T-Metro® 8100

HIGH DENSITY 100GE SERVICE AGGREGATION PLATFORM AND CLOUD GATEWAY

Telco Systems’ T-Metro 8100 is a next generation, high-density service aggregation platform that provides 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 feature set that supports QoS, and operations, administration and management (OAM) capabilities. This best-in-class service switch allows carriers to offer cloud-based business Ethernet and mobile backhaul services to the edge. With 680G capacity in a compact 1RU chassis, T-Metro 8100 provides industry-leading throughput, port density, management and resiliency. Offering a wide variety of services and easy migration to a converged service environment, T-Metro 8100 is 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. This Carrier-class device offers a full MPLS provider edge (PE) solution with integrated, advanced MPLS/HVPLS capabilities in a compact form factor, and per port network flexibility with 100GE, 10GE or 1GE in each port.

100G MPLS Cloud Services 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, end-to-end service assurance using advanced OAM tools and increased scalability.

T-Metro 8100 can drive high capacity 100GE rings into the aggregation layer to support the high bandwidth required for cloud applications and mobile backhaul networks. With the addition of T-Metro 8100 to the T-Metro 8000 Aggregation and Cloud Gateway Family, 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 that support IP environment requirements, 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) support.

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 operations, administration, and maintenance requirements. Hardware-based QoS allows for very high QoS granularity independent of physical ports or services. An embedded test-head supports end-to-end SLA measurement and assurance. T-Metro 8100 supports advanced OAM (operations, administration, and maintenance), with hundreds of ITU-T Y.1731 services, and RFC 2544 / Y.1564 support to measure 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 (ordered separately).

PRODUCT HIGHLIGHTS

- 2 x 100GE (QSFP28) ports + 48 x 10GE/1GE (SFP+) ports, wire speed non-blocking 680G switching in 1RU
- Carrier Ethernet over MPLS/ Ethernet transport technologies
- Full MPLS (VPWS, VPLS, HVPLS) Provider Edge (PE)
- Highly scalable solution to support large amount of services
- Enhanced Quality of Service and service granularity
- Advanced 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 or AC power supplies and fan tray
- Support for 19” and 23” racks
- Support for short and long-haul optical interconnect
PRODUCT SPECIFICATIONS

Hardware
Characteristics
2 x 100GE (QSFP28) and 48 x 10GE/1GE (SFP+) ports, wire speed non-blocking; 680G 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 (TL5), MPLS L2VPN - Full VPLS PE, MEF 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
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, TFTP, 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 AC/DC 100-240VAC
Voltage: 100-240VAC
Operating temp: 24°C-48°CDC, Max power consumption: 200W
Humidity: 0°C to 45°C Up to 95%, non-condensing
Fan: Load sharing, speed controlled, hot-swappable

Regulatory
Compliance

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)

KEY FEATURES

• 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 and OpenFlow support
• Cloud gateway – cloud to cloud and cloud to edge connectivity
• Cost-optimized DSLAM, CMTS and OLTs aggregation
• OAM collector
• Carrier exchange, interconnect

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM-8100-2AC-x</td>
<td>T-Metro 8100 platform with fixed 2 x 100GE (QSFP28) and 48 x 1GE/10GE (SFP+) unpopulated ports, fan tray, 2 x 48/AC PSU and power cord. Note: ‘x’ for power supply cord types, where ‘NA’ is for North America, ‘EU’ is for Europe and ‘UK’ is for United Kingdom</td>
</tr>
<tr>
<td>TM-8100-2DC</td>
<td>T-Metro 8100 platform with fixed 2 x 100GE (QSFP28) and 48 x 1GE/10GE (SFP+) unpopulated ports, fan tray, 2x 24/48VDC PEMS</td>
</tr>
<tr>
<td>VINOX-TM8100-L</td>
<td>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</td>
</tr>
</tbody>
</table>