

T-Marc® 3306

Advanced CE 2.0, 1GE Business Services NID

Telco Systems' T-Marc 3306 is an advanced business services Network Interface Device (NID) with 8 x 1GE port density. As a cost-optimized demarcation device, T-Marc 3306 reduces network CAPEX, while ensuring the ability to provide and manage converged Ethernet services in multi-carrier networks. T-Marc 3306 offers the ideal combination of affordability and capability. It integrates seamlessly and quickly into any network, guaranteeing the security, performance and access required to ensure delivery of next-generation Carrier Ethernet business services.

T-Marc 3306 is suitable for carrier applications and helps service providers establish a more efficient, reliable and easy-to-manage-and-maintain network.

As part of Telco Systems' innovative Open Metro Edge (OME) solution, T-Marc 3306 enables service providers to offer new types of services quickly and flexibly while reducing the cost of carrying traffic. The comprehensive set of OAM tools, small footprint, low power consumption and extended temperature support ensure low operating expenses (OPEX).

T-Marc 3306 is highly interoperable with third-party aggregation devices and can be used as a demarcation device that loops back testing traffic for non-Telco Systems devices.

MEF Services

T-Marc 3306 is fully MEF CE 2.0-certified and which provides extensive Layer 2 functionality with non-blocking wire-speed switching capabilities including E-Line point-to-point Ethernet service, E-LAN multipoint-to-multipoint Ethernet service, E-Tree point-to-multipoint service and E-Access services

OAM Toolset

Offering a rich toolset of OAM functionalities, T-Marc 3306 supports up to 64 concurrent OAM sessions. The OAM toolset includes EFM, CFM, Y.1731 for latency, loss, delay, and jitter measurements; RFC2544 in full wire speed and Y.1564 in full wire speed, including four concurrent Y.1564 tests for service activation.

T-Marc 3306 supports user ports and network loopback, including generic MAC swap capabilities in wire speed. Loopback implementation includes a per-service (VLAN) loopback that enables loopback to a specific service while another service continues to run normally on the port.

Hierarchical Quality of Service

HQoS mechanisms manage traffic with multi-level SP, WRR and hybrid-frame scheduling as well as CoS marking and mapping per EVC, including DEI and VPT preservation and remarking. Traffic prioritization is through IPv6 data path DSCP. Single- and dual-rate limiting can be set per port, EVC or flow, and hierarchical rate limiting can be set per EVC.



Product Highlights

- CE2.0, cost-optimized, 1GE CPE device
- Advanced layer 2 functionality
- Redundant uplinks for protected services and link aggregation
- 8 x 1GE density (supporting any port any role)
- Industrial model supports SyncE and 1588v2
- Comprehensive network management by EdgeGenie Orchestrator™
- Compact design allows up to two devices in a single 1RU shelf

Product Specifications

Hardware Characteristics	4 x 100FX/1000BaseX ports 4 x 10/100/1000BaseT ports RJ45 Console Non-blocking 8Gbps full-duplex platform 19" rack and wall-mounting options
Services	All MEF services, IEEE 802.1Q bridging, IEEE 802.1ad Q-in-Q (TLS)
Timing	T-Marc 3306-S-DC: SyncE&IEEE 1588v2
Resiliency	Sub-50ms ITU-T G.8031 EPS, ITU-T G.8032v2 R-APS, xSTP, resilient link, LAG (static/IEEE 802.3ad LACP)
Quality of Service	Per-port/EVC/Flow single/dual rate limiting and shaping SP, DWRR WERD, CoS marking and mapping (DEI, VPT preservation and remarking)
Multicast Management	IGMP snooping v1/v2 IGMP proxy Multicast VLAN registration (MVR)
OAM	Hardware-based IEEE 802.3ah EFM, IEEE 802.1ag CFM
Testing & Monitoring	Hardware-based ITU-T Y.1564 and RFC2544 test head and service performance analyzer In-service testing capabilities* ITU-T Y.1731 PM support Per-Port/EVC hardware-based flexible MAC-based loopbacks
Management	Console, Telnet, SSHv2, Radius, TACACS+, SNMP v1/2/3, xFTP, NTP, DNS resolver, DHCP Client, DHCP Relay, DHCP Option 82
Security	ACLs, RADIUS, TACACS+, SSHv2, IEEE 802.1x, SNMPv3, SFTP, port security, broadcast storm prevention
General Specifications	Dimensions: (H x W x D) 44 mm x 221 mm x 134 mm (1.73" x 8.7" x 5.51") Weight: 2.42 lbs (0.6 kg) Power AC: 100-240V AC Power DC: 24-48V DC Operating temperature: 0°C to 50°C (32°F to 122°F) Hardened models: -40°C to 65°C (-13°F to 149°F) Relative humidity: 0% to 95% non-condensing Storage temperature: -40°C to 85°C (-13°F to 185°F)

Key Applications

- MEF CE 2.0 types of services
- Business services CPE, EAD or site NID
- Part of CloudMetro OME Solution
- Highly interoperable as a demarcation device for 3rd-party aggregation devices
- Wire-speed copper and fiber Ethernet-based demarcation between service provider and enterprise networks

Ordering Information

Part Number	Description
TMC-3306-AC-x	Ethernet Demarcation: 4 x 10/100/1000Base-T UNI/NNI, 4 x 100Base-FX/1000Base-X UNI/NNI, 1 x RJ-45 ASCII management console port; Internal AC power supply
TMC-3306H-DC	Ethernet Demarcation: 4 x 10/100/1000Base-T UNI/NNI, 4 x 100Base-FX/1000Base-X UNI/NNI, 1 x RJ-45 ASCII management console port; Internal 24/48 DC power supply, Hardened -40°C to 65°C
TMC-3306-S-DC	Industrial Ethernet Demarcation: 4 x 10/100/1000Base-T UNI/NNI, 4 x 100Base-FX/1000Base-X UNI/NNI, 1 x RJ-45 ASCII management console port; Internal 24/48 DC power supply, Hardened -40°C to 65°C; SyncE and 1588v2 support