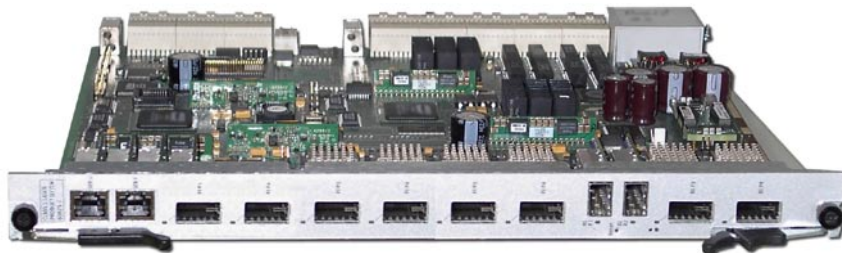# T-HUB2
AdvancedTCA® Hub Module
10Gigabit Ethernet Fabric

The Telco Systems T-HUB2 delivers unparallel connectivity to ATCA platforms with support of multirate 1/10GE FI with 10GE uplinks on both BI & FI. ATCA enables fast development of new systems for communications, enterprise, medical and military applications that require high performance and high availability. Central to this ATCA architecture is the ATCA Hub module that provides connectivity between ATCA chassis slots. The Telco Systems T-HUB2 uniquely delivers extensive networking software suite, BiNOS™, to provide complete networking solution to ATCA platforms.

BiNOS™ is Telco Systems field proven carrier grade Networking Operating System offering superior control and security while delivering wire speed layer 2-4 networking. BiNOS™ networking software delivers state of the art connectivity, including Switching, IPv4/IPv6 routing, MPLS, QoS, Protection & Redundancy etc. BiNOS™ powered HUB modules deliver a ready to deploy networking devices allowing much faster integration and more robust total solution. BiNOS™ is deployed in numerous critical carrier and enterprise networks worldwide.

The Telco Systems T-HUB2 provides 10GE Fabric Interface to each slot and six 10GE interfaces for traffic aggregation. Each FI port can be configured to multirate speeds of 1GigE and 10GE to support mixed GigE and 10GE ATCA service modules.

Telco Systems development team, logistics organization and technical support combine to deliver leading ATCA systems solutions ■

Product Highlights

- PICMG 3.0/3.1 Compliant
- Supports 23" 16-slot platforms
- GigE base interface with 2x10GE uplinks
- 10GE Fabric interface with 6x10GE uplinks
- Supports multirate speeds of 1/10GE on all FI ports
- Separate Base and Fabric Interface Switching & CPU to provide enhanced security and protection
- Wire speed L2-4 switching
- IPv4 and IPv6 switching on both BI & FI
- Powered by BiNOS™ Multi-layer networking operating system software
- Industry standard CLI
- Highly manageable, via SSH, Telnet, Console, SNMP, Syslog
- Unique Qos, Security and Protection
- Optional RTM to support Network timing with clocking inputs and outputs
- IPMI Controller (dual I²C)
- Fast Ethernet update channel between Hub blades
- Proven interoperability with ATCA chassis, shelf management and modules
- OEM and private label options

Specifications

Backplane Interfaces
Fabric Interfaces (FI)
- 14x 10G Ethernet
- Multirate ports: supports 1 & 10GE

Base Interface (BI)
- 14x 1 Gigabit Ethernet
- 2x 100BaseT Shelf Manager controller (ShMC)

Intelligent Platform Management Bus (IPMB)
- 2 x I²C

Update Channel
- Fast Ethernet interconnection between the two Hub blades

RTM
- 2x Ethernet for FI & BI CPU management
- Master Clock Management (MCG)

Front Panel
Fabric Interfaces
- 6x 10Gigabit Ethernet (XFP)
- Multirate ports: supports 1 & 10GE

Base Interfaces
- 4x 1/10Gigabit Ethernet (XFP)

Management
- 2x Console (RJ45)

Network Timing RTM (optional)
- PICMG 3.0 chapter 6.7
- GR-499-CORE, R-1244-CORE, GR-253-CORE
- G.703, G.783, G.803, G.812, G.813

Backplane Interfaces
- 8KHz (CLK1A/B), 19.44KHz (CLK2A/B) & Multi-rate clock (CLK3A/B)

RTM External Interfaces
- Dual BITS/SSU input and output with full SSU support.
- Inter-chassis clock distribution

BiNOS™ Software
- **L2 Protocols:** 802.1Q VLAN, STP, RSTP, MSTP, IGMP, LACP
- **L3 Protocols:** RIP, OSPF, BGP, IS-IS, VRRP, PIM-xM, IPv4, IPv6
- **Quality of Service (QOS):** TOS, DiffServ, Rate Limiting, Queuing management, WRED, 802.1p
- **Security:** ACL, RADIUS, SSH, 802.1x, SNMPv3
- **Resiliency & High Availability:** Resilient Link, sub 50mSec rings, hot swap
- **Management:** CLI, Telnet, RMON, Java GUI, EMS, NMS integration, Ethernet OA&M including Metro Ethernet Forum, 802.1ah, 802.3ag
- **VPN:** L2-VPN, Q-in-Q, L3-VPN (VRF)

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