T-Metro 8001

High Density Service Aggregation Platform and Cloud Gateway

THE NEED

VERSATILE & ROBUST Network Edge platforms are essential for telecom providers, aiming to cater for multi-service offerings. In order to be able to adapt for traditional WAN connectivity blended with added-value services, the demand today is for a high-performance rapidly deployable service platform with advanced features and low cost per port.

THE SOLUTION

Telco Systems T-Metro 8001 is a leading MEF CE2.0-compliant ,multipurpose, 200Ge switching capacity service aggregation platform.
It enables L2/ L3 VPN services, aggregate sufficient number of 1/10Ge interfaces thus enable access services adaptability.
offerings while preserving business strategies.

- 20x1GE/10GE Ports, wire speed non - blocking 200GE switch in 1RU enclosure
- Hierarchical Quality of Service (HQoS) and service granularity support
- L2/L3 over MPLS capabilities
- Hot swappable power supplies

MPLS Cloud Services Solution

Cloud-based services pose new challenges for service providers. The T-Metro 8001 addresses these challenges employing MPLS to provide low latency L2/L3 VPN, high availability, end-to-end service assurance using advanced OAM tools and increased scalability.

The T-Metro 8001 complements the T-Metro 8104 cloud gateway and service aggregation platform, and drives high capacity 10GE rings into the aggregation layer to support the high bandwidth required for cloud applications and mobile backhaul networks. With it, Telco Systems offers service providers cloud-to-edge and cloud-to-cloud services end-to- end, assuring an exceptional level of experience for the end-user while optimizing carrier resources.

ETHERNET/MPLS/IP Multi 10GE

Advanced Layer 2/3 networking allows total flexibility in deployment, provisioning, and delivery of business services. Physical and virtual networking capabilities provide automated address management and discovery, bandwidth profiles, advanced traffic classes, and

complete control over how subscriber traffic is transported across a service provider's network. Its reliable, non-blocking architecture and redundancy features ensure maximum uptime.

The T-Metro 8001 leverages Telco Systems' field proven, carrier grade BiNOX operating system – common among all its platforms – to provide a robust and advanced multi-layer software platform to support operations, administration, and maintenance requirements. Hardware-based QoS and HQoS allows for very high QoS granularity independent of physical ports or services, while an embedded test head supports end-to-end SLA measurement and assurance. It also offers advanced OAM supporting hundreds of services with ITU-T Y.1731 SLM, RFC 2544 and Y.1564 measuring the network performance.

SDN Support

T-Metro 8001 provides full SDN support with comprehensive adoption of NETCONF, the network configuration protocol, and YANG, its data modeling language.

![TELCO SYSTEMS — THE NETWORK CUTTING EDGE]

BUSINESS SERVICES

- L2/L3 VPN
- Off-net/on-net
- Multi-tenancy support
- 100GE Hardware OAM
- Flexible SLA Management

