

Case Study

# Data Center Interconnect

## FS 15KM 100G DWDM Solution for Stable Government Data Centers


FS employed DCP920 series open line system, 100G SR4 optical modules for cost-effective 100G DWDM data center networks, achieving stable transmission over 15km.

## FS 15KM 100G DWDM Solution for Stable Government Data Centers

### Country

 Australia

### Industry

 Government

### Network Type

 Data Center Interconnect

### Solutions

 Optical Networking

- The open DWDM platform came with key components that simplified installation and deployment while shortening project cycles.
- Automatic optical power adjustment achieved efficient power management and enhanced signal transmission reliability.
- The client could manage remotely via the web interface and monitor network status in real time with the OSC function.

## Key Stats

- DCP920 series embedded 4x PAM4 QSFP28 modules for 100G long-distance transmission.
- Maximized fiber use with single-fiber bidirectional transmission, saving 30-40% of costs.
- Integrated single-fiber solution offers zero-touch setup and 24/7 real-time monitoring.
- Large Australian warehouse stock ensures 100% on-time delivery and deployment.
- 24/5 technical support & maintenance services cut client workload by 70%.

## Highlights

- DCP920 series provided 4x channels of 100G services for 15km point-to-point transmission over a single fiber.
- Flexible 2x100G and 4x100G transmission options met the needs of rack space saving and high-capacity applications.

## Overview

A government agency in Australia encountered several issues while building a point-to-point transmission network between two data centers. Leveraging FS's industry experience and local knowledge, we successfully provided a 100G DWDM interconnect solution with a transmission distance of up to 15 kilometers.

To ensure stable connectivity and future scalability, the client selected high-quality FS DCP9200 series platforms, 100G SR4 modules, OM4 fiber patch cables, etc. They also adopted a comprehensive solution that included network planning, design, deployment, and ongoing optimization.

## Challenges

To relocate the government building, the client needed to deploy an interconnected network between two data centers located 15km apart. However, with the limited ports on their existing Cisco Nexus 9300 & 9500 series switches, using branch cables would result in signal attenuation and reduced performance. Additionally, the high cost of dark fiber provided by Australian carriers increased budget pressure.

As a result, the client was looking for a cost-effective single-fiber solution to ensure stable network transmission. They also needed a flexible network architecture that could switch between 2x100G and 4x100G modes. It supported VxRail deployment across the data centers and provided 100Gbit bandwidth for storage components. Furthermore, they expected to implement a real-time monitoring system to quickly detect and resolve issues.

### Solutions

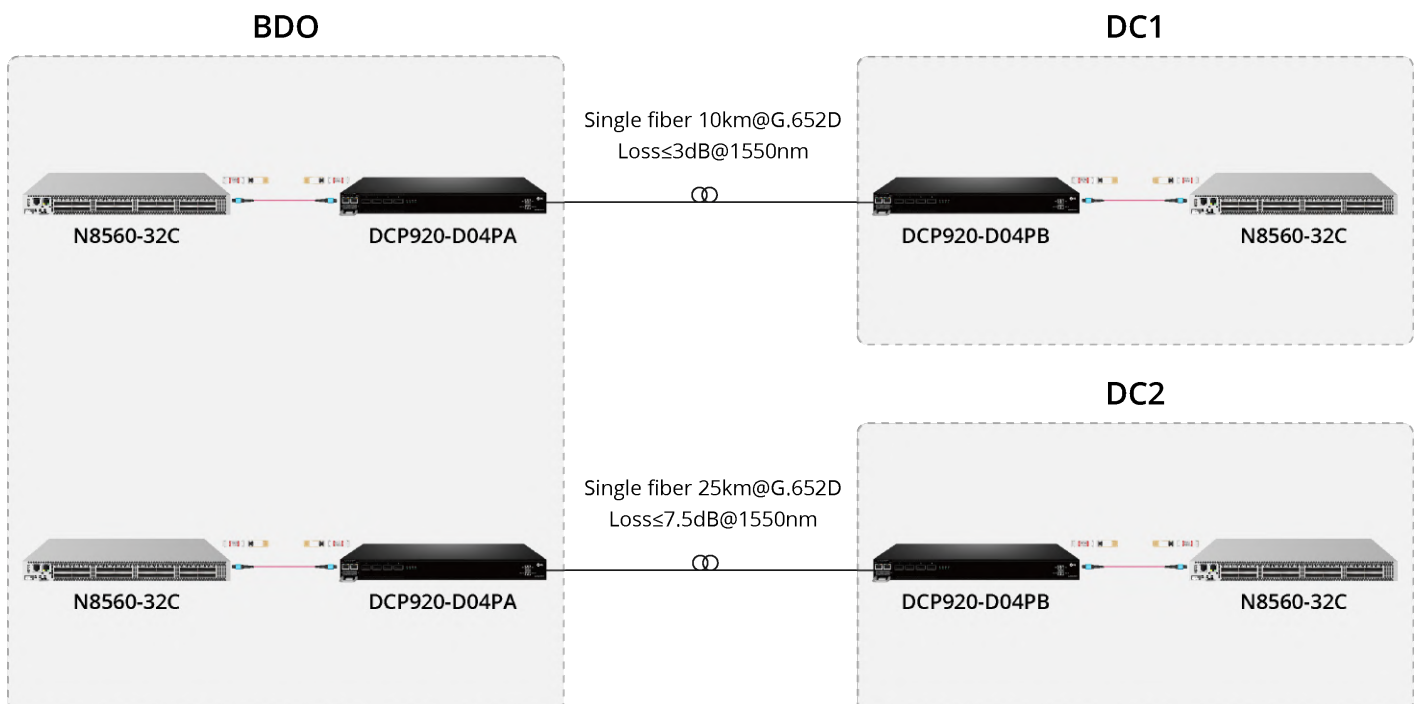
By using the FS DCP920 series, 100G SR4 optical modules and OM4 fiber jumpers, the customer created a cost-effective data center network architecture for the government buildings.

As a truly open DWDM platform, the DCP920 series embedded 4x100G PAM4 modules that seamlessly integrated with various 100GBase-SR4/LR4/IR4 modules. It enables point-to-point transmission over a single fiber for distances of up to 15km, without manual configuration or relay stations.

The platform combined key components such as multiplexers, tunable dispersion compensation modules, and optical amplifiers. It significantly reduced project costs by eliminating the need to purchase multiple components and additional fibers.

The customer could also manage the system remotely through a web interface. They monitored the network status in real time through the OSC function, simplifying installation, configuration, and troubleshooting.

Additionally, the system was equipped with automatic optical power adjustment and dispersion compensation settings. As a result, even non-technical personnel could easily install and establish connections within just a few minutes.



### Results

This solution met customers' needs for budget control and high-performance network applications. The DCP920 series supports flexible 2x100G and 4x100G transmission in a 1U chassis and is perfectly compatible with existing VxRail systems.

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.



## **United States**

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

Tel: +1(888)468-9910

Email: [US@fs.com](mailto:US@fs.com)

**For more information, welcome to visit [www.fs.com](http://www.fs.com)**

Copyright 2009-2024 FS.COM PTY LTD All Rights Reserved.