GX 550

Product Overview

The GX 550 switch from Ascend is a scalable, high-capacity ATM switching system providing the necessary capacity, performance, and fan-out capabilities for carrier services. The GX 550 switch has been specifically designed with the high-availability features required at the core of the network. The GX 550 from Ascend is a carrier-class ATM core switch that is first to deliver OC48/STM-16 capacity, allowing Service Providers to keep pace with growing transport requirements. The GX 550 uniquely combines the capacity and scaleability of a core switch with the service capabilities of an edge switch, providing backbone transport and user services on a single platform. The GX 550 has been specifically designed with the high-availability features required at the core of the network.

Architecture

- 25 Gbps non-blocking ATM switching capacity, scalable to 100 Gbps
- 56 slot modular architecture
- 2 slots dedicated to ATM Switch Fabric Module and redundant ATM Switch Fabric Module
- 2 slots dedicated to Node Processor Module and redundant Node Processor Module
- 2 slots dedicated to Timing Module and redundant Timing Module
- 10 slots available for Base I/O Module
- 40 slots available for Physical Interface Modules
- Dual -48V/60V DC power entries
- Hot-swappable components
- Fully redundant Switch Fabric Module, Node Processor Module, Timing Module, and line cards
- Fully distributed power conversion
- Industry-leading port density: 160 OC3/STM-1, 40 OC12/STM-4, and 10 OC48/STM-16 ports in one 25 Gbps platform

ATM Switch Fabric

- Provides 25 Gbps ATM switching capacity
- Offers three-stage non-blocking switching matrix
- Includes 10x10 3.2 Gbps (2.5 Gbps nominal) switching fabric threads
- Permits lossless switchover to redundant switch fabric
- Supports the Ascend enhanced Quad-Plane Architecture (CBR, rtVBR, nrtVBR, and UBR/ABR) and per VC-queuing architecture

ATM Node Processor

- Provides system-level control and management
- Features fully redundant configuration with switchover to standby node processor
- Permits in-band (ATM PVC or SVC) or out-of-band (10BaseT Ethernet) network management
- Offers RS-232 interface for alternative out-of-band remote network management and operations functions
- Provides redundant hard disk drives containing software images, configuration parameters, and diagnostic information
- Offers redundant high reliability FLASH drives (optional)
- Includes external alarm contact closures for critical, major, and minor alarm subsystems

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Timing Module

- Provides overall system timing
- Offers fully redundant configuration with switchover to standby Timing Module
- Features selectable clock source: internal, port-recovered, or external
- Provides up to 24-hour timing continuity in event of external timing loss through Stratum 3 holdover

Base I/O Module

- Provides physical interface-independent ATM cell processing
- Features ATM cell processing capability for up to four Physical Interface Modules
- Supports Virtual Channel Connection (VCC) switching and Virtual Path Connection (VPC) switching
- Supports ATM PVCs and SVCs
- Supports up to 256,000 connections (VCCs and VPCs) per Base I/O Module
- Supports up to 192,000 multicast connections per Base I/O Module
- Supports up to 1,024,000 cell buffers per Base I/O Module
- Offers distributed CAC and SVC processing for rapid connection setup

Physical Interface Module

- Provides media-dependent and transmission convergence to external ATM interfaces
- Supports OC3/STM-1, OC12/STM-4, and OC48/STM-16
- Logical port architecture permits software configuration of interface type

Specifications

Interface

- 4-Port OC3/STM-1 Physical Interface Module
- 1-Port OC12/STM-1 Physical Interface Module
- 1-Port OC48/STM-16 Physical Interface Module
- SONET/SDH laser-based Intermediate Reach (IR) and Long Reach (LR) interfaces
- Multimode LED-based interfaces
- Independent port configuration: UNI 3.0, UNI 3.1, UNI 4.0, IISP, PNNI, B-ICI, or Direct Trunk

External timing

- T1 primary and secondary clock inputs
- E1 primary and secondary clock inputs

Physical dimensions

- Size: 19 in x 37 in x 23 in (42.26 cm x 93.98 cm x 58.42 cm)
- Rack Mounting Options: EIA 19-inch or 23-inch midmount, central office style

Power requirements

- DC Power: -48V to -60V DC
- Current: 63A @ -48V DC
- Thermal Dissipation: Maximum: 3,000 watts
- AC Power: External AC Power Converter required
- AC Power: 120 to 240 VAC
- Current: 12A @ 120VAC
- Thermal Dissipation: Maximum: 450 watts

Temperature range

- 0-50°C (32-122°F)

Agency approvals

- Environmental/NEBs
  - GR-63-CORE
  - GR-1089-CORE
- EMC
  - FCC Part 15 Class A
  - EN55022
  - EN55022
  - EN50082-1
  - EN61000
- Safety
  - UL 1950
  - EN60950

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