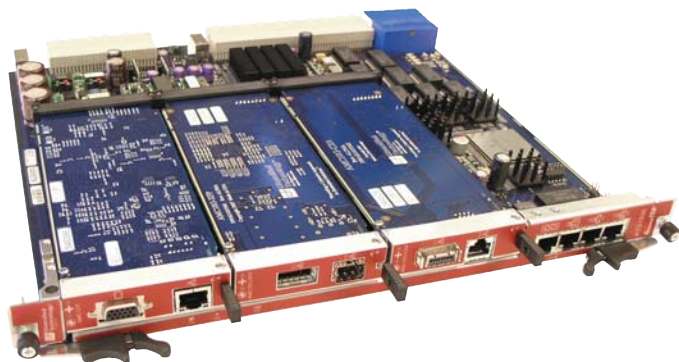




AdvancedTCA 10G Switch

AdvancedTCA[®]



The ATS1936 is a versatile AdvancedTCA board. It can be used as hub, node, or mesh enabled board. It complies with PICMG 3.0 R2.0 ECN002 and PICMG 3.1 Option 1 and Option 9. The ATS1936 implements 2 separate switched networks on a single PCB. By separating the Base and Fabric networks, the ATS1936 provides a separate control plane and data plane. It provides 1Gb Ethernet switching on the 3.0 Base Fabric and the 3.1 Expansion Fabric provides 1Gb/10Gb Ethernet switching. Both of these networks are fully managed with the robust management suite. Both networks support Layer 2 switching as well as Layer 3 routing.

The ATS1936 also can host three AdvancedMC mid-size modules. A variety of different AMC types can be used including AMC.1, AMC.2, and AMC.3 AMCs. The ATS1936 also supports an RTM module with multiple 10Gb Ethernet links and connectivity to the AMCs.

Diversified Technology's ATS1936 represents the superior choice for a high functionality, low-cost 10G ATCA Switch. Third party switch software utilized by the ATS1936 ensures the compatibility and the ease of integrating your chassis with the outside world. For added functionality and flexibility, the AMC sites may host expansion cards dedicated to OA&M, network security, encryption, and more. Combined with DTI's cohesive approach to embedded solutions, the ATS1936 truly represents the best choice in 10G ATCA switches.

PRODUCT FEATURES

ATCA PICMG 3.0/3.1 Switch

PICMG 3.0 R2.0 ECN002 compliant

Base PICMG 3.0 Ethernet interface:

- 24 1GbE and 3 10GbE ports
- Wire-speed performance
- Layer 2 switching
- Layer 3 routing
- Full IPv6 support
- L2 and L3 Multicast support
- 10GbE & 1GbE uplinks

Fabric 3.1 PICMG 3.1 Option 1 and Option 9 Ethernet interface:

- 20 1GbE/10GbE ports
- Wire-speed performance
- Layer 2 switching
- Layer 3 routing
- Full IPv6 support
- L2 and L3 Multicast support
- 10GbE uplinks

3 mid-size AMC sites

- AMC.0 R2.0 compliant
- AMC.2 Type 5 (10GbE)
- AMC.2 Type E1 (1GbE)
- Telecom clocking (master or linecard)
- Directly connected AMCs for PCI-E and SAS/SATA

Separate control processors for Base and Fabric

Fully managed solution with SNMP, serial, web interface, telnet, and SSH

Full 16 slot shelf supported

Various uplink options via front panel and RTM

Dual redundant shelf management controller support (Cross Connect)

Dual image firmware for disaster recovery

Ports**PICMG 3.0 1-Gigabit Ethernet Base Fabric****24 1-Gigabit & 3 10-Gigabit Ethernet Ports**

- 14 10/100/1000-Mbps ports for node slots
- 1 10/100/1000-Mbps port for redundant switch
- 3 1000-Mbps ports for AMC sites (AMC.2 Type E1)
- 2 10/100/1000-Mbps ports for front panel access
- 2 10/100/1000-Mbps ports for rear panel access (with RTM)
- 1 10/100/1000-Mbps port for primary shelf manager 1
- 1 10/100-Mbps ports for redundant shelf manager (Cross-Connect)
- 1 10Gbps port to the redundant hub board via the Update Channel
- 2 10Gbps ports for rear panel access (with RTM)

