

FSP 3000 OpenFabric™ Series

Innovative switchponders for efficient OTN aggregation in metro networks

Benefits

- **Efficient OTN grooming for metro networks**
Ease of use and scalability with no wasted capacity or unnecessary costs
- **Open and disaggregated design**
Flexible, standardized open front plane without proprietary adapters or fixed slot capacity assignments
- **Flexible mix of services up to 400Gbit/s**
Including OTN, Ethernet, SDH/SONET and Fibre Channel from 8Gbit/s to 400Gbit/s
- **Multi-functional cards**
Configurable to operate as multiplexer, add/drop multiplexer (ADM) or ODU switch
- **Leverage coherent pluggable innovation**
High-speed DWDM coherent pluggable technology, including 100ZR+ QSFP28
- **Compact and cost-efficient design**
400Gbit/s or 1.2Tbit/s interface capacity per card with multi-functional cages that support different pluggable types
- **Built-in Layer1 encryption**
Optional quantum-safe encryption for secure data in motion

Overview

Multi-service ODU grooming is essential to leverage the power of coherent technology and lower cost per Gbit/s. However, traditional OTN switches with closed architectures and fixed slot capacity assignments are not well suited for open and flexible metro and edge aggregation networks.

Our FSP 3000 OpenFabric™ Series is a family of switchponders that integrate OTN switching with DWDM technology and are designed to meet the stringent demands of metro and edge aggregation networks. It provides an open, flexible and compact OTN grooming layer for the efficient transport of low-speed services in coherent-only networks, helping operators maximize the return on their network infrastructure.

The OpenFabric™ Series integrates into any DWDM network and supports multiple operating modes. With card variants that include Layer 1 encryption technology, it also ensures highly secure data transport.

The OpenFabric™ Series includes several card variants to efficiently address a wide range of application requirements. The OpenFabric™ and OpenFabric+™ offer 400Gbit/s switching capacity and support a flexible mix of Ethernet, Fibre Channel, SDH/SONET and OTN services up to 100Gbit/s within a one-slot module. OpenFabric™ provides two 100Gbit/s network ports that support QSFP28 grey and DWDM coherent pluggable transceivers. OpenFabric+™ offers service aggregation into a 200Gbit/s coherent DWDM line interface that supports DWDM coherent CFP2 pluggable transceivers. In addition, the CryptoMux™ and CryptoMux+™ variants add Adva Network Security's ConnectGuard™ Layer 1 quantum-safe encryption technology for secure OTN payload transport.

For 400Gbit/s optical layers, OpenFabric1200™ offers Terabit interface capacity and the latest 400Gbit/s pluggable coherent technology. It supports OTN and Ethernet services from 10Gbit/s up to 400Gbit/s with a wide range of pluggable types and switching options from ODU0 to ODU4. It can operate in both single and dual-module configurations. In dual-module configuration, it offers 1Tbit/s non-blocking cross-connect capacity between any ports. Besides OTN cross-connect, OpenFabric1200™ can function as a DWDM multiplexer and add/drop multiplexer (ADM). The OpenFabric1200-SP™ card variant also adds active timing support of PTP and SyncE.



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High-level technical specifications

