Case Study

Data Center Interconnect

FS D7000 Series Built Efficient Mixed-Rate Data Center Solution

FS D7000 series enables 10G-400G mixed transmission, combined with AmpCon™-T for centralized management and visualization, building highly available networks.

Case Study

Optical Networking

FS D7000 Series Built Efficient Mixed-Rate Data Center Solution

Country

Australia

Industry

Technology

Network Type

Data Center Interconnect

Solutions

Optical Networking

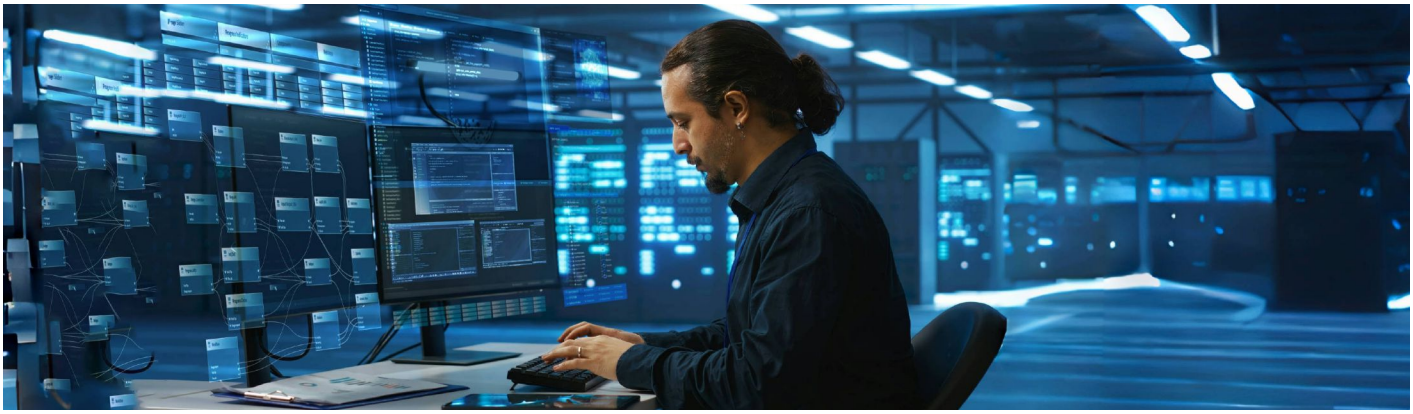
Key Stats

- Stable 1G/10G/100G mixed transmission, fully compatible with Cisco devices.
- Using 100G DAC cables with existing MUX DEMUX equipment saved 20% of the budget.
- Achieving zero-touch configuration and 24/7 real-time monitoring with AmpCon™-T.
- Large Australian warehouse stock ensures 100% on-time delivery and deployment.
- 24/5 technical support & maintenance services cut client workload by 70%.

Highlights

- Flexible automatic optical power adjustment achieved efficient power management and enhanced signal transmission reliability.
- The integrated platform incorporates 200/400G Muxponder, EDFA, TFF, OPB, ROADM, OTDR, and OCM to flexibly meet customer needs.
- The D7000 series offers extensive management capabilities through AmpCon™-T, enhancing data security and operational efficiency.
- The customer experienced product testing and scenario testing and received remote explanations on the D7000 series configuration and usage.
- The Melbourne warehouse offers local storage for customers that streamlines the transportation process and ensures timely delivery of project equipment.

> *Thank you and the team for the solutions for Sydney and Melbourne. I think it went pretty well.*



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Overview

The client is the largest local technology company in Australia, specializing in the design and operation of IT systems in areas such as cloud computing, cybersecurity, and digital platforms. They have maintained a long-term partnership with us in both New Zealand and Australia, frequently adopting our OTN solutions.

Recently, they launched a new network project, but the solution design faces significant challenges. They have chosen to collaborate with us again to ensure the smooth implementation of the project, aiming to optimize the network architecture and achieve business objectives.

Challenges

The customer faced several challenges and urgently required an optimized network architecture to accommodate the growing demands of their business. The lack of complete fiber and equipment information added complexity to capacity planning and signal management. They approached FS to design an OTN solution that supports 1G, 10G, and 100G multi-rate mixed transmission. The solution also addressed signal isolation and stability challenges caused by the 43-48 km fiber link distance.

In addition, the customer intended to install the 100G PAM4 module into the Cisco NCS N540-ACC-SYS device. The solution had to be fully compatible with the existing 40-channel DWDM MUX device to meet the growing 100GbE demand. Lastly, the absence of a centralized management platform resulted in low network management efficiency, which required immediate attention and improvement.

