



EKINOPS PM E1008

Pluggable 10G Ethernet muxponder

DATA SHEET 12 | 2017

KEY FEATURES & BENEFITS

- Efficient Layer 1 Gigabit Ethernet client aggregation
- Reduces port count saving space and power
- 10 Gigabit Ethernet line
- Interfaces with Ekinops 100G and 200G muxponders for higher speed aggregation
- Pluggable Module compatible with all Ekinops chassis already installed in the field
- Economical agnostic SFP interfaces for client side interfaces
- Pluggable SFP(+)-based line interface

APPLICATIONS

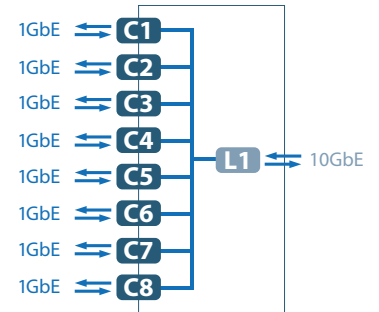
- Improving bandwidth efficiency via access aggregation of multiple 1GbE customer traffic streams into a single 10GbE wavelength
- Low speed aggregation onto high speed coherent line
- Capacity addition as an alien wavelength over existing network

OVERVIEW

Ethernet is by far the most popular networking protocol deployed today and will be for the foreseeable future. It's low cost, high level of standardization and ability to support any type of service from 10 Mb/s to 100 Gb/s and even 400 Gb/s makes it highly adaptable to any private or public networking application.

While most service provider networks have moved to 100G transport rates and beyond, many of their customers are still using lower speed 1GbE connections.

EKINOPS' PM E1008 is designed to address this network disconnect. It efficiently aggregates up to eight 1 Gigabit Ethernet clients onto a single 10 Gigabit Ethernet line which can either be transported directly over the optical line system or further aggregated onto a 100G or even 200G wavelength. The PM E1008 uses all pluggable optics supporting eight SFP client interfaces and one SFP+-based line port using either 850 nm, 1310 nm or 1550 nm WDM optics.



APPLICATIONS

The EKINOPS PM E1008 is designed for access aggregation and metro/regional transport of Gigabit Ethernet traffic using higher speed 10GbE wavelengths, or even beyond. It efficiently grooms traffic — whether from a cell tower, campus, enterprise or office building — and delivers it to any switch, router or other Ethernet based device. It can also be used to groom low speed traffic onto 100G or even 200G wavelengths as the native 10 Gigabit Ethernet framing can interface as a client to Ekinops — or any third party — 100G or 200G coherent muxponders.

This high level of low speed service aggregation provides 100 to 200 times better bandwidth utilization while reducing both CAPEX and OPEX. Service providers can also use it to add capacity to exhausted metro rings by deploying the WDM line signal as an alien wavelength over any standard 50GHz or 100GHz spaced ITU-T grid.