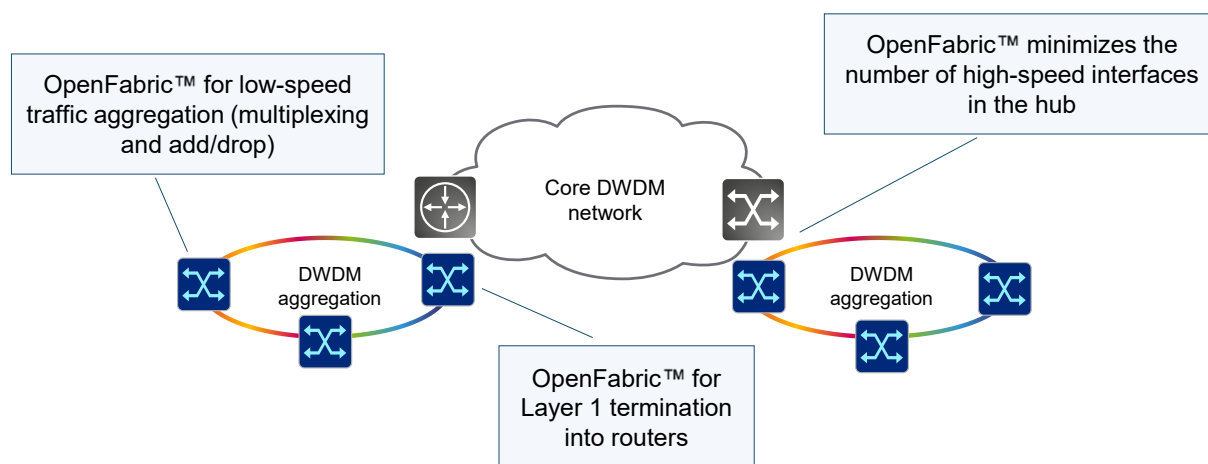
	OpenFabric	CryptoMux	OpenFabric+	CryptoMux+	OpenFabric1200	OpenFabric1200-SP
Interface capacity per card	400Gbit/s				1200Gbit/s	
Supported client services	10/25/40/100Gbit/s Ethernet OTU2/2e, OTU4 8/16/32Gbit/s Fibre Channel STM64/OC192 SDH/SONET				10/25/100/400Gbit/s Ethernet OTU2/2e, OTU4	
Network ports	2x grey or DWDM coherent 100G (QSFP28), including Adtran coherent 100ZR+ QSFP28 pluggable transceiver		1x200G coherent DWDM CFP2 Multiple 100G to 200G modulation formats		2x 400G DWDM coherent CFP2 ports Multiple 100G to 400G modulation formats	
Operating modes	• Add-drop multiplexer with a maximum of 200G client services into two OTU4 network ports • Muxponder with a maximum of 200G client services into two OTU4 network ports. • Cross-connect with a maximum of 400G services between any ports		• Muxponder with a maximum of 200G client services into one 100G/200G coherent network port. • Cross-connect with a maximum of 400G services between any ports.		Single-module configuration: • Muxponder with a maximum of 600G using 1 or 2 CFP2 network ports, supporting up to 36 optical client signals • Add-drop multiplexer with a maximum of 300G using 2 CFP2 network ports, supporting up to 36 optical client signals • Cross-connect with a maximum of 600G services between any ports Dual-module configuration: • Muxponder with a maximum of 600G using 1 or 2 CFP2 network ports, supporting up to 60 optical client signals • Add-drop multiplexer with a maximum of 600G using 2 or 4 CFP2 network ports, supporting up to 64 optical client signals • Cross-connect with a maximum of 1 Terabit services between any ports	
OTN switching	ODU0, ODU1, ODU2, ODU3, ODU4, ODUflex layer; Non-blocking					
Traffic protection	Yes					
Layer 1 encryption (PQC)	No	Yes	No	Yes	No	No
Active timing support of PTP and SyncE	No	No	No	No	No	No
Chassis options	Fits in multiple FSP 3000 chassis sizes (1RU to 12RU; 300mm and 600mm depth options); flexible slot assignment					

FSP 3000 OpenFabric™ Series

Applications in your network

Secure, open and flexible OTN grooming, maximizing efficiency across metro transport networks

- Smooth upgrade of existing network infrastructure to coherent technology
- High-capacity, open and disaggregated optical network infrastructure
- Efficient use of fiber capacity via multi-service aggregation, add/drop multiplexing and OTN switching of client services into 100Gbit/s to 400Gbit/s coherent wavelengths
- Robust protection of sensitive data in motion for mission-critical applications



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