Cisco 1-Port OC-3/STM-1 and 3-Port T3/E3 Multiprotocol Service Modules

The Cisco® 1-Port OC-3/STM-1 and 3-Port T3/E3 Multiprotocol Service Modules (MPSM-T3E3-155) provide the capability to offer ATM and Frame Relay services in the same module. The MPSM-T3E3-155 module is available for both the Cisco MGX® 8850/B and MGX 8830/B Multiservice Switches, offering high port density using OC-3/STM-1 or T3/E3 interfaces; these interfaces can be channelized down to DS0/DS1/DS3 interfaces.

Product Overview

The Cisco 1-Port OC-3/STM-1 or 3-Port T3/E3 Multiprotocol Service Module (MPSM-T3E3-155) is a single-height service module for the Cisco MGX 8850/B and the Cisco MGX 8830/B Advanced ATM Multiservice Switches. The Cisco Multiprotocol Service Module delivers connectivity from DS-0 to OC-3 speeds and provides Any Service, Any Port (ASAP) capability. ASAP allows service providers to provision both Frame Relay and ATM services on any port in the service module, allowing for reduced capital and operating expenditures.

Key Features and Benefits

- Multilink Frame Relay (MLFR), Multilink Point-to-Point (MLPP), and Point-to-Point Mulitplexing (PPPMux)
- Channelization down to DS-0 for Frame Relay and DS-1 for ATM service
- FRF 8.1 Frame Relay-to-ATM service interworking
- Inverse Multiplexing over ATM (IMA) 1.0 and IMA 1.1 along with IMA restart capability
- Private Network-Network Interface (PNNI) 1.0
- Standard available bit rate (ABR) with virtual source/virtual destination support
- Support for 1:1 front-card redundancy with Y-cable
- Support for 1:1 and 1+1 Automatic Protection Switching (APS) and clear-channel (DS-3/E3) port
- Support for mixed-mode channelization of T1 and E1 ports simultaneously
- Simultaneous support of T3 and E3, or T1 and E1
- Built-in bit-error-rate-test (BERT) testing at the channelized level

Technical Specifications

Table 1 lists product specifications for the Cisco 1-Port OC-3/STM-1 or 3-Port T3/E3 Multiprotocol Service Module.

Table 1. Product Specifications

Description	Specification
Product compatibility	Compatible with Cisco MGX 8830/B, MGX 8830, MGX 8850/B, and MGX 8850 Advanced ATM Multiservice Switches
Software compatibility	Minimum software: MGX Switch Software Version 5.0.20
Cards/Ports	Each front card is mated to a backcard. Backcard options provide maximum interface flexibility. MPSM-T3E3-155: MPSM front card SFP-2-155: MPSM backcard – 1 working and 1 protection port OC-3c/STM-1. Each optical interface supports hot swappable optical modules. SMB-2-155-EL: MPSM backcard – 1 working and 1 protection port 155 Mbps STM-1 electrical interface BNC-3-T3E3: MPSM backcard – 3 x T3/E3 BNC interfaces
Redundancy	1:1 front card redundancy SONET/SDH intercard or intracard 1+1 APS 1:1 card redundancy using Y-cable
ATM Layer	• Configurable for Network-Network Interface (NNI) and User-Network Interface (UNI) application • UNI compliant to ATM Forum UNI 3.0, 3.1, and 4.0 and ITU-T I.361 and I.432 specifications • NNI compliant to ATM Forum PNNI 1.0 • Complies with standard usage parameter control (UPC) and Connection Admission Control (CAC) per ATM Forum UNI 3.1 and Traffic Management 4.0 and ITU-T I.371 • Virtual circuit connections (VCCs) and virtual path connections (VPCs) per ATM Forum UNI 4.0 and ITU-T I.371 • Virtual path identifier (VPI) and virtual channel identifier (VCI) range for VCCs and VPCs per UNI Specifications 3.1 and 4.0 • Early packet discard (EPD) and partial packet discard (PPD) • Per virtual circuit queuing for traffic scheduling • Per virtual circuit traffic shaping on egress • Per virtual circuit policing • 32 virtual interfaces on egress • Virtual path termination • Integrated Local Management Interface (ILMI) 4.0 • Virtual circuit merge for egress and multipoint connections • Usage policing on all interfaces
Frame Relay	• Supports ITU-T Q.933 Annex A, ANSI T1.617 Annex D, and Local Management Interface (LMI), and the enhanced LMI with automatic configuration of traffic management parameters for attached Cisco routers • Supports Frame Relay-to-ATM network interworking (FRF 5) and Frame Relay-to-ATM service interworking (FRF 8 and FRF 8.1), both transparent and translation modes, configured on a per permanent virtual circuit (PVC) basis • Supports standards-based committed-information-rate (CIR) policing and Discard Eligible tagging and discarding • Supports end-to-end standard ABR rate-based flow-control • Each logical port independently configurable as Frame Relay UNI or Frame Relay NNI • Meets ANSI T1.618, using 2-octet headers • Supports ATM Frame Relay-based UNI (FUNI) • Supports ATM Forum FUNI mode 1A • Supports CRC-16 and CRC-32 • Supports ATM Adaption Layer 5 (AAL5) mapping of user payload to ATM
Physical dimensions	Height: 18.4 cm (7.25 in.) Depth: 39.8 cm (15.65 in.)
Power	Input power required: –48 VDC Power consumption: 46 W