PICMG 3.1 Option 1 & Option 9 1-Gigabit and 10-Gigabit Ethernet Expansion Fabric**20 1-Gigabit/10-Gigabit Ethernet Ports**

- 14 1G/10Gbps ports for node slots
- 1 1G/10Gbps port for redundant switch
- 1 1G/10Gbps port for AMC site (AMC.2 Type 5)
- 3 1G/10Gbps for rear panel access (with RTM)
- 1 1G/10Gbps build-time-option between second AMC site (AMC.2 Type 5) and forth rear panel access port

AMC Sites

- Site 1: AMC.0 mid-size, AMC.2 Type 5 & E1
 - 10-Gbps to 3.1 network
 - 1-Gbps to 3.0 network
 - Telecom clocking linecards supported
 - RTM support
 - SAS/SATA ports routed between AMCs
- Site 2: AMC.0 mid-size, AMC.2 Type 5 (optional) & E1
 - 10-Gbps to 3.1 network (build-time-option)
 - 1-Gbps to 3.0 network
 - Telecom clocking linecards supported
 - RTM support
 - SAS/SATA ports routed between AMCs
- Site 3: AMC.0 mid-size, AMC.2 Type E1
 - 1-Gbps to 3.0 network
 - Telecom clocking master clock generators and linecards supported
 - RTM support
 - SAS/SATA ports routed between AMCs
 - Update channel support for redundant master clock generators
- Sites 1 and 2 can support a double wide AMC.2 Type 5 & E1 AMC

Hardware Feature Highlights

- Broadcom BCM56503 and BCM56800 based
- 2 separate control subsystems
- Single point of entry management for the 2 control subsystems
- Control subsystem: 400MHz Freescale MPC8247 CPU with 256MB SDRAM and 64MB Flash
- Hardware redundant flash for guaranteed flash recovery

Software Features, Protocols, & RFCs**Stacking Capabilities**

- Redundant Management Unit support
- Single IP Address Management
- Automatic Election of Management Control Unit
- Distribution of Code and Configuration throughout Stack
- Hot-Plug Support for Optional Modules and Stack Units
- Offline Configuration of Modules and Stack Units

Switching

- Wire-speed switching
- STP, RSTP, & MSTP

- Port, MAC, & Subnet based VLANs
- Double VLAN Tagging
- GARP, GMRP, & GVRP
- MAC and Slot based DHCP Server
- IGMP Snooping
- Jumbo Frames
- DoS Attack Suppression
- LLDP
- RADIUS & TACACS+
- Flow Control
- Many-to-One Port Mirroring

Routing

- Wire-speed routing
- RIPv2
- OSPFv2
- VRRP
- DHCP Relay
- VLAN Routing
- Weighted Static Routes

Quality of Service

- DiffServ
- ACLs
 - Advanced classifications based on:
 - MAC Addresses
 - IP Addresses
 - Protocols
 - Protocol port numbers
 - And more
 - Actions:
 - Change traffic queues
 - Redirect or mirror
 - Generate traps
- Various traffic class mapping
- Priority and weighted queuing
- Traffic shaping

Multicast

- IGMP
- PIM-SM & PIM-DM
- DVMRP

IPv6 Routing

- OSPFv3
- DHCPv6
- Tunneling

Management

- Serial
- Telnet
- SNMPv1, v2c, & v3
 - MIB support for every feature
- SSH v1.5 & v2.0
- HTTP
- HTTPS (SSL 3.0 & TLS 1.0)
- Stored scripting
- Event and Error Logging Facility
- Dual firmware images

Mechanical

- Conforms to PICMG 3.0 R2.0 (Core) & ECN002
- Conforms to AMC.0 R2.0

Power Requirements

Max Power Dissipation: 100W without AMCs

Environmental

Operating

- Temperature: -5° to 55°C
- Humidity (RNC): 10% to 85% non-condensing
- Altitude: 4,000m / 13,000 ft @40°C
- Shock: 10g 11ms half-sine
- Vibration: 5-100Hz @ 1g sine sweep
Random 5-20Hz @ 0.01g2/Hz; 20-500 -3dB slope

