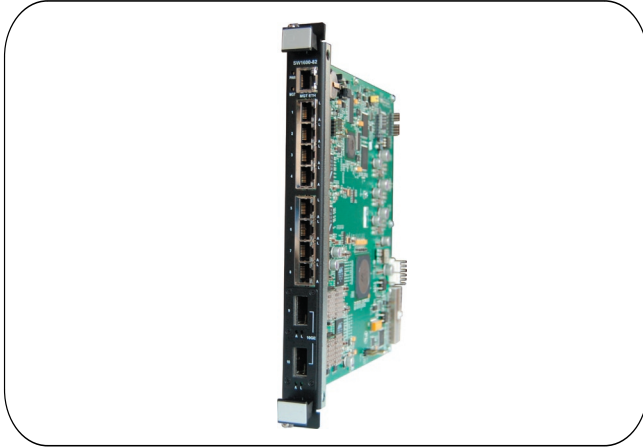


Datasheet

LambdaDriver® – Ethernet Switching Module (OPN800/1600-8C2)



OPN1600-8C2

Overview

The LambdaDriver® OPN800/1600-8C2, the first Optical Packet blade, combines packet switching with optical transport for carriers migrating to transport optical packet networks (OPN). The MRV's LambdaDriver® Optical Packet Transport solution is the industry first OPN solution to support both ROADM (OOO) and Optical Electronic Optical (OEO) crossconnect functionalities in the same solution, integrated with unique service enabling that ranges from T1 up to 40G in the same wavelength switching chassis platform. The solution supports simultaneously TDM transport as well Metro-Ethernet-connection-oriented packet and traffic management and enables carriers smooth migration from SONET/SDH towards Metro Ethernet Optical Transport networks.

The LambdaDriver® OPN800/1600-8C2 enables end-to-end optical & packet transport with sub 50ms recovery time, and its high availability allows for the highest reliability required to support carrier transport services. To provide enhanced OAM and end-to-end Packet Optical service management capabilities, the LambdaDriver OPN800/1600-8C2 solution incorporates unique integration of MPLS packets

Features

- Redundancy protection with 50 ms recovery time
- H-QoS according to MEF 14 Traffic Management conformance
- Ethernet Service OAM to guarantee SLAs
- Multi-purpose customer & network interfaces at lower TCO
- IPv6 future proof (hardware incorporated)
- 10Gbps LAN/WAN XFP ports

Applications

- Micro-PoP Services
- Business Ethernet Services
- Intra-provider and Inter-provider WAN
- Provider bridging or MPLS L2 VPN

and GMPLS Optical transport control plan with carrier Ethernet 802.3AG and ITU-T Y.1731 matching the best Packet and DWDM capabilities.

Architecture

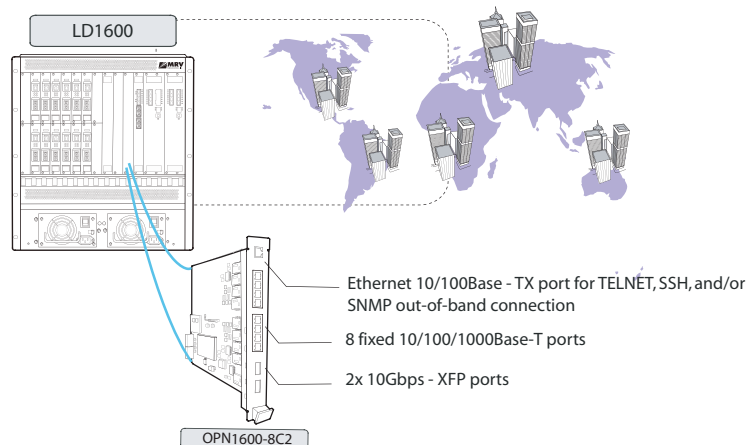
The OPN800/1600-8C2 module incorporates 8 x 10/100/1000 Ethernet ports equipped with RJ-45 connectors and 2 x 10Gbps XFP based ports.

In addition, a 10/100 Ethernet port is provided on the front panel for out-of-band / local management.

