



FEATURES & BENEFITS

- Scalable capacity using 2 x 10GE ports and 24 x 1GE SFPs - including single fiber SFP's
- Ability to configure any port as trunk or client port
- Integrates switching, aggregation and DWDM transport in 1RU and 80W power consumption
- Ethernet OAM per 802.3ah and ITU Y.1731
- VLAN-based forwarding with support for Q-in-Q in accordance with MEF-defined E-LINE and E-LAN Services
- Point-to-point and ring protection switching supported on all ports
- Extensive management features; CLI, WEB, SNMP-v2c with in-band and out-of-band support
- 4-level QoS Layer 2 service routing allows over booking with best-effort data to increase revenue
- Tunnels MPLS and MPLS-TP over Carrier Ethernet
- Dual DC hot-swap PSUs and dual modular fans
- Built-in media converters
- Mounting kit for 1RU of space with fiber mgmt

Description

IPITEK's MSP-10GE-OP optical model complements the MSP-10GE-CO copper RJ45 port model by providing 24 ea 1GE SFP ports and dual 10GE ports to provide an Ethernet ADM multiplexer that is used to create Metro Ethernet-based transport networks. These networks can scale to 4000 Ethernet E-Line (Pt-Pt) or E-LAN (Multipoint) circuits per network. The use of all optical interfaces provides the ability to combine up to 24 remotely located fiber-attached sites via 1GE links per site onto a 10GE LAN Native Ethernet protected backbone, while only consuming 1RU of rack space and 80 watts of protected DC power. The resulting ADM network is centrally provisioned via the IPITEK NodeWizard Element Management System.

Interfaces

24 ports of SFP slots and dual XENPAK plug-in slots. Short reach MMF interfaces up to 40 ITU channels of 80km dispersion limit rated transceivers are offered on all ports. Async craft and 10/100 BASE-T ports are also provided for management.

Topologies

Any port interface can be enabled as network interfaces, thus supporting any topology from point-to-point, linear ADM, ring and mesh. Repeater and transponder mode are also supported. Each EVC can be set uniquely to forward, drop, or drop and continue at any node thus creating E-Line or E-LAN circuit topologies.

A traditional 1GE star network topology with 10GE interconnecting ring between MSP-10GE sites can support Ethernet Metro Business Service networks where MSP-1GE CPE switches with optical uplinks are fiber connected to the MSP-10GE's 24 1GE ports.

Reliable Transport

Point-to-point and ring protection switching is offered on all ports. Any two ports can be logically bundled as a protection switching group and up to 14 independent groups are supported. Any group can be enabled to participate in point-to-point or ring protection. This logical separation ensures that a fiber break in one protected ring does not impact other rings connected to the same MSP-10GE.

Provisioning

The unit can be either locally provisioned using CLI or a Web Browser. When a maintenance LAN is configured, remote management via CLI over TELNET, Web Browser, or SNMP via the full-featured MIBs supports device level centralized provisioning. To further simplify provisioning IPITEK's NodeWizard EMS can support end-to-end circuit-level provisioning for the entire interconnected network or even multiple MSP-10GE networks. Using both the copper port model and the SFP model of MSP-10GE within a single network provides a total solution with uniform provisioning throughout.

Monitoring

Link OAM per 802.3ah and end-to-end Y.1731 is supported. In addition, optical power levels, Ethernet layer statistics and alarms are provided for each interface. Local logs of all command entries and events further simplifies trouble shooting. SNMP-v2c notifications are also provided.

