Cisco MGX PXM-1E Processor Switch Module

The Cisco® MGX® PXM-1E Processor Switch Module enables the Cisco MGX 8830/B and Cisco MGX 8850/B Advanced ATM Multiservice Switch and Voice Gateway with 1.2-Gbps nonblocking standard PNNI switching capacity for cost-effective voice and data applications.

Product Overview

The Cisco MGX PXM-1E Processor Switch Module enables the Cisco MGX 8830/B and MGX 8850/B Advanced ATM Multiservice Switch and Voice Gateway with 1.2 Gbps non-blocking standard PNNI switching capacity for cost-effective voice and data applications. It has a functional, space, and cost-saving design that combines switch fabric, management control, and network interface ports into a single module. It shares the same management capabilities as the Cisco MGX 8800 Series Switches for proven reliability, interoperability, and manageability. Three variations of PXM-1E modules are available with interface speeds ranging from T1/E1 to OC-3/STM-1 to give flexibility in network design. The hot-swappable optical modules minimize initial cost for further capital savings.

Key Features and Benefits

- 1.2 Gbps nonlocking switching capacity: Provides cost-effective switching throughput to meet the demand of service aggregation and voice applications at the service provider's network edge. The module fully supports Hierarchical Private Network-to-Network Interface (PNNI) routing with Multiple Peer Group and mobile PNNI to allow Cisco MGX 8830 and 8850 switches to easily integrate with a large-scale PNNI network.
- Choices of interface speeds and density: The variety of Cisco MGX PXM-1E modules provides different choices of network interface speeds, interface combinations, and density to suit customer needs. Network architects can choose from the 16-port T1/E1 PXM-1E module, the 8-port OC-3/STM-1 module, or the 4-port OC-3/STM-1 and 8-port T3/E3 Combo PXM-1E module. The mix of T3/E3 and OC-3/STM-1 in a single module brings unprecedented flexibility for network connectivity.
- Individually replaceable optical modules: Offer a unique way to minimize network hardware down to the port level. This translates directly into cost savings. Add more optical modules to the 8-port OC-3/STM-1 or the Combo PXM-1E module for easy network expansion at low incremental cost.
- 1:1 redundancy and SONET/SDH Automatic Protection Switching (APS): All Cisco MGX PXM-1E module types support 1:1 redundancy to provide high availability of the switch fabric, control processor function, and network interfaces. This capability is essential for supporting mission-critical services. The optical OC-3/STM-1 interfaces also support SONET/SDH 1+1 APS for facility-failure protection. The added reliability helps service providers, government organizations, and enterprises to sustain reliable services to improve customer satisfaction and reduce support cost.