E-RATE/EDUCATION

- Campus network interconnectivity and aggregation
- 100GE Hardware OAM
- Flexible SLA management
- Modular Hardware
- Multi-tenancy support
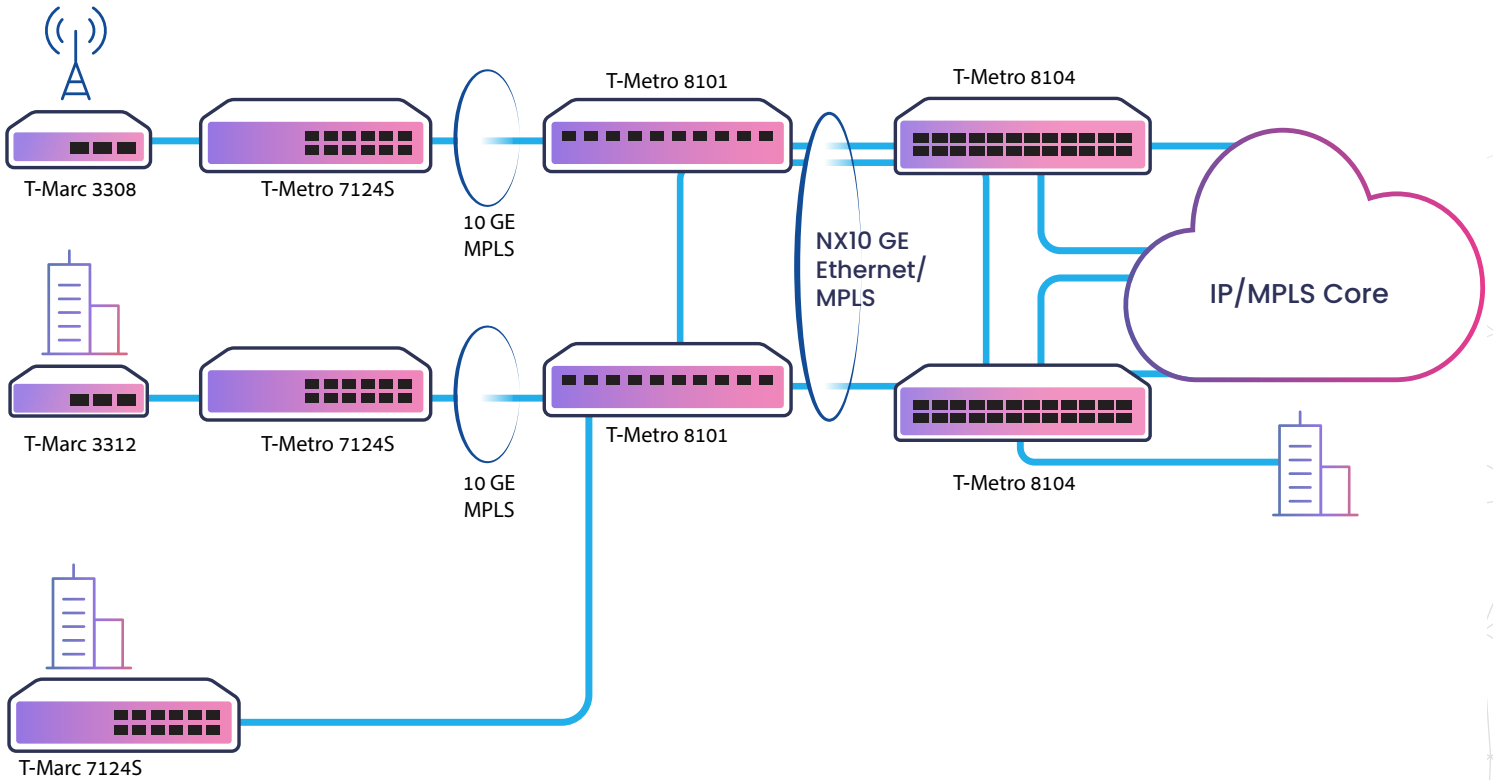
CLOUD & DATA CENTER CONNECTIVITY

- Any cloud
- High bandwidth
- Low latency
- Flexible SLA management
- Assured conenctivity

MOBILE BACKHAUL

- 100GE HW OAM
- Segment Routing
- Flexible SLA Management
- Synchronization*
- Low Latency

CLOUD & DATA CENTER CONNECTIVITY

T-Marc 3308 · T-Metro 7124S · 10 GE MPLS · T-Metro 8101 · T-Metro 8104 · NX10 GE Ethernet/MPLS · IP/MPLS Core · T-Marc 3312 · T-Metro 7124S · 10 GE MPLS · T-Metro 8101 · T-Metro 8104 · T-Marc 7124S