SPECIFICATIONS

Ethernet Interface Support

24 x 1000BaseFX SFP plug-in slots
2 x 10GE XENPAK plug-in slots

Power

Input voltage -42 to -56 VDC (GR513)
Power consumption: 80 watts max
BTU/hr: 276 BTU

Environmental

Operating temperature: 0° to 50°C
Storage temperature: -40° to +75°C
Relative humidity: 10 to 90%

Physical

Chassis dimensions: 17" x 15" x 1.75"
(43.18cm x 38.1cm x 4.44cm)
Chassis weight: 14.2 lbs. loaded
Rack mount requirements: 19" or 23" EIA cabinet or open-frame rack

Provisioning

Craft DB9 RS232 Async
Network mgmt 10/100BASE-T (OOB rear port)
Protocol Telnet, SSH, HTTP/S, SNMP-v2c
Software download Dual flash bank, FTP, TFTP
Upload/download config FTP, TFTP
In-band mgmt via a unique VLAN is supported on any front port

Security

- Tiered access privileges
- RADIUS
- HTTPS
- Secure Shell v2
- Access Control Lists
- Custom SNMP string and access privileges
- Disable Telnet, HTTP, HTTPS and any front port
- Automatic logout from management interface

Monitoring

- Extensive monitoring of base unit
- Link OAM per 802.3ah and end-to-end OAM per Y.1731
- Optical power, temperature and current levels on optical ports
- Layer 2 statistics and utilization on all ports
- Event notification on user configurable thresholds
- Local logs of all command entries and events
- Syslog

Quality of Service

- 4 queue levels and 8 priority levels with remapping based on input 802.1p or DSCP
- Strict queueing with guaranteed bandwidth allocation
- Rate shaping and policing per port
- Broadcast / multicast policing per port

ORDERING INFORMATION

Base Units

MSP-10GE-OP-DC: Base unit, 24 x 1GE SFP sockets and 2 x 10GE XENPAK slots, Dual DC powered, 1 DC power supply included

10GE Plug-in Interfaces

MSP-XENPAK-SR <300m via MMF, 850nm, dual SC/UPC connectors, diagnostic with optical PM

Note: The exact distance on MMF depends on the fiber core diameter & modal bandwidth

MSP-XENPAK-LR: 10km via SMF, 1310nm, dual SC/UPC connectors, diagnostic with optical PM

MSP-XENPAK-ER: 40km via SMF, 1550nm, dual SC/UPC connectors, diagnostic with optical PM

MSP-XENPAK-ZR: 80km via SMF, 1550nm, dual SC/UPC connectors, diagnostic with optical PM

MSP-XENPAK-XX: 80km via SMF, 40 ch DWDM @ 100Ghz, select ITU ch #, dual SC/UPC connectors, diagnostic with optical PM

Copper SFP

MSP-SFP-E-CO: 1000BASE-T copper, RJ-45

Dual fiber SFP's

MSP-SFP-E-SX: <550meters via MMF, 850nm, dual LC/UPC connectors, diagnostic with optical PM

Note: The exact distance on MMF depends on the fiber core diameter & modal bandwidth

MSP-SFP-E-LX: 10km via SMF, 1310nm, dual LC/UPC connectors, diagnostic with optical PM

MSP-SFP-E-EX: 40km via SMF, 1310nm, dual LC/UPC connectors, diagnostic with optical PM

MSP-SFP-E-ZX: 80km via SMF, 1550nm, dual LC/UPC connectors, diagnostic with optical PM

MSP-SFP-E-CXX: 80km via SMF, 8 ch CWDM, dual LC/UPC connectors, diagnostic with optical PM

MSP-SFP-E-DXX: 80km via SMF, 40 ch DWDM @ 100Ghz, select ITU ch #, dual LC/UPC connectors, diagnostic with optical PM

Single fiber SFP's

MSP-SFP-E-BLx: 10km via SMF, A=1310nm, B=1490nm, single LC/UPC connector, diagnostics with optical PM

MSP-SFP-E-BEx: 40km via SMF, A=1310nm, B=1490nm, single LC/UPC connector, diagnostics with optical PM

Note: x = A or B. Type A must be paired with type B on the same link

Accessories

MSP-10GE-PWS-DC: DC power supply, -48VDC

MSP-10GE-PWS-ACDC AC (110/240VAC) to DC (-48VDC) converter

MSP-10GE-FAN: Replacement fan kit



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