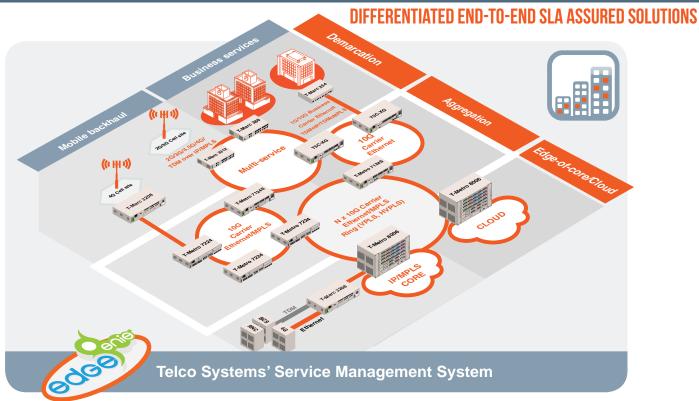


# **BUSINESS ETHERNET SERVICES**



Telco Systems enables service providers to offer their customers a flexible, comprehensive, managed, end-to-end solution sets for differentiated, assured multi-service delivery such as Ethernet business services, mobile backhaul, residential and cloud services. Telco Systems' products reduce total cost of ownership (TCO) by offering cutting-edge features balanced with cost-optimized solutions. These solutions consist of Telco Systems' T-Marc demarcation product line, T-Metro service aggregation line and EdgeGenie service management system.

Our products and solutions are designed to future-proof service provider's networks for higher scalability, traffic engineering and increased security, while utilizing Ethernet and MPLS on the same device with no licensing fees.

This MEF CE2.0 compliant, end-to-end solution fits any site requirement and any deployment scenario – single or multibusiness, fixed or modular, outdoor or indoor deployment, E-Line, E-LAN, E-Tree, E-Access, TDM convergence, single or multi-vendor networks while supporting wide range of capacity options.

Our solutions deliver carrier-grade equipment, providing a variety of protection mechanisms to ensure a high level of service availability, and advanced OAM and HQoS to provide sophisticated and differentiated services. The EdgeGenie, an intuitive service management platform is an integral part of the solution. It allows carriers to focus on providing their revenue generating services, rather than on managing their devices, and provides complete simplified mechanisms to manage, maintain and optimize the entire service lifecycle.

Telco Systems' business Ethernet solutions offer enhanced features including:

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- Future-proofing your network with Ethernet and MPLS transport on the same platforms with a 'no licensing' policy.
- MPLS to the edge increases scalability, improved traffic engineering, additional security and resiliency, offload expensive core resources.
- True HQoS using bandwidth profiles with hierarchal scheduling, shaping, and policing assures the ability to offer a variety of services to meet customer needs.
- Multiple resiliency mechanisms, such as xSTP, LAG, FRR, G.8031 and G.8032, meet sub-50ms restoration requirements
- Per service simultaneous OAM on all services and traffic flow IEEE 802.3ah EFM; IEEE 802.1ag CFM to assure customer SLA and optimize network transport performance.
- □ ITU.T Y-1731, ITU-T Y.1564 and RFC2544 embedded testing capabilities for end-to-end testing per port/EVC/VLAN/COS.
- Low latency with enhanced QoS mechanisms supports traffic engineering on a per customer/per service basis.
- Legacy integration/migration supports T1/E1, DS3/E1 and OC-3/ STM-1 over fiber using circuit emulation.
- MEF CE 2.0 Certified standards-based multi-vendor interoperability.
- Service management simplify service turn up, service configuration, and network optimization to increase NOC efficiency.

## **BUSINESS ETHERNET SERVICES**

## DIFFERENTIATED END-TO-END SLA ASSURED SOLUTIONS

### **CELL SITE DEMARCATION**



T-Marc 254H 2G/3G/4G CES and Ethernet (Fixed)



T-Marc 300 3G/4G Ethernet with Advanced OAM



T-Marc 3208SH 2G/3G/4G CES and Ethernet



T-Marc 3312SC All-in-one 2G/3G/4G MPLS/Ethernet and CES to the Cell Site



T-Metro 7124S 2G/3G/4G 10G NID with CES and Ethernet Telco Systems' T-Marc product line offers intelligent and remotely managed, Network Interface Devices (NID) to deliver managed business Ethernet services and mobile backhaul over Carrier Ethernet networks. The T-Marc product line allows service providers to use one demarcation device to deliver multiple services on separate customer interfaces, as well as multiple services over a single customer interface, both while assuring the QoS and SLA delivery per service.

These products have been optimized for business services applications utilizing combo ports (10/100/1000BaseT copper ports or 100/1000BaseX fiber) and "any port, any role", where each port can be used as a user network interface (UNI) or network-to-network interface (NNI) to maximize deployment flexibility. Extended temperature and redundant power options make the T-Marc an ideal solution for service providers offering services to one or multiple businesses per location.

Telco Systems' T-Marc product line integrates extensive OAM service management tools that implement monitoring, line testing and loopback for fail-safe operation, using hardware-based OAM, including IEEE 802.3ah EFM, IEEE 802.1ag CFM. Backhaul services can be assured using embedded Y.1564, RFC 2544, and Y.1731 mechanisms for service performance analyzing for transparent service turn up and troubleshooting. With this solution, backhaul services can be protected with sub 50ms recovery time using G.8031/G.8032, xSTP, Fast Ring and Resilient Link.

#### MOBILE BACKHAUL SERVICE AGGREGATION



T5C-XG 2G/3G/4G Ethernet Services Switch



T-Metro 7124S 2G/3G/4G MPLS and Ethernet



T-Metro 7224 2G/3G/4G MPLS-PE



T-Metro 8006 High Density MPLS/IP Service Aggregation Platform



T-Metro 2G/3G/4G CES and Ethernet Telco Systems' line of Carrier-Ethernet/MPLS high density service aggregation products offer very high service scalability, carrier class resiliency, and an industry-leading feature set that supports Hierarchical QoS (HQoS), OAM, and L2VPN capabilities. Our best-in class solution set allows carriers to offer business Ethernet, cloud networking and mobile backhaul services.

These carrier-class devices offer MPLS provider edge (PE) solutions with integrated advanced MPLS/H-VPLS capabilities, in a compact form factor and full featured high density Ethernet switching. Circuit Emulation Service (CES) functionality allows service providers to offer businesses the ability to maintain their legacy solutions (e.g. PBX trunks) by carrying T1/E1, DS3, and OC-3/STM-1 traffic transparently over their fiber networks.

Advanced networking features allow for full flexibility in deployment, provisioning, and delivery of Ethernet/MPLS 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.

### **SERVICE MANAGEMENT**



EdgeGenie Service Management Platform Telco Systems' EdgeGenie service management system offers a complete solution for the full life cycle of network deployment, from planning to managing, monitoring and maintaining Ethernet services. It also provides network and service management, resource management and optimization, network planning and real time SLA monitoring and statistics, which are available through the customer portal.

Assuring services end-to-end requires knowing how the services are being delivered across the network. Understanding how network resources are being utilized and identifying and correcting problems quickly is a key to reducing customer churn.



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@telco.com