Solutions

The customer had data centers to be deployed in Sydney and Melbourne. To support them, the D7000 series products were implemented, leveraging DWDM dual-fiber bidirectional coherent transmission technology to enable point-to-point (PTP) transmission of multi-channel services between Site A and Site B.

The customer deployed 100G AOC cables to connect switches on both sides to the D7000 Muxponder. Using advanced multiplexing technology, the D7000 muxponder efficiently converted 4x100G data streams into a single 400G coherent stream, optimizing bandwidth utilization and transmission efficiency.

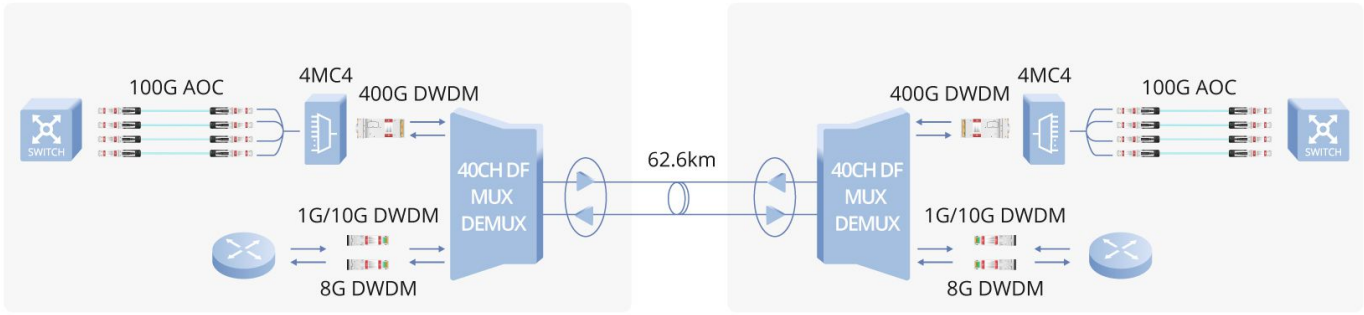
The solution further established high-bandwidth inter-data center links (4x100G) over two dark fibers, ensuring seamless support for high-volume data transfer between the data centers.
Overall, this solution ensured seamless connectivity between the Sydney and Melbourne data centers, meeting the transmission needs of different speed data streams with flexible configuration and efficient bandwidth utilization.

