series products, the customer successfully built a high-speed, secure, and reliable 100G centralized data center network transmission system. This successful cooperation has left a good impression on them regarding FS professional solutions and services. Our tech team is highly responsive to their specific needs and is committed to delivering satisfactory solutions. The NX N40 solution offers this customer high density, large capacity, data security and perfectly meets their requirements. It's helpful to increase their confidence in the security of their data center networks.

Product List

Product	ID	FS P/N	Description
Data Center Interconnect	148739	NX N40	NX N40, 8 Slots, 2U Chassis, 6.4Tbps, Front to Back Airflow
Data Center Interconnect	153139	VMU48EC	Active 48CH DWDM Dual-fiber Mux, 1529.55-1567.13nm Wavelength
Data Center Interconnect	153140	ODU48EC	Active 48CH DWDM Dual-fiber Demux, 1529.55-1567.13nm Wavelength
1G CWDM/DWDM SFP	31281	DWDM-SFP1G-ZX	DWDM-SFP-3112-80 Compatible 1000BASE-DWDM SFP Transceiver Module

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