

OPTICAL ETHERNET +emulated services MSP-CES



FEATURES & BENEFITS

- Scalable network capacity using multiple Gig-E ports add DS-1s, DS-3's or OC-3's as channelized voice
- configure any port as trunk or client port
- Integrates switching, aggregation and DWDM transport in 1RU and low power consumption
- Ethernet MEP OAM per ITU Y.1731
- VLAN-based routing with strict-QoS
- 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
- QoS service routing allows differentiated services
- Dual hot-swap PSUs and dual modular fans
- Built-in media transceivers
- Mounting kit for 1RU of space with fiber mgmt

Description

IPITEK's MSP-CES model complements the MSP-10GE and MSP-1GE model by providing a modular Ethernet ADM multiplexer that creates 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.

Interfaces

4 ports of DS-1 in a single PIM. Or choose 1 port of DS-3 or OC-3 in a single PIM. Each PIM may use a Gb-E link into the switch module. The Gb-E link module includes 4 ea SFP transceivers as well as several RJ-45 ports for additional Gb-E links. A 10-Gig switch module is also available to make the choice of Ethernet links even more staggering.

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 network topology between MSP-CES sites can support Ethernet Metro Business Service networks where MSP-1GE CPE switches with optical uplinks are fiber connected to the 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 6 independent groups are supported per node. 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-CES.

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 IPITEK networks. Ease-of-provisioning has been given special attention where CES has borrowed from the powerful CLI of MSP-10G and MSP-1G while adding in the multi-slot commands.

Monitoring

Link OAM per Y.1731 is supported for Ethernet end-end circuit health yet the circuit emulation monitoring adds jitter and latency monitoring for DS-1. 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

8 x 10/100/1000 Rj45 plus 4 ea SFP 1Gig Switch module
 2 x 10GE XFP plus 4 x SFP plus 8 x Rj45. 10Gig Switch module

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-CES-CH-TCXO Chassis w/stratum 3 holdover oscillator
 MSP-CES-CH-OCXO Chassis w/stratum 3E holdover oscillator

Slot 3 Plug-in Interfaces

MSP-CES-1GE-12P 4 SFP plus 8 RJ45 port slot 3 Gig-E switch module
 MSP-CES-10G-14P 2 XFP plus 4 SFP plus 8 Rj45 10Gig-E switch module

Slot 1 and 2 Plug-in Interfaces

MSP-CES-1OC3 OC-3 Interface Module
 MSP-CES-4T1 4xT1 Interface Module

Power Supplies

MSP-CES-PWS-AC AC Power Supply Module
 MSP-CES-PWS-DC DC Power Supply Module

Optical Plug-in Transceivers

1Gig-E SFP's

MSP-SFP-E-SX: <550meters via MMF, 850nm, dual LC/UPC
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
 MSP-SFP-E-EX: 40km via SMF, 1310nm, dual LC/UPC
 MSP-SFP-E-ZX: 80km via SMF, 1550nm, dual LC/UPC
 MSP-SFP-E-CXX: 80km via SMF, 8 ch CWDM, dual LC/UPC
 MSP-SFP-E-DXX: 80km via SMF, 40 ch DWDM @ 100Ghz, select ITU ch #, dual LC/UPC

MSP-SFP-E-BLx: 10km via SMF, A=1310nm, B=1490nm, single LC/UPC
 MSP-SFP-E-BEx: 40km via SMF, A=1310nm, B=1490nm, single LC/UPC

MSP-SFP-E-CO 100/1000BASE-T copper, RJ45
Note: x = A or B. Type A must be paired with type B on the same link

10Gig-E XFP's

MSP-XFP-SR 300m via MMF, 850nm, dual LC/UPC
 MSP-XFP-LR 10Km via SMF, 1310nm, dual LC/UPC
 MSP-XFP-ER 40Km via SMF, 1550nm, dual LC/UPC
 MSP-XFP-ZR 80Km via SMF, 1550nm, dual LC/UPC
 MSP-XFP-XX 80km via SMF, 40 ch DWDM @ 100Ghz, select ITU ch #, dual LC/UPC



IPITEK reserves the right to modify product specifications without prior notification.



2330 Faraday Avenue • Carlsbad • CA • 92008
 (760) 438-1010 • Toll Free (888) 4-IPITEK (447-4835)