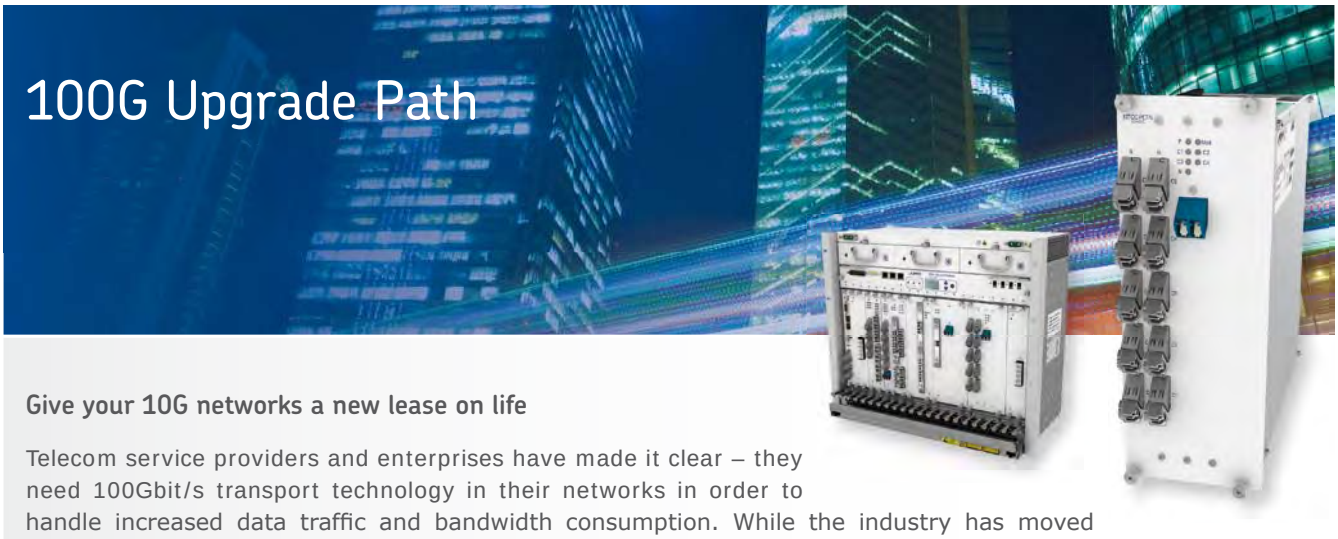
ADVA Optical Networking

FSP 3000

COHERENT MUXPONDER



Give your 10G networks a new lease on life

Telecom service providers and enterprises have made it clear – they need 100Gbit/s transport technology in their networks in order to handle increased data traffic and bandwidth consumption. While the industry has moved quickly with the development of 100G, there is no one-size fits all in 100Gbit/s transport. Part of ADVA Optical Networking's application optimized 100G family, the 100G Coherent Muxponder has been designed to provide the ultimate upgrade path for your 10Gbit/s networks.

Product Overview

The ADVA FSP 3000 is a scalable optical transport solution with state-of-the-art 100Gbit/s transmission technology. A key strength of the FSP 3000 is its market-leading price-performance ratio for a wide range of network applications. ADVA Optical Networking has developed a diverse family of 100Gbit/s linecards, each optimized for their role in the network. The 100G Coherent Muxponder has been designed to provide bandwidth relief to existing 10Gbit/s networks nearing capacity. With 10X the spectral efficiency of current 10Gbit/s solutions, a new lease on life is given to legacy networks. One by one, each 10Gbit/s channel can be migrated to 100G, all the way up to 96 channels, for a total capacity of 9.6Tbit/s.

The Ultimate in Performance

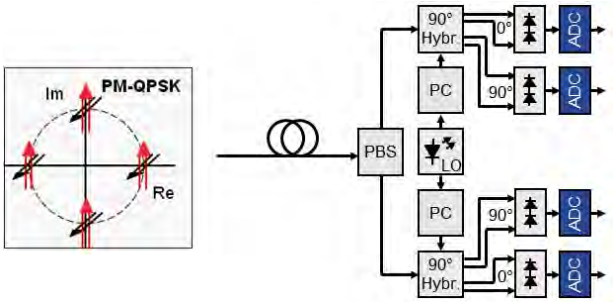
The 100Gbit/s Coherent Muxponder is a high performance network interface using OIF compliant DP-QPSK modulation plus coherent detection. Polarization multiplexing and multi-level modulation format reduces symbol rate to 28GBaud. Due to the integrated digital signal processing, chromatic and polarization mode dispersion is compensated for up to 2500km on standard single mode fiber. G.709 compliant multiplexing and mapping allows 10x10GbE, OTU2, OTU1e, OTU2e, STM-64, and/or OC-192 signals to be carried. Nyquist Criteria are fully met with a 60GS/s sampling rate ADC. SD-FEC based on turbo product codes yields many benefits, including a coding gain >11dB with 15% overhead, a FEC limit better than 1x10-2, an error floor below 10-18, and burst error tolerance above 2000 bits. The OSNR required at FEC threshold is below 13dB. Link performance monitoring is integrated for DGD, CD, and pre-FEC statistics.

