

T-Metro® 8100

HIGH DENSITY 100GE SERVICE AGGREGATION PLATFORM AND CLOUD GATEWAY

Telco Systems' T-Metro 8100 is a next-generation, high-density, standalone service aggregation platform providing carrier Ethernet 2.0, MPLS, IP (Layer 3), and SDN (OpenFlow and NETCONF). T-Metro 8100 offers massive service scalability, carrier class resiliency, and an industry-leading features like QoS and OAM (operations, administration and management).

This best-in class service switch allows carriers to offer 100GE connectivity and aggregation to meet the growing pressure for more bandwidth and lower price per gigabit. With 960G capacity in a compact 1RU chassis, the T-Metro 8100 provides a wide range of port density, management and resiliency making it the platform of choice for wide-scale carrier Ethernet adoption, implementation, and network transformation.

T-Metro 8100 is designed for service providers who need high reliability and flexibility to aggregate multiple services over 1GE, 10GE and 100GE port rates in a metro Ethernet environment. It offers a full MPLS provider edge (PE) solution with integrated, advanced MPLS/HVPLS and IP/MPLS capabilities, and multi rate ports flexibility between 100GE, 40GE, 10GE and 1GE, 40GE, 10GE or 1GE ports.

By using 100GE, carriers can gradually move from dark fiber xWDM transport to active fiber and lower their total cost of ownership.

100GE MPLS Cloud-based Service Solution

Cloud-based services pose new challenges for service providers. T-Metro 8100 addresses these challenges using MPLS to provide low latency L2VPN, high availability, and end-to-end service assurance using advanced OAM tools and increased scalability.

PRODUCT HIGHLIGHTS

- 2x 100GE/40GE or 16x 10GE, 4x 40GE or 16x 10GE and 8x 10GE Fabric interface ports, wire speed non-blocking 960G switch in 1RU
- Full MPLS (VPWS, VPLS, HVPLS) Provider Edge and IP/MPLS
- Highly scalable solution to support large amount of services
- Enhanced Quality of Service and service granularity support
- Extended hardware-based OAM*
- MEF CE 1.0/2.0, IEEE, ITU-T and IETF standards compliance for multi-vendor interoperability
- Integrated with EdgeGenie Orchestrator for full network lifecycle management
- ITU-T Y.1731 SLM support, RFC 2544 and Y.1564 network performance testing
- Extensive service redundancy (xSTP, FRR, G.8032, G.8031*, dual homing)
- Enhanced control plane and routing features (OSPF, IS-IS, LDP, RSVP-TE)
- Low power consumption to reduce OPEX
- Redundant hot-swappable DC power supplies and fan tray
- Support for 19" and 23" racks
- Support for short and long-haul optical interconnect

T-Metro 8100 complements the T-Metro 8000 (T-Metro 8006 and TM-8001) Aggregation and Cloud Gateway Family by driving high capacity 100GE rings into the aggregation layer to support high-bandwidth cloud applications and mobile backhaul networks. With the addition of T-Metro 8100, Telco Systems offers service providers cloud-to-edge and cloud-to-cloud end-to-end services, assuring an exceptional level of experience for the end-user while optimizing carrier resources.

L3 Support

T-Metro 8100 provides comprehensive solutions and services with native IP support, including Virtual Routing and Forwarding (VRF), IP static routing, and dynamic routing protocols like OSPF and BGP. T-Metro 8100 also supports Dynamic Host Configuration Protocol (DHCP) for dynamically distributing network configuration parameters, and Virtual Router Redundancy Protocol (VRRP).

The T-Metro 8100 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 administration, and maintenance requirements. Hardware-based QoS 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 8100 provides full SDN support with comprehensive adoption of NETCONF, the network configuration protocol, and YANG, its data modeling language. It also supports OpenFlow 1.3.1 with a simple software upgrade to ViNOX OS (available separately).