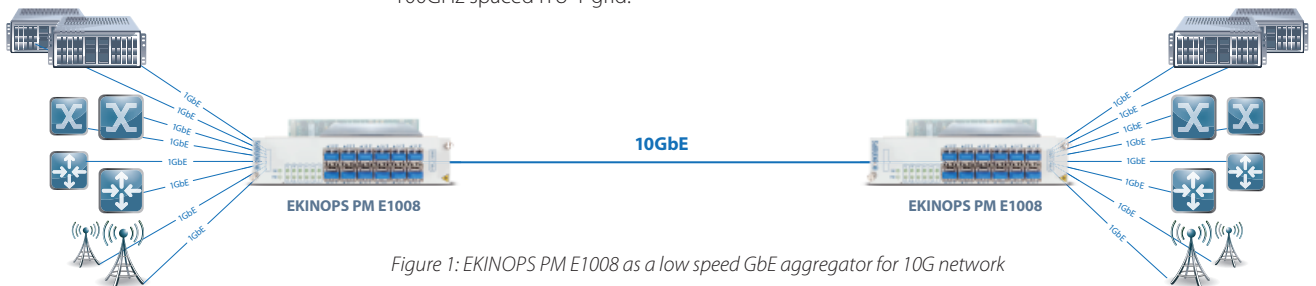


Figure 1: EKINOPS PM E1008 as a low speed GbE aggregator for 10G network

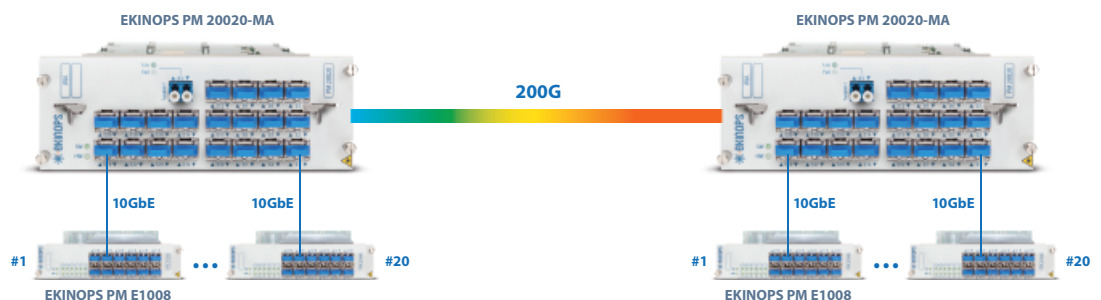


Figure 2: EKINOPS PM E1008 as a low speed GbE aggregator for 200G network



EKINOPS PM E1008

Pluggable 10G Ethernet muxponder



MANAGEMENT

The EKINOPS PM E1008 supports Remote Monitoring (RMON) management functions such as packet and byte counters, Cyclical Redundancy Check (CRC errors) and packet errors on both the client and line interfaces. At the element level, the PM E1008 can be managed through SNMP or via the Ekinops standard element level management interfaces, which includes a CLI (Command Line Interface) and an Ekinops java-based GUI (Graphical User Interface). The CLI is accessible via SSH and Telnet remotely or via a local serial port locally on the Management board. Complete performance monitoring and management is provided, including laser shut off and local and remote loopback which is useful for maintenance and fault isolation. Digital Diagnostics Management (DDM) is supported for both SFP and SFP+ interfaces. This includes link status, transmit (TX) and receive (RX) signal power monitoring, and operational temperature, as well as manufacturer and transceiver model.

The EKINOPS PM E1008 is also supported by **Celestis NMS**, the Ekinops Network Manager.

SPECIFICATIONS

• CLIENT INTERFACE

Protocols	Gigabit Ethernet
Optical interface	SFP
Number of ports	8

• LINE INTERFACES

Protocol	10 Gigabit Ethernet
Optical interface	SFP+; B&W or WDM
Number of ports	1

• MANAGEMENT

MIB	SNMP V2c private MIB
Remote management	RMON1

• PHYSICAL SPECIFICATIONS

Module size	2 slots in all Ekinops chassis (C200HC and C600HC)
Operating temperature	0°C to +50°C / +32°F to +122°F
Storage temperature	-20°C to +85°C / -4°F to +185°F

• INDICATORS

Status	HW ready, SW ready
Alarm	Port down (clients and lines)

• PERFORMANCE

Optical spacing	SFP+ dependent
Power	25W

• LINE INTERFACE SPECIFICATIONS

Optical spacing	100GHz or 50GHz
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• REFERENCE STANDARD

IEEE 802.3z; IEEE 802.3ae

ORDERING INFORMATION

PLUGGABLE MODULE (PM)

EKINOPS CHASSIS

PRODUCT CODE	DESCRIPTION
PM_E1008	Eight-port 10G muxponder supporting 8xGbE client to 1x10GbE on the line, SFP for client (not included), SFP+ for line Interface (not included)
C600HC	High Capacity modular chassis 7RU
C200HC	High Capacity modular chassis 2RU
PM_MNGT4	Management card
400EEM	Ekinops Java Craft interface

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