Case Study

HPC Networking

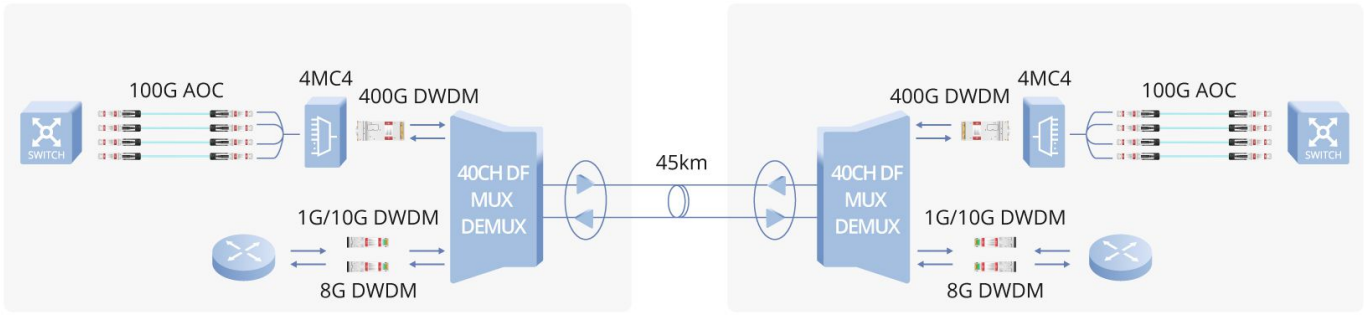
Sydney

Line 1



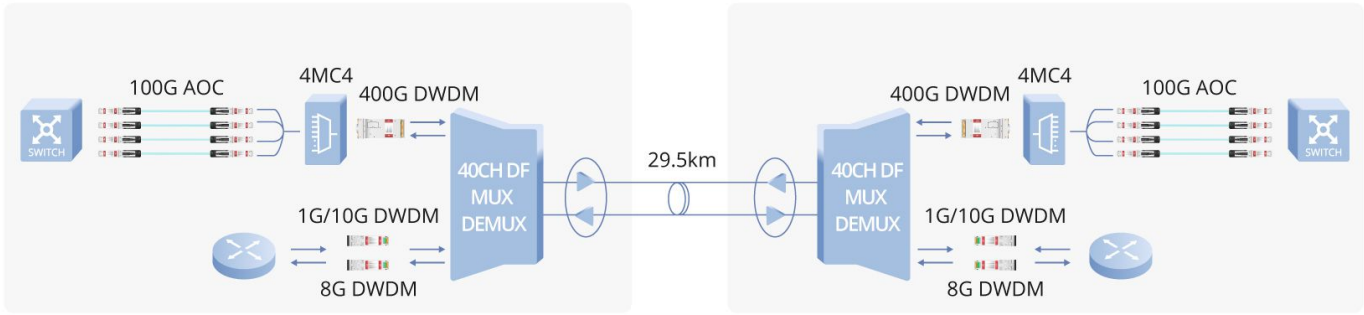
AMPCON-T

Line 2



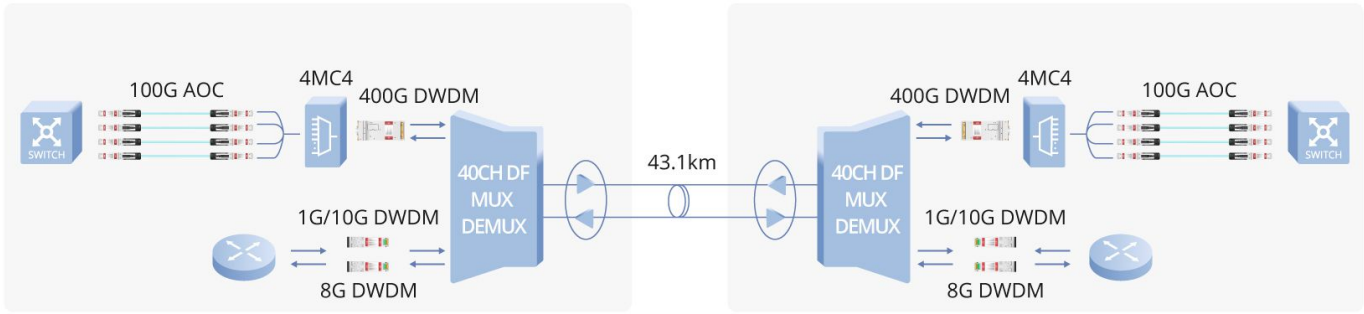
Melbourne

Line 1



AMPCON-T

Line 2



Case Study

Optical Networking

Product List

Solution	ID	FS P/N	Description	Quantity (pcs)
Sydney	216453	D7000-CH2U	D7000-CH2U, 8 Slots 2U Stackable Unloaded Chassis, Support Single-wavelength 200G/400G, Up to 3.2Tbps Capacity, Redundant AC PSUs, Support AmpCon™-T/WebGUI Network Management	4
	216505	OA1825	D7000 OA1825, DWDM EDFA Bidirectional Amplifier with PA 15-25dB and BA 8-18dB Gain, 21.5dBm Output for D7000 Series Managed Chassis, with Built in OSC, VOA	4
	216457	4MC4	D7000 4MC4, 1 x 400G QSFP-DD or 4 x 100G QSFP28 to 1 x 400G CFP2 Muxponder for D7000 Managed Chassis	8
	216689	CFP2-DCO-400G-D	400G DWDM Tunable Coherent CFP2 DCO 80km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission, Used with D7000 Series	8
Melbourne	216453	D7000-CH2U	D7000-CH2U, 8 Slots 2U Stackable Unloaded Chassis, Support Single-wavelength 200G/400G, Up to 3.2Tbps Capacity, Redundant AC PSUs, Support AmpCon™-T/WebGUI Network Management	4
	216505	OA1825	D7000 OA1825, DWDM EDFA Bidirectional Amplifier with PA 15-25dB and BA 8-18dB Gain, 21.5dBm Output for D7000 Series Managed Chassis, with Built in OSC, VOA	4
	216457	4MC4	D7000 4MC4, 1 x 400G QSFP-DD or 4 x 100G QSFP28 to 1 x 400G CFP2 Muxponder for D7000 Managed Chassis	4
	216689	CFP2-DCO-400G-D	400G DWDM Tunable Coherent CFP2 DCO 80km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission, Used with D7000 Series	4

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Results

This solution met the customer's requirements for multi-rate mixed transmission and high-performance network applications. The customer built a highly redundant and highly available network architecture using the D7000 series, ensuring stable business operation and reliable data center services. By integrating the AmpCon™-T platform, they achieved centralized management, visual monitoring, and flexible service configuration, significantly improving operational efficiency and reducing costs.

Moreover, they received efficient troubleshooting services from our local technicians within 12 hours, which improved the efficiency of network deployment and reduced the impact of equipment downtime on business.

FS provides one-stop global supply chain services with abundant local Australian inventory. All products can be shipped on the same day, which helps customers complete network deployment within the project cycle.

Australia

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For more information, welcome to visit www.fs.com

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