Global and per-port Link and Activity status-indicator LEDs are provided.

Management

The Ethernet 10/100Base-TX interface is directly connected to the CPU and is not affected by in-band traffic. As an IP interface, it is used only for connecting a management LAN. Management stations on the LAN can be used to manage the OPN1600-8C2 module out-of-band (using a TELNET, SSH, or SNMP connection over Ethernet). Additionally, a TFTP client can be connected to the out-of-band interface to access configuration files stored in the OPN800/1600-8C2 module.



Traffic Management

The OPN800/1600-8C2 module supports full CoS and QoS (MEF 14 model) including flow classification, rate limiting, shaping, WFQ scheduling, and strict priority scheduling.

For network convergence applications with a clear boundary between the customer's network and the carrier's network, CoS layers (802.1p, IP ToS & MPLS EXP bits) can be mapped/marked to preserve priorities or mapped into protection profiles preset by the carrier.

Dynamic QoS provides for sharing/borrowing bandwidths allocated for real-time or high priority applications at intervals, when these services are on standby. This capability optimizes bandwidth utilization at the access/demarcation point of the network without the need for involving the aggregation layer for this purpose.

Ethernet Loop-backs

The OPN800/1600-8C2 module offers remote loop-back functionality on a physical interface or a specific VLAN that traverses UNI or NNI interfaces. The loop-back function allows for remote troubleshooting services, from NOC or any other manageable location without having to physically visit the customer premises. The Loop-back functionality is hardware controlled to provide performance monitoring and SLA verification at wire speed.

Virtual Cable Diagnostics

The OPN800/1600-8C2 module's Virtual Cable Diagnostics feature enables the administrator to test electrical data cables attached to its ports for a physical fault, to identify the fault type, and to pinpoint its location.

Optical Performance Level Monitoring (Digital Diagnostics)

The digital diagnostics feature of the OPN800/1600-8C2 modules XFPs (as per the standard SFF-8472) provides access to a number of real-time operating parameters such as optical TX/RX power, voltage and temperature, as well as component information, such as vendor code, serial number, and wavelength.

The information provided using digital diagnostics, together with alarm and warning thresholds, enables the network administrator to identify potential problems in optical transmission and take preemptive action before any service outage actually occurs.

Link Fault Reflection/Propagation

A fault detected at a network interface will be propagated to the user interface and will trigger a "link down" state on it. This feature enables the user's network to re-converge to an alternative path when necessary. The feature is configurable and operates on LOS detection.

Sniffer VLAN

Enables the operator to define a "Sniffer" function that captures data and forwards it to a defined VLAN for analysis. The sniffing can be set for specific VLANs, Layer 2-3-4 fields in a packet, MAC addresses etc. and conforms to the requirements of Law Enforcement Monitoring.

Environmental	
Operating Temperature	-5 to 45°C
Storage Temperature	-10 to 70°C
Relative Humidity	85% maximum, non-condensing
Dimensions (W x H x D)	OCM1600: 26.93 mm (1.06 in) x 263.4 mm (10.37 in) x 227mm (8.956 in) OCM800 : 54.18 mm (2.13 in) x 130.7 mm (5.145 in) x 227 mm (8.956 in)
Weight	OCM1600: 1.200 kg (2.64 lb) OCM800 : 0.7 kg (1.5 lb)
Connectors	LAN: 8 fixed 10/100/1000Base-T ports LAN/WAN: 2x 10Gbps - XFP ports Management: Ethernet 10/100Base - TX port for TELNET, SSH, and/or SNMP out-of-band connection

Technical Specifications	
Power consumption	28 Watt
Full wire speed	Support on all ports

Order Info	Product	Description
	OPN1600-8C2	8 x 10/100/1000 Base Tx and 2 x XFP ports Ethernet Switch module for LD1600, long slot module
	OPN1600-8S2	8 x GE, SFO based and 2 x 10 XFP ports Ethernet Switch module for LD1600, long slot module
	OPN800-8C2	8 x 10/100/1000 Base Tx and 2 x XFP ports Ethernet Switch module for LD800, dual short slot module

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