Technical Specifications

Table 1. Product Specifications

Description	Specification
Product compatibility	Cisco PXM1E-8-155, PXM1E-COMBO, and PXM1E-16-T1E1 modules for Cisco MGX 8850/B and 8850 switches Cisco 8830-8-155, 8830-COMBO, and 8830-16-T1/E1 modules for Cisco MGX 8830/B and 8830 switches Management Interface back card PXM-UI-S3/B
Software compatibility	Minimum software: Cisco MGX Switch Software Version 5.1
Cards/Ports	Flexible interface choices offered by various PXM1E front/back card module types: Cisco PXM1E-8-155 and 8830-8-155: 8 x OC-3c/STM-1. Each optical interface module is hot-swappable. Cisco PXM1E-COMBO and 8830-COMBO: 8 x T3/E3 and 4 x OC-3/STM-1. Each optical interface module is hot-swappable. Cisco PXM1E-16-T1E1 and 8830-16-T1E1: 16 x T1/E1 ports. Inverse Multiplexing over ATM (IMA) 1.0 and 1.1 are supported. Cisco PXM-UI-S3/B back card: Used with any of the above cards for management interfaces, RJ-48 T1/E1 external timing interface, and DB-15 for visual and audible alarm interface.
Redundancy	SONET/SDH 1+1 APS and 1:1 card redundancy for Cisco PXM1E-COMBO, PXM1E-8-155, and PXM1E-4-155 modules and for the Cisco MGX 8830 equivalent 1:1 card redundancy for Cisco PXM1E-8-T3E3 and PXM1E-16-T1E1 modules and the Cisco MGX 8830 equivalent
Synchronization	Clock source from internal Stratum-3, primary and secondary external Building Integrated Timing Supply (BITS) interface, or derived from optical interfaces
ATM Layer	ATM Forum UNI v3.0, v3.1, and v4.0; ITU-T I.361 and I.432; ILMI 4.0 Hierarchical Private Network-to-Network Interface (PNNI) V1.0 dynamic routing with Multiple Peer Group E.164/NSAP addressing Soft permanent virtual circuit (SPVC), soft permanent virtual path (SPVP), soft virtual circuit (SVC) Preferred Route, Closed User Group, priority bumping, connection grooming AINI and IISP Interworking
Traffic Management	Traffic Management v4.0 and ITU-T I.371, per ATM Forum UNI v3.1 Programmable enhanced connection admission control to admit connections based on quality of service Constant bit rate (CBR), variable bit rate real time (VBR-rt), variable bit rate non-real time (VBR-nrt), unspecified bit rate (UBR), available bit rate (ABR-STD) Up to 16 classes of service
Network Management interfaces	RJ-45 Ethernet port for management interface at the Cisco PXM-UI-S3/B back card, and in-band ATM connection to reach remote node for management connectivity. Miniature D serial port for Cisco IOS® Software control port. DB-15 for visual and audible alarm port. Command-line interface (CLI) for local management, Simple Network Management Protocol (SNMP) for network management system interface, Secure File Transfer Protocol (SFTP) for file transfer, and Secure Shell Versions 1 and 2 (SSHv1 and SSHv2) Protocol for remote access.
Physical Dimensions	Height: 15.83 in. (40.2 cm) Depth: 15.65 in. (39.8 cm)
Power	DC input voltage range 42–56 VDC, maximum 30A and 1050W input AC input voltage range 100–120 and 200–240 VAC, maximum 12A at 100VAC, 7A at 200VAC, 1200W input at frequency of 50–60Hz
Operating Environment	Monitoring of cabinet temperature, cooling fan, and supply voltages. LED indicators for card status, network alarms, LAN control port activity, and power status.

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 (30A/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 60825-1Laser 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

Table 2. Ordering Information

Product Name	Part Number
MGX 8830/B chassis back plane and fan tray	MGX8830/B
8830 PXM1E - 16 T1/E1 Ports	8830-16-T1E1
8830 Redundant PXM1E 16 T1/E1 Ports	8830-16-T1E1-R
8830 PXM1E Combo Card 8 T3/E3 and 4 155 Broadband Ports	8830-COMBO
8830 Redundant Combo card 8T3/E3 and 4 155 Ports	8830-COMBO-R
8830 PXM1E 1-8 155 Broadband ports with SFP Support	8830-8-155
8830 Redundant PXM1E 1-8 155 Broadband ports with SFP support	8830-8-155-R
MGX 8850 Model B chassis back plane and fan tray	MGX8850/B
8850 PXM1E - 16 T1/E1 Ports	PXM1E-16-T1E1
8850 Redundant PXM1E 16 T1/E1 Ports	PXM1E-16-T1E1-R
8850 PXM1E Combo Card 8 T3/E3 and 4 155 Broadband Ports	PXM1E-COMBO
8850 Redundant Combo card 8T3/E3 and 4 155 Ports	PXM1E-COMBO-R
8850 PXM1E 1-8 155 Broadband ports with SFP Support	PXM1E-8-155

Product Name	Part Number
8850 Redundant PXM1E 1-8 155 Broadband ports with SFP support	PXM1E-8-155-R

For More Information

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

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