Cisco MGX 8950 Multiservice Switch

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

Product Overview

Based on the industry's most extensible architecture, the Cisco MGX 8950 Multiservice Switch (Figure 1) 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 Multiservice Switch supports carrier-class reliability, availability, and serviceability with an evolutionary architecture using the 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 the maximum line rate. The Cisco Europa chipset supports available bit rate (ABR) VS/VD traffic management at a 10-Gbps line rate. This results in superior control of jitter and latency at the full 10-Gbps line rate, providing 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

Applications

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

Technical Specifications

The following are some of the key features of the Cisco MGX 8950 Multiservice Switch:

- Scalability of up to 180-Gbps fully redundant nonblocking switching within a single chassis
- 10-Gbps ATM interfaces (OC-192c/STM-64)
- Industry-leading broadband density
- OC-3c/STM-1, OC-12c/STM-4, and OC-48c/STM-16 trunk aggregation
- Industry's highest network availability
- Seamless integration with Cisco BPX® 8600 Series and Cisco MGX 8000 Series switches

Table 1 gives the product specifications for the Cisco MGX 8950 Multiservice Switch, and Table 2 gives information on compliance and agency approvals.

Table 1.   Product Specifications

Description	Specification
Software compatibility	• MGX 4.0.15 release and later (depending on the service modules configured)
Service module compatibility	• AXSM-16-155-XG, AXSM-8-622-XG, AXSM-4-2488-XG, AXSM-1-9953-XG • AXSM-16-T3E3/B, AXSM-1-2488/B • MGX-RPM-PR-256, MGX-RPM-PR-512, MGX-RPM-XF-512
Control card	• PXM45/C Processor Switching Module (only processor function is used) • Redundant slots 7 and 8 reserved for control card
Switching card	• 60-Gbps bidirectional, nonblocking switching capacity on Cisco MGX XM-60 switching module • Slots 9, 10, 25, and 26 reserved for switching card • Four Cisco XM-60 switching modules required for redundancy; minimum of three Cisco XM-60 switching modules required for system operation • Load sharing of switching modules to provide best fault tolerance
Slots	• Control processor slots: 2 fixed double-height slots for primary and secondary • Switching card slots: 2 fixed double-height slots divided into 4 single-height slots for 4 load-sharing XM60 switching cards • Service module slots: 12 double-height slots
Redundancy	• 1:1 for control card • Loadsharing for switching card • 1+1 Inter-Card, 1:1 and 1+1 Intra-Card automatic protection switching (APS) for the AXSM-XG family of cards • 1:N redundancy for RPM-XF and RPM-PR
Connectivity	T3/E3, OC-3/STM1, OC-12/STM-4, OC-48/STM-16, OC-192/STM-64, POS, Ethernet, Fast Ethernet, Gigabit Ethernet
Network management interfaces	RJ-45 Ethernet port for the management interface at the node, and In-band ATM connection to reach remote node for management connectivity, DB-15 for the visual and audible alarm port, a command-line interface (CLI) for local management, Simple Network Management Protocol (SNMP) for the network management system interface, Secure File Transfer Protocol (SFTP) for file transfer, and Secure Shell (SSHv1 and SSHv2) Protocol for remote CLI access
Physical 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
Power	• Typical consumption: 5 kW for maximum configuration system

Environmental conditions	• Storage temperature: –40℃ to 70℃ (–40℉ to 158℉)
	• Operating temperature:
	  ◦ Normal: 5℃ to 40℃ (41℉ to 104℉)
	  ◦ Short term: –5℃ to 50℃ (23℉ to 122℉) short term
	• Relative humidity:
	  ◦ Normal: 5% to 85%
	  ◦ Short-term: 5% to 90% but not to exceed 0.024 kg water/kg of dry air
	Short-term refers to a period of not more than 96 consecutive hours and a total of not more than 15 days in 1 year. (This refers to a total of 360 hours in any given year, but no more than 15 occurrences during that 1-year period.)

Table 2.   Compliance and Agency Approvals

Compliance Type	Description
Safety standards	• UL/CSA/IEC/EN 60950-1 • IEC/EN 60825 Laser Safety • ACA TS001 • AS/NZS 60950 • FDA-Code of Federal Regulations Laser Safety
EMI	• FCC Class 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
Immunity (basic standards)	• 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 AC Power, 1 kV DC Power) • 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
Network Equipment Building Standards (NEBS)	This product is designed to meet the following requirements (qualification in progress): • SR-3580: NEBS Criteria Levels (Level 3) • GR-1089-CORE: NEBS EMC and Safety • GR-63-CORE: NEBS Physical Protection
Telcordia CLEI	• GR-485-CORE – CLEI coding • GR-383-CORE – CLEI code product label • GR-209-CORE – PCN Process

System Capacity

Table 3 lists the system capacity.

Table 3.   System Capacity

Description	Specification
ATM Interfaces	12 OC-192c/STM-64, 48 OC-48/STM-16, 96 OC-12/STM-4 (or 192 OC-12/STM-4 through quad-OC-48 channelization), 192 OC-3c/STM-1 (or 768 OC-3c/STM-1 through quad-OC-48 channelization)
IP Interfaces	60 Ethernet or Fast Ethernet, 12 Gigabit Ethernet, or 24 OC-12 Packet over SONET

Ordering Information

Table 4 lists ordering information. To place an order, visit the [Cisco Ordering Home Page](#).

Table 4.   Ordering Information

Product Part Number	Product Name
MGX-8950-DC-R	MGX 8950, 12 I/O, 4 XM-60, Dual DC PEM, Power Cables
MGX-8950-AC-R	MGX 8950, 12 I/O, 4 XM-60, 2 AC Tray, 4 PSU, Power Cables
MGX-8950-DOOR	MGX 8950 door
MGX8950-CAB-MGMT	MGX 8950 Cable Management
DOUBLE SM-CVR	Double-height front card slot cover for the MGX Service Modules
DOUBLE-BC-CVR	Full-height back card slot cover

For More Information

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

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