FSP 3000

THE SCALABLE OPTICAL TRANSPORT SOLUTION

The FSP product family provides comprehensive Optical+Ethernet networking solutions for access, metro core and regional networks. ADVA Optical Networking is focused on the needs of enterprise and service provider customers deploying data, storage, voice and video applications.

The ADVA Optical Networking FSP 3000 is a scalable Wavelength Division Multiplexing (WDM) system specifically designed for service providers and large enterprises that require a flexible, cost-effective system that will multiplex, transport and protect high-speed data, storage, voice and video applications. Service providers deploy the FSP 3000 to maximize the bandwidth and service flexibility of their access, metro core and regional networks, while supporting new revenue opportunities for high-speed Ethernet and SAN services.

The system's modular architecture comprises a family of rack-mountable shelves and hot-swappable modules that can be selected to meet the network and application requirements. The FSP 3000 transparent fiber-in fiber-out interfaces support all protocols between the range of 8Mbit/s and 40Gbit/s, including Ethernet, SONET/SDH, G.709 OTH, ATM, video and all SAN protocols.

The unique optical layer design of the FSP 3000 supports in-service CWDM to DWDM migration as well as the hybrid implementation of static and dynamic photonic components including fixed and tunable dispersion compensation, tunable lasers and Reconfigurable Optical Add Drop Multiplexers (ROADM). Integrated Ethernet multiplexing and aggregation functionality provides the most cost-effective solution for packet optical transport. Universal channel cards are designed with pluggable (SFP/XFP) interfaces on all active ports for low spares inventory and maximum end user flexibility.

The FSP Management Suite allows remote system operation and service provisioning from any node on the network. The embedded RAYcontrol® GMPLS based control plane simplifies Operation, Administration and Maintenance (OAM) and improves network resiliency. The FSP Network Planner guarantees efficient design and planning.

Cost-effective optical networking
ADVA Optical Networking designs and delivers all products with a commitment to optimize the total cost of ownership and return on investment:

- Planning and engineering
- Price
- Installation
- Operation & Maintenance
- Provisioning
- Scalability

FEATURES + BENEFITS

- Modular optical layer design supporting CWDM, DWDM, ROADM and hybrid configurations
- Up to 80 wavelengths per fiber pair with up to 40Gbit/s each supporting Ethernet, SONET/SDH, G.709 OTH, video and storage services
- Erbium and hybrid Erbium/Raman amplification allows for more than 2000km regenerator free transmission and up to 50dB single span loss
- Packet optical transport with integrated Ethernet ADM, Layer 2 switching and aggregation functionality
- High density core shelf and fully integrated slimline shelf for access applications with identical plug-ins
- Wide range of muxponder options for cost-optimized transport of multiple services on a single wavelength at 2.5, 4, 10 and 40Gbit/s line rates with GFP mapping and G.709 OTH compliant multiplexing

ADVA™ Optical Networking

SPECIFICATIONS

TRANSPORT TECHNOLOGY
- TDM, CWDM, DWDM, 2-Degree-ROADM, MD-ROADM hybrid photonic layer

WAVELENGTHS PER FIBER PAIR
- 1-80

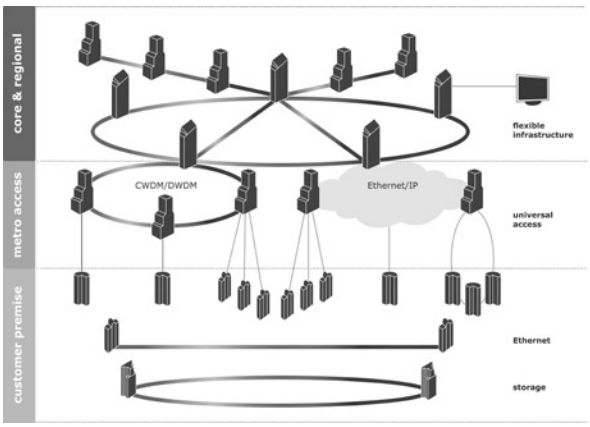
TOPOLOGY
- Point-to-point, add/drop, ring, mesh and star

OPTICAL PROTECTION
- Several levels of line and path protection

LINK DISTANCE
- ›2000km/1250miles unregenerated

APPLICATIONS
- Ethernet 10/100/1000/10000Mbit/s (LAN and WAN)
- ESCON
- Fibre Channel 1/2/4/8/10Gbit/s
- FICON 1/2/4Gbit/s
- Coupling Link 1Gbit/s, 2Gbit/s
- ETR/CLO and STP
- OC-3/12/48/192/768
- STM-1/4/16/64/256
- OTU-1/2/3
- ATM 155/622/2488
- Video
- Any rate interface 8Mbit/s to 2.7Gbit/s

OPTICS
- CWDM acc. G.694.2
- DWDM channel spacing 100GHz/50GHz acc. G.694.1
- C- and L-band support
- Extensive support of pluggable interfaces on both client and network ports for 850nm, 1310nm, 1550nm grey, CWDM and DWDM support



MODULES
- Core transponders (WCC)
- Access transponders (WCA)
- Enterprise transponders (WCE)
- Packet transport modules (PCA)
- Core muxponders (xTCC)
- Access muxponders (xTCA)
- Enterprise muxponders (xTCE)
- 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 (eROADM) with dynamic channel equalization
- Splitter modules (SM)
- Controller modules (NCU, SCU)
- Versatile switch and optical line monitoring module (VSM, RSM, OLM)

MANAGEMENT & CONTROL PLANE
- RAYcontrol® GMPLS-based control plane for real-time optical channel provisioning, dynamic recovery, resource discovery; standards based for vendor interoperability
- OSPF-based DCN routing and constraint-based traffic routing
- SNMP, TL1
- FSP Management Suite
- Integration into OEM partner Network Management Systems

ENVIRONMENTAL
- Temperature (operating) +5°C to +40°C
- Temperature (short-term) -5°C to +55°C
- Relative humidity (operating) 5% to 85% (non-condensing)
- Relative humidity (short term) 5% to 90% (non-condensing)

REGULATORY
- NEBS level 3/ETSI/VCCI
- CE, FCC, UL, cUL

LASER SAFETY CLASSIFICATION
- Hazard Level 1M Product accd: IEC 60825-1, 60825-2
- Class 1 Laser Product accd: 21 CFR 1040.10 and 1040.11

POWER
- Voltage -36VDC to -72VDC or 120/230VAC
- Max. power consumption 540W per shelf

PHYSICAL
- Mounting brackets for 19”, ETSI, 23” ANSI/NEBS racks

SHELF OPTIONS
- Standard: 7u
- Slimline: 1u
- eROADM: 3u

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

ADVA™ Optical Networking

R7 data sheet, version 07/2008