FSP 3000

Scalable Optical Transport

Product Overview

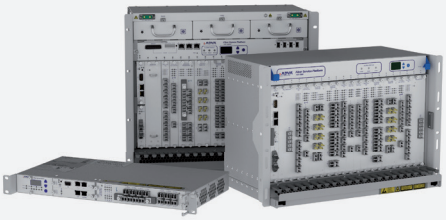
The FSP 3000 is a scalable WDM transport solution specifically designed for service providers and large enterprises looking for flexibility and cost-efficiency in transporting, multiplexing, switching and protecting high-speed data, storage and video applications. The FSP 3000 facilitates bandwidth scale and service flexibility in access, backhaul, metro and long-haul networks, while supporting the creation of new revenue opportunities for high-speed OTN, Ethernet, storage and managed wavelength services.

Efficient Transport

To minimize transport cost and optimize efficiency in all network areas, the modular architecture of the FSP 3000 comprises a family of hot-swappable modules to meet network application requirements and make convergence practical. In addition to its unique optical layer design supporting CWDM and DWDM, it offers our CoherentExpress technology optimized for 100G+ agile optical core networking. Up to 96 wavelengths per fiber pair and a wide range of high-density transponder options optimize the spectral efficiency in the transmission fiber, eliminate fiber exhaust and reduce power and space consumption.

Superior Network Flexibility

The FSP 3000 supports static and configurable photonic components, including tunable lasers and multi-degree ROADM technology for colorless, and directionless wavelength routing. To achieve superior flexibility, service multiplexing options include innovative OTN with add/drop and switching capability, Ethernet and SONET/SDH technology. Along with ADVA ConnectGuard™ optical network encryption and ultra-low latency modules optimized for enterprise applications, the FSP 3000 provides the most cost-effective optical transport solution.



Network Automation

In combination with the FSP Network Manager and FSP Service Manager, the FSP 3000 greatly reduces operational costs through service-centric provisioning. The embedded RAYcontrol™ GMPLS control plane enables automated on-demand delivery and management of any mix of services, therefore simplifying network operations and improving network resiliency. It enables service providers and enterprises to introduce new levels of efficiency in the operation of optical transport networks and to substantially increase customer satisfaction.

Features & Benefits

- Fixed or reconfigurable optical layer for long-haul, metro and access applications supporting DWDM and CWDM
- Colorless and directionless multi-degree ROADM functionality with GMPLS-based control plane for real-time provisioning and service restoration
- Multi-service, sub-wavelength aggregation and switching supporting Ethernet, OTN, SONET/SDH, storage and video services up to 100Gbit/s
- Erbium and Raman amplification option for non-regenerated transmission over distances exceeding 2,000km and up to 50dB single-span loss
- High-density design for smallest footprint and lowest power consumption, resulting in operational cost savings

Technical Information

Wavelengths per Fiber Pair
- Up to 96 wavelengths for dynamic, meshed topologies

Topology
- Point-to-point, point-to-multipoint, add/drop, ring and mesh

Optical Protection
- Several levels of line and path protection, Fast Wavelength Restoration (FWR)

Link Reach
- Non-regenerated distances exceeding 2,000km

Services
- Ethernet 100Mbit/s, 1, 10, 40 and 100Gbit/s (LAN and WAN)
- Fibre Channel/FICON 1, 2, 4, 8, 10 and 16Gbit/s
- InfiniBand HP NonStop™ ServerNet Cluster
- OC-3, -12, -48, -192 and -768
- STM-1, -4, -16, -64 and -256
- OTU-1, -2, -3 and -4
- Uncompressed video
- CPRI up to 10G
- Any rate interface ranging from 125Mbit/s to 2.7Gbit/s

Optics
- CWDM according to ITU-T G.694.2
- DWDM channel spacing 50/100GHz according to ITU-T G.694.1
- Extensive support for pluggable SFP/SFP+/XFP/CFP interfaces on both client and network ports
- Tunable interfaces on network ports
- Support for all types of client interface optics

Modules
- Core transponders (WCC)
- Access transponders (WCA)
- Enterprise transponders (WCE)
- Packet transport 1HU subshelf (SH1PCS)
- Core muxponders (xTCC)
- Access muxponders (xTCA)
- Enterprise muxponders (xTCE)
- ODU cross-connect (xWXC)
- Optical amplifier modules (EDFA, Raman)
- Dispersion compensation modules (DCM)
- Protection modules (PM)
- Filter modules (CLSM, xGSM, xCSM+/-)
- Optical supervisory channel modules (OSCM, OSFM)
- Reconfigurable Optical Add Drop Multiplexers (ROADM) with dynamic channel equalization
- Splitter modules (SM)
- Controller modules (NCU, SCU)
- Versatile switch and optical line monitoring modules (OPPM)
- Optical time domain reflectometry module (OTDR)
- ADVA ConnectGuard™ encryption module for data and storage services (AES)

Management & Control Plane
- RAYcontrol™ GMPLS-based control plane for real-time optical channel provisioning, dynamic recovery and resource discovery
- OSPF-based DCN routing and constraint-based traffic routing
- SNMP and TL1 management protocol
- FSP Network Manager and FSP Service Manager
- Integration into OEM partner network management systems

Environmental
- Standard temperature (operating): +5°C to +40°C
- Extended temperature (operating): -33°C to +55°C
- Relative humidity (operating): 5% to 85% (non-condensing)
- Relative humidity (short-term): 5% to 90% (non-condensing)
- Outdoor enclosures for passive components

Regulatory
- NEBS Level 3, ETSI and VCCI
- CE, FCC, UL and cUL

Laser Safety Classification
- Hazard Level 1M Product: IEC 60825-1 and 60825-2
- Class 1 Laser Product: 21 CFR 1040.10 and 1040.11

Power
- Voltage: -36VDC to -72VDC or 120/230VAC
- Typical power consumption: 200W per shelf

Physical
- Mounting brackets for 19”, ETSI and 23” ANSI/NEBS racks
- Back-to-back ETSI compliant

Shelf Options
- 1U (active and passive), 7U and 9U

Optical Connect Guard™

For more information please contact an ADVA Optical Networking consultant or visit us at www.advaoptical.com

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ADVA™ Optical Networking