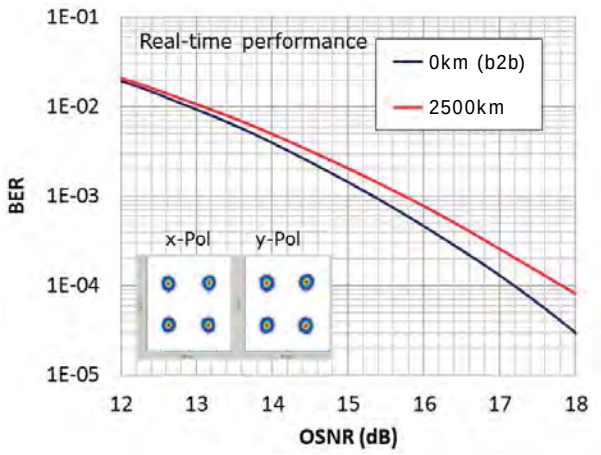
Features & Benefits

- 10x10G In, 100G Out, ULH Performance
- 10x spectral efficiency of 10Gbit/s 9.6Tbit/s system capacity
- DP-QPSK & high-gain SD-FEC Only ~2 dB OSNR loss over 10G
- DSP-based CD/PMD compensation 2500km+ w/o optical compensation
- Intradyne receiver Tunable filter function in ROADMs
- Hybrid Raman/EDFA amplication, 4dB+ OSNR gain over EDFA only

Technical Information

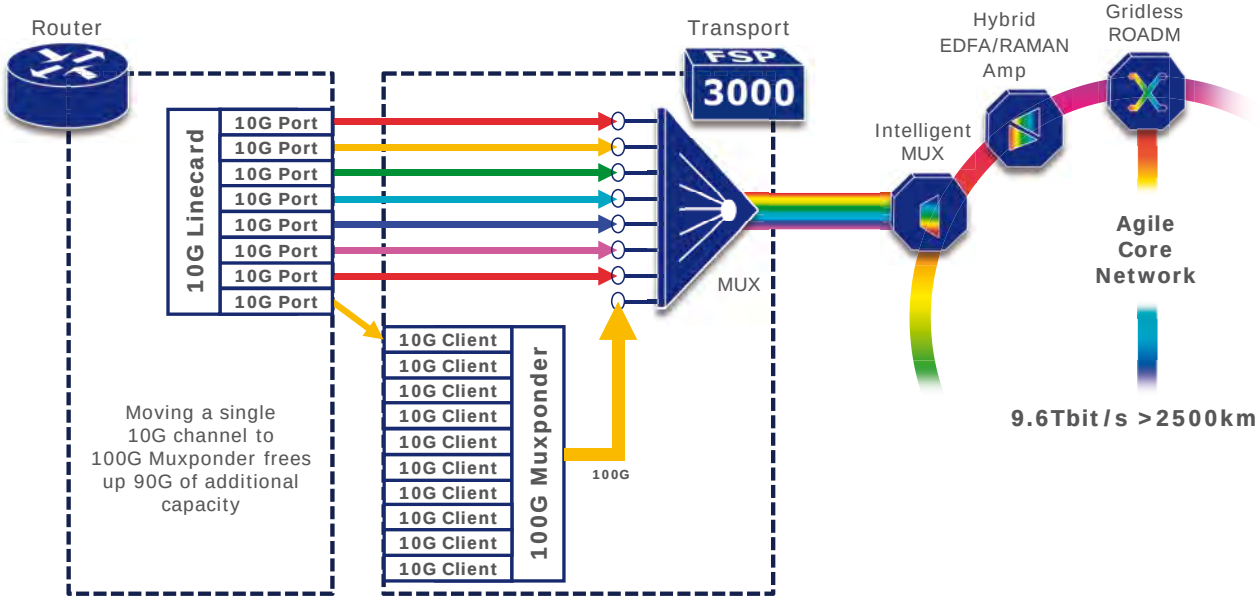
Card (with clients)	Typ. Power (W)	Max. Power (W)	Slots	Supported Shelves	Capacity Per Shelf
10TCC-PCTN-10G+100G (Core 100G Muxponder)	139W	157W	4	SH9HU	400Gbit/s





Specifications

- OSNR performance
  - Typical 13dB @ FEC threshold
  - Constant over temperature
- PMD tolerance
  - Measured beyond 30ps PMD, >100ps DGD @ polarization rotation of 2000rad/s
  - <0.3dB penalty
- CD compensation
  - 50,000ps/nm
- PDL tolerance
  - <0.5dB penalty @ 3dB PDL
- Filter (ROADMs) cascading
  - 25GHz BW @ <0.5dB penalty
- Latency per pair
  - 11µs (w/o SDFEC, w/ GFEC)



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

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