PL-2000

20G Optical Transport Solution

Advanced multi-protocol multi-rate muxponder with flexible uplink aggregation, capacity of up to 20G

Features Overview

- Single or dual configurable 10G muxponders
- Up to 16 multi-protocol and multi-rate services aggregation over single or dual OTU2 uplinks
- Service types supported: Fast Ethernet, GbE, 1/2/4G FC/FICON, STM-1/OC-3, STM-4/OC-12, STM-16/OC-48, and video protocols such as DVB-ASI, SD-SDI, HD-SDI, 3G-SDI
- Dual standard-based optical transport network (OTN) OTU2 uplinks supporting multiple forward error correction (GFEC/I.4/I.7) types
- 1+1 facility protection
- Low latency
- Supports standard MSA SFPs (client), XFPs (uplink), and C-band tunable XFPs
- Supports line and service performance monitoring
- Remote management optical supervisory channel (OSC)
- Optional integrated EDFA, mux/demux, DCM and optical switch
- Dual AC or DC pluggable power supply and pluggable fan unit
- Web-based GUI and SNMP EMS management
- 1U footprint with low power consumption

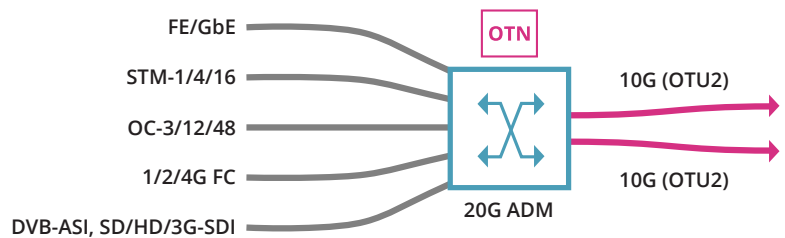## Sub-10G Multi-protocol Multi-rate ADM/Muxponder

The PL-2000 provides an efficient and flexible aggregation layer of multi-protocol multi-rate sub-10G services into a 10G OTU2 uplink trunk, reducing the number of wavelengths needed for a sub-10G solution by a factor of 8 on average. The PL-2000 increases the spectral efficiency of WDM networks.

Main Benefits

- **Provides a sub-10G gateway for 10/100G OTN networks supporting LR and tunable DWDM uplink modules**
- **Transparently multiplexes up to 16 client services into single or dual independent 10G OTU2 wavelengths**
- **Simultaneously aggregates SDH/SONET, Ethernet, Fibre Channel and video services**
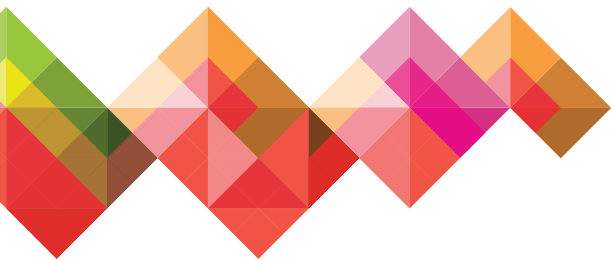
A Flexible Platform

The PL-2000 reduces the solution cost and operation complexity by increasing fiber utilization and spectral efficiency. Each of the 10G OTU2 uplinks can simultaneously aggregate SDH/SONET, Ethernet, Fibre Channel and video services, providing a perfect access platform for multiple clients, and enables to merge legacy and new services transparently. Together with PacketLight LightWatch NMS the system provides A-to-Z provisioning. The PL-2000 Incorporates forward error correction suitable for long distance amplified DWDM network.

Multiple Client Services ADM/Mupoxnder into 2 x 10G OTU2 Uplinks

Recommended for the following applications:

- 10G ring applications
- Sub-10G gateway for 10G/100G OTN networks
- Multi-service access platform for service providers
- Transporting multi-services over long distance optical network
- Upgrading legacy infrastructure with new services
- Efficient aggregation of multiple native video streams over DWDM and OTN infrastructure

Technical Specifications

System

Topology: Point-to-point, ring or linear add/drop

Transport Network Medium: Access/metro CWDM/DWDM or dark fiber

Protection: 1+1 facility per service

Product Configurations

Dual 10G OTU2 Muxponder: Up to 16 multi-service & rate clients mapped over two independent OTU2 uplinks

Single protected 10G OTU2 uplink: Up to 16 multi-service & rate clients mapped over protected OTU2 uplink

EDFA: Optional EDFA module

Mux/Demux: Optional mux/demux module

Amplifier

Output Power: 14, 17, 20 or 23dBm

Input Power: -36dBm up to 16dBm

Gain: 8dB to 22dB

Operating Modes:
- Automatic gain control (AGC)
- Automatic power control (APC)

Eye Safety: Automatic laser power reduction upon fiber cut or disconnection

Mux/Demux

Channels: 2/4/8 CWDM or DWDM

Spacing: 50/100GHz (for DWDM)

Muxponder Uplink

Bit Rate: 10.7092G (OTU2)

Optical Interface: Pluggable XFP transceiver

OTN support:
- ODU1 VCAT mapping to OTU2
- Supported FEC types:
  - G.709 GFEC (RS)
  - G.975.1 I.4
  - G.975.1 I.7

Muxponder Service

Service Type:
- Optical or copper GbE
- FC/FICON 1G, 2G or 4G
- Optical or copper Fast Ethernet
- STM-1,STM-4, STM-16
- OC-3, OC-12, OC-48

Bit Rate: 100Mbps to 4.25Gbps

Optical/copper Interface: Pluggable SFP transceiver

Network Management

Management Ports:
- RJ-45 LAN port 10/100MBase-T
- 2xSFP MNG ports 100/1000MBase-X
- RS-232 serial port
- DB9 external alarm port

Protocols: SNMP, HTTP, HTTPS, Telnet, SSH, Syslog, RADIUS, SNTP, RSTP, TFTP and FTP

Management: Web browser over HTTP/HTTPS, PacketLight LightWatch™ NMS/EMS, or third party NMS/EMS over SNMP, CLI over RS-232 or CLI over Telnet/SSH

OAM: Facility loopback (client & line interfaces), PRBS, event logger, alarms, ALS

Performance Monitoring: Layer-1 PM for all services, optical power Tx, Rx levels for all optical ports , Layer-2 PM for the data services 1G & 10G LAN

Visual Indicators: LED: client and line ports, Management and LAN ports, amplifier/s, system Critical/Major/Minor and Power Supply

Software Upgrade: Hitless traffic – dual image

Power Supply

AC/DC: 100 to 240 VAC, 50/60 Hz, -36 to -60 VDC, 68W max

PSU Redundancy: Single/dual feeding, hot swappable

Cooling Unit: Hot swappable fan unit

Environmental

Operating Temperature: -5ºC to 50ºC (+23ºF to +122ºF) operational

Humidity: 5% to 85% RH

Physical Dimensions

1U:
- 1.77" (H) x 17.32" (W) x 9.05" (D)
- 45mm (H) x 440mm (W) x 230mm (D)

Weight: 5.5kg / 12.1lb (max)

Mounting: 19", ETSI and 23"

Approvals & Standards
- CE, FCC, RoHS, REACH
- NEBS ready

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