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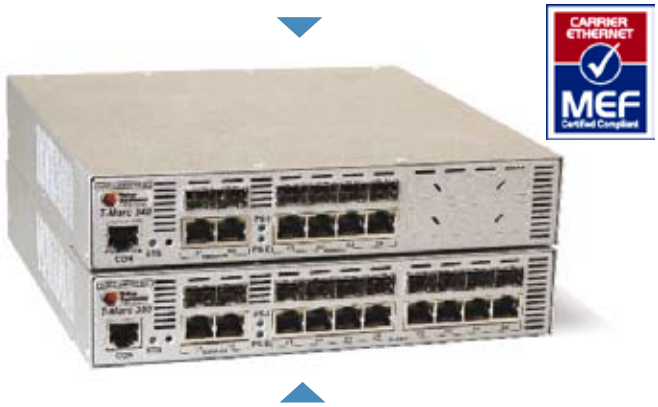
DRIVING CARRIER ETHERNET ACCESS

Data Sheet

T-Marc 300 Series

Ethernet Service Demarcation and Extension Solution

T-Marc 340: 6 (4+2) Multi-speed Combo Ethernet Ports



T-Marc 380: 10 (8+2) Multi-speed Combo Ethernet Ports

Telco Systems' T-Marc Ethernet Service Demarcation and Extension product line provides intelligent and remotely managed, multi-port customer-located equipment (CLE) to deliver managed converged services (voice, video and data) over virtual Ethernet, MPLS/VPLS and IP networks. T-Marc allows service providers to deliver multiple services on separate customer interfaces, including multiple services over a single customer interface. Because each service is isolated, providers can troubleshoot each individual service without impacting others.

Applications are prioritized over different traffic-engineered paths, multi-level Operations, Administration and Maintenance (OAM) is used to measure and ensure provisioned Service Level Agreements (SLA), and security controls are embedded to ensure protection against denial-of-service attacks.

Advanced Layer 2 Networking using Telco Systems' AccessEthernet™ 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.

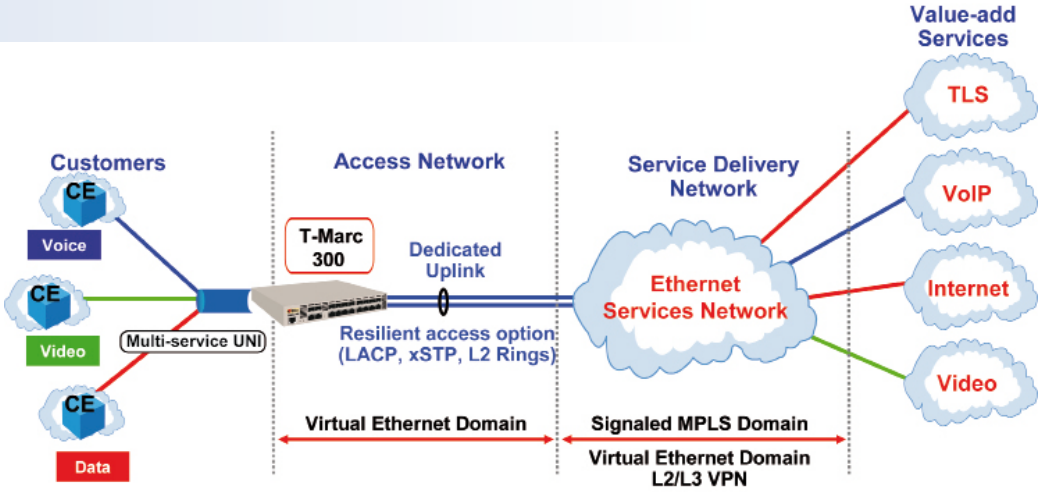
AccessMPLS™ extends an H-VPLS or T-MPLS domain to the customer premises for expanded, integrated multi-service networking. In cases where service providers want to extend the many benefits of H-VPLS and Pseudowires to a CLE, AccessMPLS provides a purpose-built solution to map into existing MPLS-based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

AccessIP™ provides a managed, provider-provisioned CLE, allowing service providers to administer "end-to-end" IP services. Similar to H-VPLS, an IP-based CLE provides an "abstract" access networking model, allowing service providers to leverage compelling networking, troubleshooting, and assurance services independent of the underlying transport technology■