Storage and Transit

- Temperature: -40° to 70°C
- Humidity (RNC): 10% to 90% non-condensing
- Altitude: 12,192m / 40,000 ft
- Shock: 40g 6ms half-sine, 500/axis
- Vibration: 5-50Hz @ 1/8g 50-100Hz @ 3g sine sweep
Random 5-20Hz @ 0.01g2/Hz; 20-500 -3dB slope

Reliability and Serviceability

- MTBF: 122,173 hours
- 2 year limited warranty

Regulatory Compliance

- Designed for NEBS/ETSI Compliance
- CE Certification with national deviations
- Safety: UL/cUL 60950-1:2007; TUV CB EN/IEC 60950-1:2001
- EMI/EMC: FCC 47 CFR Part 15 Class B; EN 55022:2006; EN 55024:1998; VCCI-A

Ordering Information

ATS1936 : 1G/10G Ethernet AdvancedTCA Hub Board

AMC10G-XFP : AMC.2 Type 5 and AMC.2 Type E1 with XFP and SFP

AMC10G-CX4

AMC.2 Type 5 and AMC.2 Type E1 with 10GBase-CX4 and 10/100/1000Base-T

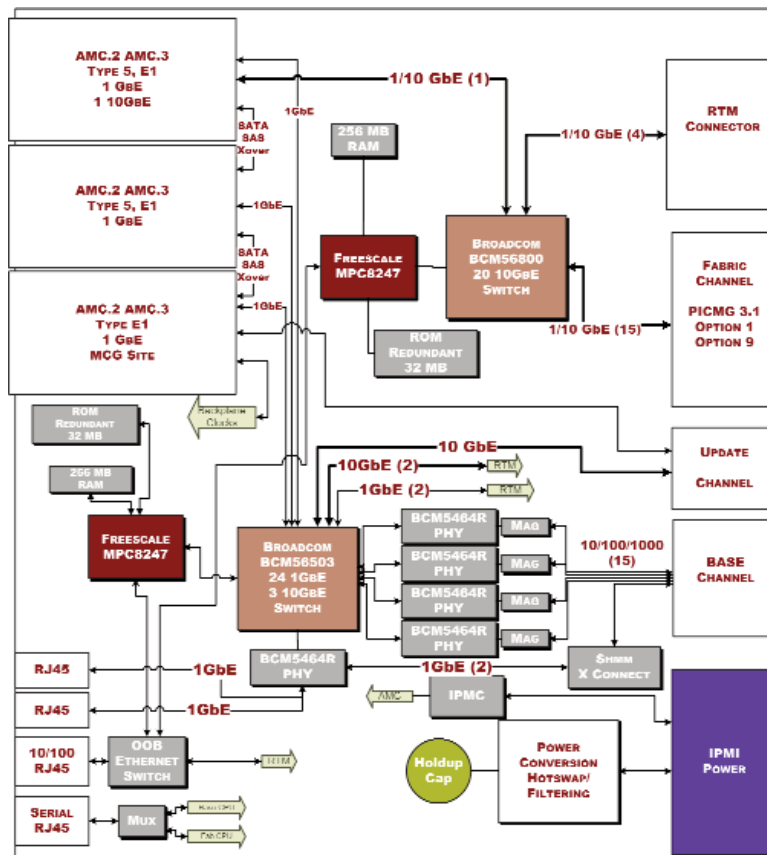
TM1936-CX4

The TM1936-CX4 rear transitional module expands the external connectivity of the ATS1936 with additional ingress/egress ports. It supports short range low cost CX4 cabling. The TM1936-CX4 is ideal for connecting multiple AdvancedTCA chassis together at extremely high bandwidth. The TM1936-CX4 fully supports managing the ATS1936 from the rear in addition to the ingress/egress ports it provides.

TM1936-SFP+

The TM1936-SFP+ rear transitional module expands the external connectivity of the ATS1936 with additional ingress/egress ports. It supports many different types of SFP and SFP+ modules allowing the board to be used in diverse ways and is ideal for use in optical networks. By supporting both 1G and 10G ports the TM1936-SFP+ can be used in both current 1G and future 10G networks. The TM1936-SFP+ fully supports managing the ATS1936 from the rear in addition to the ingress/egress ports it provides.

- Contact DTI for custom AMC and RTM options



All products are shipped FOB factory (MS). Specifications subject to change without notice. Trademarks are the property of their respective owners. (C) Copyright 2009 by Diversified Technology, Inc. All rights reserved.