TECHNICAL SPECIFICATIONS

Hardware Characteristics	20x1GE/10GE SFP+ ports, wire speed non-blocking 200GE switching capacity in 1RU, support for short and long-haul optical interconnect
Services	IEEE 802.1Q bridging, IEEE 802.1ad Q-in-Q (TLS), MPLS L2VPN- Full VPLS PE, MTU HVPLS, VPWS, MPLS L3 VPN (BGP), can act as CE and PE
Resiliency	Sub-50ms RSVP-TE FRR,TI-LFA, secondary LSP ITU-T G.8032, xSTP, resilient link, dual homing VPLS/HVPLS, BFD, LAG (Static/IEEE 802.3ad LACP/ Multi-chassis), CPU redundancy*
Quality of Service	Per port/EVC/flow single/dual rate limiting, hierarchical rate limit per port/EVC/flow Hierarchical QoS. Support for multi-level SP, WRR and hybrid frames scheduling and shaping, CoS marking and mapping per EVC, flow control for congestion handling
Multicast Management	IGMP snooping v1/v2/v3, IGMP Proxy, Multicast VLAN registration (MVR)
OAM	OAM IEEE 802.3ah EFM, Hardware-based IEEE 802.1ag CFM, OAM over VPLS, MPLS Ping
Testing & Monitoring	Hardware-based ITU-T Y.1564 and RFC 2544 test head, loopback and service performance analyzer, MEF46 Latching Loopback controller & reponder, in-service testing capabilities, ITU-T Y.1731 PM, SM and SLM, Per-port/EVC/VLAN/COS, hardware-based MAC Swap loopbacks, TWAMP w/auto-testing
Management	Console, Telnet, SSHv2, RADIUS, TACACS+, SNMP v1/2/3, xFTP, NTP, DHCP client/server & Zero Touch Provisioning
Security	ACLs, RADIUS, SSHv2, SNMPv3, SFTP, port security, broadcast storm prevention, secured access
General Specifications	Dimensions: 1.75"H (1RU) x 19"W x 20"D (44.45 x 482.6 x 508 mm) Weight: 12.68lbs. (5.75kg) Power: Dual redundant, hot-swappable AC/DC 100-240VAC / -48VDC (-36VDC to -60VDC) Max power consumption: 150W Operating temp: 0ºC to 45ºC, Extended temp: -5ºC to 55ºC (up to 96 hours) Humidity: Up to 95%, non-condensing Fan: Load sharing, speed controlled, hot-swappable
Regulatory Compliance	European CE marking, EN 55022 Class A, CISPR 22 Class A, EN55024: 1998+A1, EMC Immunity, Harmonics: EN 61000-3-2/ IEC 61000-3-2, Voltage fluctuations: EN 61000-3-3/ IEC 61000-3-3, ESD: EN 61000-4-2/ IEC 61000-4-2, RFI-AM: EN 61000-4-3/ IEC 61000-4-3, EFT: EN 61000-4-4/ IEC 61000-4-4, Surges: EN 61000-4-5/ IEC 61000-4-5, Conducted: EN 61000-4-6/ IEC 61000-4-6, Voltage DIP: EN 61000-4-11/ IEC 61000-4-11, EMC Emissions, FCC 47 CFR Part 15 Class A, ICES-003 Issue 4 Class A (Canada), EN 300386, Telcordia GR-1089 issue 4
Environmental Compliance	Full RoHS, NEBS Level 3 compliant
Safety Requirements	UL 60950, EN 60950, IEC 60950, IEC 60825-1, CSA 22.2 No. 950, Class 1 Laser product safety (eye safety) 2 x -48VDC PEM

ORDERING INFORMATION

- Multi-service aggregation of Carrier Ethernet networks
- High-density business services and Carrier Ethernet network aggregator
- Mobile backhaul Carrier Ethernet/MPLS aggregator
- SDN networks with NETCONF/YANG support
- Cloud gateway – cloud to cloud & cloud to edge connectivity
- Cost-optimized DSLAM, CMTS and OLTs aggregation
- 10GE service aggregation
- 10GE OAM collector
- Carrier exchange, interconnect

Part Number	Part Number
TM8001-AC-x	T-Metro 8001 platform with fixed twenty (20) 1GE/10GE ports, unpopulated SFP+, fan tray, 2xAC PSU and AC power cord. Notes: 'x' for power supply and cord types.NA for North America, EUR for Europe, UK for United Kingdom
TM8001-DC	T-Metro 8001 platform with fixed twenty (20) x 1GE/10GE ports, unpopulated SFP+, fan tray, 2 x -48VDC PEM

ABOUT TELCO SYSTEMS

Telco Systems delivers a portfolio of Network Edge (Carrier Ethernet and MPLS) demarcation, aggregation, and uCPE solutions that enables service providers to create intelligent, service-assured, CE 2.0-compliant networks for mobile backhaul, business services, and cloud networking. Telco Systems end-to-end Ethernet, SDN/NFV-ready product portfolio delivers significant advantages to service providers, utilities, and city carriers competing in a rapidly evolving telecommunications market. Telco Systems is a wholly owned subsidiary of BATM Advanced Communications.

To learn more, visit Telco Systems at http://www.telco.com