



T-METRO 7224

10 GE MULTI-SERVICE MPLS PROVIDER EDGE (PE) AGGREGATION PLATFORM

Delivering converged voice and data services over a single network offers many revenue-generating opportunities for today's service provider. Telco Systems' T-Metro 7224 10 Gigabit Ethernet Service Access Switch supports Carrier Ethernet/MPLS networks, enabling service providers to deliver reliable services across the access network.

The T-Metro 7224 was designed for service providers who need the reliability of the traditional SONET/SDH quality of service and the flexibility to deliver TDM circuits, in a Gigabit/10 Gigabit metro Ethernet ring. This carrier-class device offers advanced MPLS/HVPLS capabilities, enabling emerging and incumbent service providers to protect their existing investments, while easily migrating to next generation services. T-Metro 7224 delivers features such as uncompromised security, advanced HQoS and MPLS/ HVPLS.

AccessMPLS™

AccessMPLS™ extends an HVPLS or T-MPLS domain to the customer premises for expanded, integrated multi-service networking. In cases where service providers want to extend the many benefits of HVPLS and Pseudowires to a CLE, AccessMPLS provides a purpose-built solution to map into existing MPLS-based networks in a transparent manner, while utilizing a common set of rich management, provisioning and OAM tools.

AccessEthernet®

Advanced Layer 2 networking using Telco Systems' Access Ethernet allows total flexibility in deployment, provisioning, and delivery of Ethernet 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.

Modular in design, the T-Metro 7224 allows service providers to connect different services and interfaces at the network edge while maintaining the existing infrastructure.

T-Metro 7224 and other solutions from Telco Systems are standards-based, ensuring interoperability in a diverse network. T-Metro 7224 is released with several flavors to address various application needs.

The T-Metro 7224 utilizes Telco Systems' field proven and carrier grade BiNOX operating system to provide a robust and advanced multi-layer software platform to support operations, administration, and management requirements.

Telco Systems' EdgeGenie Service Management Platform simplifies management of the full lifecycle of network deployment from planning to managing, monitoring and maintain Ethernet services.

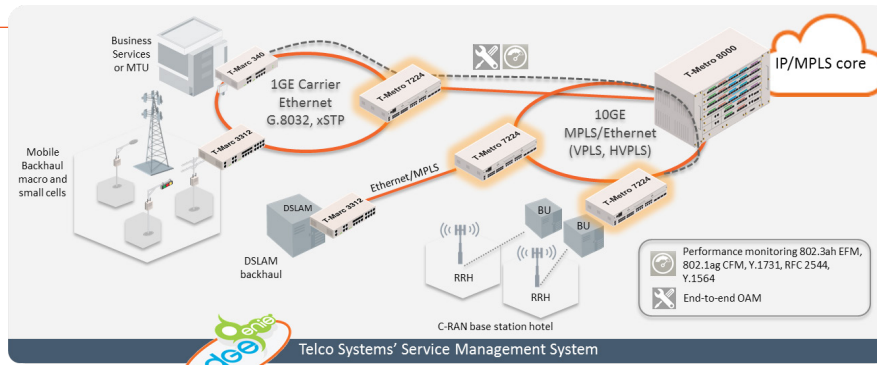


PRODUCT HIGHLIGHTS

- Purpose-built, highly available, modular, scalable architecture
- 10 Gigabit Ethernet, wire speed non-blocking at 64 Gigabit Carrier Ethernet service switch
- MEF, IEEE, ITU-T and IETF standards compliant for multi-vendor interoperability
- MEF CE 1.0 and 2.0 compliant
- EdgeGenie Service Management for full lifecycle support of Ethernet services
- Enhanced security and maximum protection mechanisms
- Full MPLS/HVPLS Provider Edge support
- HVPLS MTU support
- Field upgradeable, redundant hot-swappable power supplies
- BiNOX operating-system
- Enhanced Hierarchical-Quality-of-service (HQoS) and service granularity support
- Complete professional management tools for best control of your network
- 24 Gigabit Ethernet/MPLS SFP ports (8 Combo ports)
- Four 10 Gigabit Ethernet/MPLS XFP ports
- Compact size: 2RU height, 19" rack-mountable metal enclosure, 305mm depth
- ETSI compliant design
- MPLS provider edge (PE)

