

## Cisco MGX 8850 Series Multiservice Switch

The Cisco MGX<sup>®</sup> 8850 Advanced ATM Multiservice Switch enables delivery of a complete portfolio of differentiated service offerings while scaling from DS0 to OC-48c/STM-16 speeds.

Based on the industry's most extensible architecture, the Cisco MGX 8850 provides the greatest flexibility at the service provider edge. Multiple, simultaneous control planes support unmatched flexibility and scalability in deploying, managing, and modifying a complete range of ATM, Multiprotocol Label Switching (MPLS), and voice services.

Figure 1  
Cisco MGX 8850 Multiservice Switch



## Key Features

- Full range of Frame Relay, ATM, circuit emulation, voice, and IP services
- Scalable from 1.2 to 45 Gbps of nonblocking throughput
- Innovative architecture for supporting multiple control planes and dynamic allocation of services mix
- Choice of switching fabric for price/performance optimization
- Industry's highest network availability

## Key Applications

- Frame Relay
- Frame Relay-to-ATM network interworking
- Frame Relay-to-ATM service interworking
- IP-enabled Frame Relay
- ATM
- IP virtual private networks (IP VPNs)
- VoIP, VoATM
- DSL aggregation
- Circuit emulation

## Technical Specifications

Support for permanent virtual circuits/paths (PVCs/PVPs), soft permanent virtual circuits/paths (SPVCs/SPVPs), switched virtual circuits/paths (SVCs/SVPs), label virtual circuits (LVCs), and connectionless routing are all offered on a single platform.

### Scalable Configurations

Using the Cisco PXM-1 Processor Switching Module Card option for edge concentration, service providers can deploy a complete set of narrowband services with 1.2 Gbps of nonblocking switching for low-density or remote deployments.

The Cisco PXM-1E Switching Card option adds Private Network-Network Interface (PNNI) routing features to the 1.2-Gbps switching capacity option for lower-density deployments of narrowband services.

Using the Cisco PXM-45 Switching Card option, service providers can implement a complete range of narrowband services for high-density edge applications and broadband aggregation with 45 Gbps of nonblocking switching. The Cisco PXM-45 can also be used exclusively for broadband aggregation and backbone functions.

### Network Management

Cisco MGX 8850 is managed by Cisco WAN Manager using Simple Network Management Protocol (SNMP). Cisco WAN Manager provides telecommunications network element management functions, as well as standard network management functions, such as connections management and network topology graphical user interface (GUI).

The Cisco WAN Manager Service Agent can also be used to provide a northbound SNMP Application Program Interface (SNMP API) for seamless integrations with operations support systems (OSSs) and third-party network- and service-management systems. The Cisco WAN Manager Service Agent enables flow-through provisioning and fault-management capabilities that service providers demand.

## Mechanical Configuration

- 32 single-height (16 double-height) function module slots
  - The single-height slots can be in-service slots converted to double-height slots by removal of midrail dividers
  - Two double-height slots are reserved for redundant processor switch modules
  - Four single-height (two double-height) slots are reserved for optional value-added Service Resource Modules
- 24 single-height (12 double-height) slots for service modules

## Physical Specifications

- Dimensions: (H x W x D): 29.75 x 17.72 x 21.5 in. (75.6 x 45.0 x 54.6 cm)
- Rack-mountable in 19- and 23-in. (48.2- x 58.4-cm) EIA/RETMA and ETSI racks

## Capacity

- 1.2 or 45 Gbps of redundant, bidirectional, nonblocking throughput

## Switching Card Options

- 1.2-Gbps shared memory fabric (Cisco PXM-1)
- 1.2-Gbps shared memory fabric (Cisco PXM1-E)
- 45-Gbps crosspoint fabric (Cisco PXM-45)

## Network Interfaces

- OC-48c/STM-16
- OC-12c/STM-4
- OC-3c/STM-1
- T3
- E3
- Channelized T3 (down to DS0)
- n x T1/E1
- T1/E1
- Channelized T1 (DS0)
- Channelized E1
- High-Speed Serial Interface (HSSI), X.21, V.35
- High density mix of OC-3 and T3/E3 ports

## Optional Redundancy

All components are optionally redundant to 100-percent system redundancy, including the control processor, IP modules, switching fabric, network interfaces, service interfaces, critical backplane signals, power supplies, power modules, and cooling fans.

## Node Synchronization

- Internal Layer 3 clock source
- External T1/E1 Building Integrated Timing Supply (BITS) source
- External source received in band over the network
- Synchronization to software-programmable primary and secondary sources, with automatic switchover

## Electrical Specifications

- Input power required: -48 VDC
- Optional AC powering
- Typical power consumption: 1000W

## Electrical and Safety Compliance

- EMI/ESD compliance
  - FCC Part 15
  - Bellcore GR1089-CORE
  - IEC 801-2
  - EN55022
- Safety compliance
  - EN 60950
  - UL 1950
  - Bellcore NEBS: Level 3-compliant
  - Optical safety: IEC 825-1 (Class 1)



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