

Cisco MGX 8950 Multiservice Switch

The Cisco MGX[®] 8950 Advanced ATM Multiservice Switch scales service provider networks by providing 180 Gbps of redundant switching with 10 Gbps ATM interfaces. The Cisco MGX 8950 offers service providers the greatest level of choice and control over extensions of existing infrastructure as well as providing a seamless path to future services.

Based on the industry's most extensible architecture, the Cisco MGX 8950 provides the greatest flexibility in service provider networks. Multiple, simultaneous control planes support unmatched flexibility and scalability in deploying, managing, and modifying a complete range of ATM and Multiprotocol Label Switching (MPLS).

The Cisco MGX 8950 supports carrier-class reliability, availability, and serviceability with an evolutionary architecture using Cisco QuadNonstop switching fabric set designed to meet the demands of 10 Gbps ATM traffic. The Cisco Europa chipset is a patented system for supporting the industry's highest density broadband interfaces for OC-3c/STM-1 and OC-12c/STM-4. The Cisco Europa chipset guarantees continuous and full use of 10 Gbps per slot so that all queues are used at maximum line rate. The Cisco Europa chipset supports ABR VS/VD traffic management at 10 Gbps line rate. This results in superior control of jitter and latency at full 10 Gbps line rate. This provides the most reliable and flexible support for traffic demands ranging across voice, bursty IP flows, and delay- and jitter-sensitive applications.

Figure 1
Cisco MGX 8950 Multiservice Switch



Key Features

- Offers scalability up to 180-Gbps fully redundant nonblocking throughput within a single chassis
- 10 Gbps ATM interfaces (up to OC-192c/STM-64)
- Industry leading broadband density
- Aggregates OC-3c/STM-1, OC-12c/STM-4, OC-48c/STM-16 trunks
- Industry's highest network availability
- Integrates seamlessly with Cisco BPX[®] 8600 Series and Cisco MGX 8000 Series switches

Key Applications

- High-density broadband ATM
- Scaling MPLS services
- Convergence of voice and data networks

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), Private Network-Network Interface (PNNI), and MPLS can all be offered on a single platform.

Control Card

- Cisco PXM-45 Processor Switching Module
- Redundant slots 7 and 8 reserved for processor switching module

Switching Card

- 60-Gbps bidirectional, nonblocking switching capacity on Cisco XM-60 Switch Module
- Four Cisco XM-60 Switch modules required for redundancy. Minimum of three Cisco XM-60 Switch modules required for system operation.
- Load sharing of switch modules to provide best fault tolerance

Network Interfaces

- OC-192c/STM-64 ATM
- OC-48/STM-16 ATM – clear-channel and channelized to OC-12c/STM-4, OC-3c/STM-1 and DS3
- OC-12c/STM-4 ATM
- OC-3c/STM-1 ATM
- T3
- Channelized OC-48c/STM-16 – channelized to T3, OC-3c/STM-1, OC-12c/STM-4

Table 1 Broadband interface density

| Interface | T3 | OC-3c/STM-1 | OC-12c/STM-4 | OC-48c/STM-16 | OC-192c/STM-64 |
|-------------------|-----|-------------|--------------|---------------|----------------|
| Ports per chassis | 768 | 768 | 192 | 48 | 12 |

Node Synchronization

- Internal Stratum3 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

Network Management

Cisco WAN Manager is a network and element management system that enables operations, administration, and maintenance of the Cisco MGX 8950 Advanced ATM Multiservice Switch. The robust and scalable architecture of Cisco WAN Manager meets the demands of service providers to provision and deliver a complete portfolio of differentiated services.

Mechanical Configuration

- Thirty-two single-height (16 double-height) module slots
- Four single-height slots reserved for load-sharing switch modules
- Two double-height slots reserved for control modules
- Twelve double-height slots reserved for service modules

Physical Specifications

- Dimensions: (H x W x D): 35 x 19 x 22 inches (88.9 x 48.26 x 55.88 cm)
- Rack-mountable in 19- and 23-inch EIA/RETMA and ETSI racks

Electrical Specifications

- Input power required: -48 VDC
- Optional AC powering
- Typical power consumption: 5000W for maximum configuration system

Electrical, Safety, and Standards Compliance

- EMI/ESD compliance
 - FCC Part 15 Class A (United States)
 - ICES-003 Class A (Canada)
 - VCCI Class 2 (Japan)
 - EN 55022 Class B (Europe)
 - CISPR 22 Class B (International)
 - CE mark (Europe)
 - Austel AS 3548, Class A (Australia)
- Safety compliance
 - UL 1950 (United States)
 - CSA-C22.2 No. 950 (Canada)
 - EN 60950 (Europe)
 - TUV 65 (Germany)
 - IEC 950 (International) safety compliance
 - TS001 Austel-Safety (Australia)
- Bellcore NEBS: Level 3 compliant

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