Product Highlights

- Managed multi-service integration Demarcation for converged services (voice, video and data)
- AccessEthernet™ Networking for advanced MEF-compliant and emerging IEEE-based Services
- AccessIP™ Networking for interoperable, secure IP Services
- AccessMPLS™ Networking for scalable H-VPLS Services
- Application-aware Networking for Business-centric Services
- Policy-aware, Zero-touch Provisioning for drop-ship deployment
- Multi-link OAM for flexible in-service operation: IEEE 802.1ag, ITU-T Y.1731 and MEF SOAM
- Multi-layer control, monitoring, line testing and loopback for fail-safe operation
- Embedded RFC 2544-based Service Performance Analyzer for transparent service turn up and qualification
- Combo Ethernet Ports for deployment flexibility and reduced sparing
- Redundant uplinks for protected Services and Link Aggregation
- Purpose-built technology for optimized CAPEX and OPEX
- Certified to MEF 9 and MEF 14 for Ethernet Services at the UNI, IEEE, and ITU-T standards compliance for multi-vendor interoperability

T-Marc 300



Specifications

Advanced Networking Features

The T-Marc 300 series offers a rich management toolset for multi-vendor interoperability in element, network and service management to reduce operational expenses (OPEX) and scale management to large access networks.

By augmenting existing IP/SNMP-based management frameworks with IEEE/ITU-T OAM protocols and MEF frameworks, the T-Marc family provides proactive health and status updates on network topology and application behavior.

The T-Marc 300 series supports, but is not limited to, the following comprehensive and advanced networking features:

Management Features

- Standards-based management provides flexibility in managing Ethernet services. This approach enables service providers to use any off-the-shelf management system to manage a T-Marc device as an independent network element with its own IP address by using SNMP, Telnet/CLI, and IP PING.
- Extended standards-based management provides network scalability for management of Ethernet services. Service providers can manage a T-Marc device as an independent network element through a proxy system using the IEEE 802.3ah OAM protocol. This feature provides IP-less management of network elements for scalability and security.
- Multi-level management provides unprecedented flexibility and scalability in the management of Ethernet services.

  This approach uses Telco Systems' BiNOSCenter® management systems to provide both standards-based and extended standards-based management.

  To reduce operational expenses and scale management to large access networks, existing standards-based SNMP management is coupled with existing IEEE 802.3ah OAM standards into a proxy-based management solution to provide proactive health and status information on individual links and connections.

Troubleshooting Features

- RFC 2544-based embedded test head and patent-pending Logical Services Loopback (LSL) provide end-to-end service level verification across multiple providers to support individual service level agreements.
- Multi-layer OAM based on IEEE 802.3ah (link), IEEE 802.1ag (connectivity), ITU-T Y.1731 (transport and performance) and MEF OAM (services) provides unprecedented in-service monitoring, troubleshooting and fault isolation in multi-vendor networks.
- Enhanced troubleshooting tools include optical power monitoring, quality of equipment monitoring, and quality of line monitoring to enable fast fault identification that minimizes the need for expensive truck rolls.

Specifications

Dimensions: (H) 1RU 1.75" (44 mm) (W) 8.7" (221mm) (D) 9.25" (235 mm)

Weight: 2.42 lbs (1.1 kg)

Installation: Wall/Desk/Rack Mount

Power: 100/240V AC Input + Load Sharing 12V DC Input

-48V DC Input + Load Sharing 12V DC Input

Operating temp.: 0˚C to 50˚C (32˚F to 122˚F)

Relative humidity: 10% to 90% non-condensing

Short term extended temperature: -20º C to 60º C (-4˚F to 140˚F)

Regulatory Compliance

North America and Canada
EMI - FCC Part 15 Class B
Safety - UL1950, cUL 60950 CSA 22.2 No. 950
International
EMI - EN55022 Class B
Immunity - EN50082-1
Safety - EN 60950

Key Applications

- Copper and Fiber Ethernet-based Demarcation between Service Provider and Enterprise Networks
- Copper and Fiber Ethernet-based Service Extension between Service Provider and Enterprise Networks
- Enterprise/SMB/Home Business: Multi-tenant Unit (MTU), and Multi-dwelling Units (MDU)
- Industrial Parks, FTTx
- Inter-Provider Demarcation
- High-performance Private-LAN and Private-Line
- Ethernet VPN and Transparent LAN Service (TLS)

Ordering Information

Note: 'z' specifies power supply and cord types: NA for North America, EUR: for Europe, UK: for United Kingdom, DC for DC power supply

Part Number	Description
TMC-340-z	Managed Ethernet Service Demarcation and Extension system: 2 x 10/100/1000Base-T or 100Base-FX/1000Base-X combo SFP* network ports 4 x 10/100/1000Base-T or 100Base-FX/1000Base-X combo SFP* access/user ports 1 x RJ-45 ASCII management console port; Internal power supply; AcessEthernet and service assurance; Optional external redundant power supply
TMC-380-z	Same as the TMC-340 but with 8 access/user ports

*SFPs not included. Call for options.

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