



T-ATCA 404

40GE AdvancedTCA® SWITCH BLADE

AdvancedTCA specifications enable rapid development of mission-critical telecom applications including LTE evolved packet core (EPC), IP-based multimedia services (IMS), and metro Ethernet aggregation service routing. They also support security functions like firewall and cyber security, and other DPI network applications like lawful enforcements and traffic management. Further, AdvancedTCA, or ATCA, is the right path for implementing SDN and NFV technologies as it offers an open platform for hosting virtualized network functions such as virtualized Evolved Packet Core (vEPC) and virtual customer premises equipment (vCPE), and can support OpenFlow application programming interfaces (API).

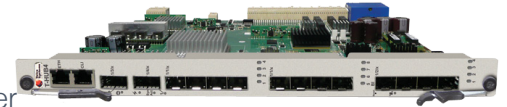
These require a cost-effective, high performance, high bandwidth and high availability solution, which can be achieved using ATCA standard architecture. Central to this architecture is the ATCA switch blade that provides connectivity between ATCA chassis node blades and external networks.

Telco Systems' T-ATCA 404 delivers unparalleled connectivity to ATCA platforms with support for 10/40Gbps multi-rate switching on the fabric interface (FI) and 1/10Gbps multi-rate switching on the base interface (BI). The T-ATCA 404 provides up to 14x40GE fabric backplane interfaces and 8x10GE front panel interfaces, plus the option of 2x40GE front panel interfaces, or 8x10GE ports for ingress traffic. Each QSFP FI port can be configured to multi-rate speeds of four 10Gbps through SFP+ breakout fiber cables or 40Gbps to support simultaneous 10GE and 40GE ATCA service modules.

T-ATCA 404 uniquely delivers an extensive networking software suite, BiNOX™, to provide a complete networking solution for ATCA platforms. BiNOX™ is Telco Systems' field-proven, carrier-grade networking operating system offering superior control and security while delivering wire speed Layer 2-4 networking. BiNOX helps to eliminate oversubscription and traffic congestion and supports low latency requirements which are mandatory in carrier-grade and cloud networks.

BiNOX™ networking software delivers state of the art connectivity, including **switching, IPv4/IPv6 routing, protection and redundancy, load balancing, MPLS, QoS, clock synchronization and OpenFlow support.** Telco Systems' BiNOX-powered T-ATCA product line delivers ready-to-deploy networking devices that allow much faster integration, interoperability with tier 1 network devices, and a more robust solution. Devices powered by BiNOX™ are widely deployed in critical carrier and enterprise networks worldwide.

- 4K VLAN address support
- 128 trunk group support
- 9MB integrated packet buffer memory
- Full MPLS/VPLS/MPWS implementation
- Flexible management options via SSH, Telnet, Console, SNMPv3, NETCONF (including Juniper, Cisco, ALU like CLI), Syslog



PRODUCT HIGHLIGHTS

- PICMG 3.0 / 3.1 R2.0 compliant
- Supports up to 16-slot platforms
- 1GE/10GE base interface with 4 uplinks
- 10GE/40GE fabric interface (40GBaseKR4, 4x10GBaseKR, 10GBaseKX4)
- 8x10GE and 2x40GE (or additional 8x10GE) uplinks, making it the highest port density switch in the market
- More than 160Gbps external connectivity, and a total of 640Gbps
- Wire speed non-blocking L2-4 switching
- IPv4 and IPv6 switching on both BI & FI
- Advanced load balancing on L2-L4
- Advanced switch over redundancy
- Unique Hierarchical QoS (HQoS)* for service assurance
- Advanced security mechanisms
- Enhanced protection and resiliency options
- Ethernet OAM (EFM,CFM,Y.1731,RFC2544)
- Enhanced clock synchronization (IEEE1588v2*, SynchE*)
- Proven interoperability with ATCA chassis, CPU blades and shelf management
- NEBS and ETSI compliant

T-ATCA 404

40GE ADVANCED TCA® SWITCH BLADE

PRODUCT SPECIFICATIONS

Fabric Interface (FI) Wire speed, 40GE ATCA switch
 640Gbps full duplex switch capacity
 8 x SFP+ (1/10GE)
 2 x QSFP or 8 x SFP+ front uplinks with 10Gbase-SR/LR/ER/ZR/ direct attach copper and 40Gbase-SR/LR
 *Includes Laser monitoring
 Backplane: 14 x fabric downlinks of 40GBaseKR4, 4x10GbaseKR, 10GBaseKX4

Base Interface (BI) 2 x SFP+ uplink of 10GbaseSR/LR/ER/ZR /Direct Attached Copper
 *Includes Laser monitoring and 2x SFP + uplink of 1000base-SR/SLR/ER/ZR/Copper SFP
 Backplane: 14 x downlinks 1000BaseT/TX includes between Hubs connectivity
 2 x 100BaseT shelf manager controller (ShMC)