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PRODUCT SPECIFICATIONS

Hardware Characteristics	16 x 100BaseFX/1000BaseX 8 x combo 100BaseFX/1000BaseX or 10/100/1000BaseT ports 4 x 10GE XFP ports Non-blocking 64Gbps FD platform
Services	MEF CE 1.0 and CE 2.0 services, IEEE 802.1Q bridging, IEEE 802.1ad Q-in-Q (TLS) MPLS L2VPN – Full VPLS PE, HUB and MTU HVPLS, VPWS
Resiliency	Sub-50ms RSVP-TE FRR, HVPLS dual homing, secondary LSP ITU-T G.8032 over VPLS, xSTP, resilient link, MSTP Fast Ring, LAG (static/IEEE 802.3ad LACP/Multi-chassis*) Hot swappable, dual redundant AC/DC power supply
MPLS Features	LDP LSPs, RSVP LSPs with strict and loose paths, link colors/resource classes, MPLS L2VPN – Full VPLS PE, HUB and MTU HVPLS, VPWS
Routing Control Plane	IS-IS, IS-IS-TE, OSPF, OSPF-TE, Virtual OSPF
Quality of Service	Per port/EVC/flow single/dual rate limiting HQoS – 24 hardware queues per EVC, multi-level SP, WRR and hybrid frames scheduling, CoS marking and mapping per EVC
Multicast Management	IGMP snooping v1/v2/v3 over MPLS
OAM	IEEE 802.3ah EFM, IEEE 802.1ag CFM
Management	Console, Telnet, SSHv2, Radius, TACACS+, SNMP v1/v2/v3, xFTP, NTP, DNS resolver
Security	ACLs, RADIUS, SSHv2, SNMPv3, SFTP, port security, broadcast storm prevention, secured access
General Specifications	Dimensions (W x H x D): 440mm (19" rack mountable) x 89mm (3.5")(2RU) x 305mm (12") Weight: 16.97lbs (7.7kg) max (without PSU) / 1.3lbs (0.6kg) (with single PSU) Power: Dual redundant, hot-swappable AC/DC 100-240VAC / -48VDC (-36VDC to -60VDC) Operating temp: 0°C to 45°C Extended temp: -5°C to 55°C (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; ETSI compliant 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
Safety requirements	UL 60950; EN 60950; IEC 60950; IEC 60825-1, CSA 22.2 No. 950 Class 1 Laser product safety (eye safety)
Environmental Compliance	Full RoHS

KEY APPLICATIONS

- Access and core ring configuration with sub-50ms failover
- Mobile backhaul for LTE and eLTE
- VPLS/MPLS provider edge switching
- Hub & Spoke Layer 2 aggregation
- Low cost DSLAM/CMTS aggregation
- Triple play Ethernet
- Enterprise/SMB/Home Business
- Multi-Tenant Unit (MTU) and Multi-Dwelling Units (MDU) customer located equipment
- FTTx
- Data center consolidation
- E-Line, E-LAN, and E-Tree

ORDERING INFORMATION

Part Number	Description
TM7224-AC-z**	T-Metro 7224 platform with fixed eight (8) 10/100/1000BaseTX or unpopulated SFP-based 100/1000BaseFX/X combo ports, sixteen (16) unpopulated SFP-based 100BaseFX ports and four(4) unpopulated XFP-based 10Gigabit XFP ports. Two (2) unpopulated power supply slots. Optical ports require SFP/XFP. BiNOX ML support + HQoS+ enhanced MPLS. Base system inc. fan tray, 1 AC PSU, blank plates (PSU), accessory pack
TM7224-DC	T-Metro 7224 platform as above with 1 DC PSU -48Volt

*Future feature

**At least one (1) power supply module is required for operation. Optical ports require SFP



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