PRODUCT SPECIFICATIONS

Hardware Characteristics 2 x 100GE/40GE (QSFP28/QSFP+) or 16 x 10GE (using MPO breakout cable and SFP+), 4 x 40GE (40G QSFP+) or 16 x 10GE (using MPO breakout cable and SFP+) and 8 x 10GE (SFP+) ports, Wire speed non-blocking 960Gbps full duplex switching capacity in 1RU, support for short and long-haul optical interconnect

Services E-LAN, E-Line, E-Tree and E-Access MEF services compliance, IEEE 802.1Q bridging, IEEE 802.1ad Q-in-Q (TLS), MPLS L2VPN - Full VPLS PE, MTU HVPLS, VPWS, **OpenFlow support

Timing SyncE and IEEE 1588v2*

Resiliency Sub-50ms RSVP-TE FRR, secondary LSP ITU-T G.8032, G.8031*, xSTP, resilient link, dual homing VPLS/HVPLS* LAG (Static/IEEE 802.3ad LACP/Multi-chassis*)

Quality of Service Per port/EVC/flow single/dual rate limiting Hierarchical rate limit per port/EVC/flow SP, WRR and hybrid frames scheduling, CoS marking and mapping per EVC

Multicast Management IGMP v1/v2/v3

OAM Hardware-based IEEE 802.3ah EFM, IEEE 802.1ag CFM

Testing & Monitoring ITU-T Y.1564 and RFC2544 test head and service performance analyzer In-service testing capabilities, ITU-T Y.1731 SLM/DMM Per port/EVC/VLAN/COS, hardware-based flexible MAC-based loopbacks

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

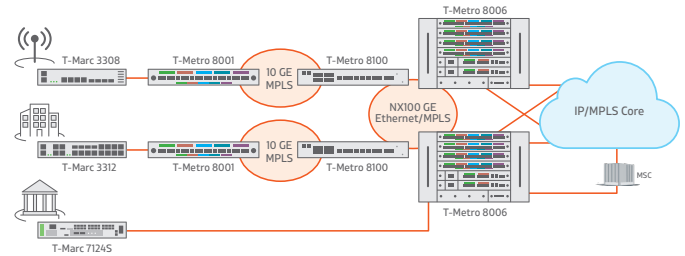
Security ACLs, RADIUS, SSHv2, SNMPv3, SFTP, port security, broadcast storm prevention, secured access

General Specifications
 Dimensions 1.75"H (1RU) x 19"W x 20"D (44.45 x 482.6 x 508mm)
 Weight 12.68lbs. (5.75kg)
 Power Dual redundant, hot-swappable DC 24/-48VDC, Max power consumption: 200W
 Operating temp 0°C to 45°C
 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

Safety Requirements UL 60950, EN 60950, IEC 60950, IEC 60825-1, CSA 22.2 No. 950, Class 1 Laser product safety (eye safety)



TELCO SYSTEMS' MANAGEMENT & ORCHESTRATION SYSTEM

KEY APPLICATIONS

- High-density business services and carrier Ethernet network aggregator
- Mobile backhaul carrier Ethernet/MPLS aggregator
- SDN networks with NETCONF and OpenFlow support
- Cloud gateway – cloud-to-cloud and cloud-to-edge connectivity
- Cost-optimized DSLAM, CMTS and OLTs aggregation
- 100GE service aggregation
- 100GE OAM collector
- Carrier exchange, interconnect

ORDERING INFORMATION

Part Number	Description
TM-8100-2DC	T-Metro 8100 platform with fixed 2x 100GE (QSFP28) and 48x 1GE/10GE (SFP+) unpopulated ports, fan tray, 2x 24/48VDC PEM
VINOX- TM8100-L	VINOX is a next generation carrier grade networking operating system which supports multiple transport technologies such as Carrier Ethernet, IP/MPLS and OpenFlow 1.3.1. Supporting MEF CE2.0 services, high resiliency, QoS, OAM and next generation management protocols like NETCONF and YANG. VINOX-TM-8100-L runs on TM-8100
VINOX- TM8100-L	Next generation carrier grade networking operating system which supports multiple transport technologies such as Carrier Ethernet, IP/MPLS and OpenFlow 1.3.1. VINOX supports MEF CE2.0 services, high resiliency, QoS, OAM and next generation management protocols like NETCONF and YANG. VINOX-TM-8100-L runs on TM-8100 products

**Please refer to the release notes for the exact list of supported transceivers

*Future feature

**VINOX software (purchased separately)



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.latam@telco.com