Timing SyncE*, IEEE 1588v2 PTP*, BITS* and phase clock*

Layer 2 Standard Ethernet bridging
 Port/MAC/Subnet/Flow based Vlan
 QNQ, Vlan Swap, Flexible VLAN manipulations
 Vlan Statistic,L2 OAM (EFM,CFM,Y.1731,RFC2544), Port mirroring, laser monitoring, LLDP (link layer discovery), ACL
 All MEF Services
 OpenFlow*

Layer 2.5 & 3 Static Routing, OSPFV2, VRRP, BFD, MPLS L2VPN , full VPLS PE, HVPLS, VPWS, MPLS L3VPN*

Resiliency xSTP, resilient link, G.8032,G.8031
 LAG: Static/IEEE 802.3ad
 LACP
 Sub-50ms RSVP-TE FRR, HVPLS dual homing, secondary LSP

Quality of Service SP, WRR, DRR and Hybrid scheduling
 Congestion avoidance WRED and tail drop
 Rate Limit and shaper
 802.1P, DSCP & ToS

Multicast Management IGMP snooping v1/v2/v3

Load Balancing Advanced load balancing capabilities with dynamic "bucket" management updates

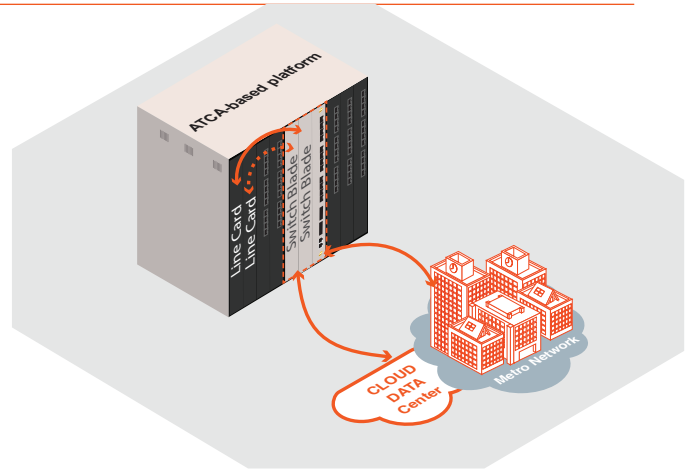
Redundancy Hitless switch over mechanism under switch/link fail, dual chassis LAG*, N+M payload blade control, stacking*

Management Console, Telnet, SSHv2, Radius, TACACS+, SNMP, v1/2/3, xFTP, NTP, DNS resolver, NETCONF

Security ACLs, RADIUS, SSHv2, SNMPv3, SFTP, port security, broadcast storm prevention, secured access

EMC & Immunity FCC 47 CFR, Part 15 Subpart B (2009 Class A)
 ICES-003 (2004) / CISPR 22: 2008 / ANSI C63.4:2009
 EN 55022:2006 + A1:2007 + A2:2010, Class A EN 55024:2010
 IEC 61000-4-2:2008
 IEC 61000-4-3:2006 + A1:2007 + A2:2010
 IEC 61000-4-4:2004 + A1:2010
 IEC 61000-4-5:2005
 IEC 61000-4-6:2008
 IEC 61000-4-8:2009

Safety UL 60950-1:2007, 2nd Edition
 CSA C22.2 No. 60950-1-07, 2nd Edition-



KEY APPLICATIONS

- LTE Evolved Packet Core infrastructure
- Security based application as firewall and cyber security
- Intelligent Policy Enforcement (IPE)
- Traffic management
- Gigabit Passive Optical Network (GPON) optical line terminal
- Virtualized Evolved Packet Core (vEPC) and virtual customer premises equipment (vCPE).
- Carrier Ethernet/MPLS aggregation platform
- Industrial inspections machines for semiconductor industry

ORDERING INFORMATION

Part Number	Description
T-ATCA404	Next generation 40GE ATCA switch blade, supports Layer 2/3; BiNOX network OS
BTI-10GSR-DD-SFP+	Single port 10 Gigabit Ethernet SFP+ transceiver multimode 850nm with digital diagnostics; Connector: LC; Distance: 300m
BTI-10GLR-DD-SFP+	Single port 10 Gigabit Ethernet SFP+ transceiver multimode 850nm with digital diagnostics; Connector: LC; Distance: 10KM
BTI-MGBIC-M-TX	1 port 1000BaseT copper mini-GBIC transceiver; Connector: RJ-45; Distance: 100m

*Future feature



Int'l Headquarters
 Tel: +972-9-866-2525
 Fax: +972-9-866-2500
 sales.emea@telco.com

US Headquarters
 Tel: +1-800-221-2849
 Fax: +1-781-551-0538
 sales@telco.com

EMEA
 FR: +33-95-314-7731
 DE: +49-241-463-5490
 sales.emea@telco.com

Asia Pacific
 Tel: +65-6224-3112
 Fax: +65-6220-5848
 info.apac@telco.com

Latin America
 Tel: +1-800-221-2849
 Fax: +1-781-551-0538
 sales.lam@telco.com