Description	Specification
EMI/ESD compliance	FCC Class A / TIA-968-A ICES 003 Class A AS/NZS 3548 Class A CISPR 22 (EN55022) Class A VCCI Class A BSMI Class A IEC/EN 61000-3-2: Power Line Harmonics IEC/EN 61000-3-3: Voltage Fluctuations and Flicker IEC/EN-61000-4-2: Electrostatic Discharge Immunity (8-kV Contact, 15-kV Air) IEC/EN-61000-4-3: Radiated Immunity (10 V/m) IEC/EN-61000-4-4: Electrical Fast Transient Immunity (2-kV Power, 1-kV Signal) IEC/EN-61000-4-5: Surge AC Port (2-kV CM, 2-kV DM) IEC/EN-61000-4-5: Signal Ports (1 kV) IEC/EN-61000-4-5: Surge DC Port (1 kV) IEC/EN-61000-4-6: Immunity to Conducted Disturbances (10 Vrms) IEC/EN-61000-4-8: Power Frequency Magnetic Field Immunity (30 A/m) IEC/EN-61000-4-11: Voltage DIPS, Short Interruptions, and Voltage Variations EN300 386: Telecommunications Network Equipment (EMC) EN55022: Information Technology Equipment (Emissions) EN55024: Information Technology Equipment (Immunity) EN50082-1/EN-61000-6-1: Generic Immunity Standard
Safety compliance	UL/CSA/IEC/EN 60950-1 IEC/EN 60825-1 Laser safety ACA TS001 AS/NZS 60950 FDA—Code of Federal Regulations laser safety
Telecom compliance	–ITU-T G.703 –ANSI T1.102 –ANSI T1.107 –ANSI T1.105 –ITU-T G.957
Telcordia NEBS	GR-1089-CORE NEBS EMC and Safety GR-63-CORE NEBS Physical Protection SR-3580 NEBS Criteria Levels (Level 3)
Telcordia CLEI	GR-485-CORE – CLEI coding GR-383-CORE – CLEI code label GR-209-CORE – PCN Process

Ordering Information

Table 2 lists ordering information. To place an order, visit the Cisco Ordering Home Page.

Table 2. Ordering Information

Part Number	Product Name
MPSM-T3E3-155	1-Port OC-3/STM-1 or 3-Port T3/E3 MPSM
SFP-2-155	155-Mbps backcard to use with hot swappable optics
BNC-3-T3E3	3-port T3/E3 backcard
SMB-2-155-EL	155-Mbps electrical backcard with Subminiature Connectors

For More Information

For more information about Cisco service and support programs and benefits, go to http://www.cisco.com/.

Americas Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Europe Headquarters
Cisco Systems International BV
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: +31 0 800 020 0791
Fax: +31 0 20 357 1100

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