

VB-803X-T/LTE

Carrier Ethernet Services Delivery over LTE

- Rapid site commissioning and flexible extension of Ethernet services to new, out-of-reach locations, over LTE secured access, while reducing time-to-revenue.
- Cost-effective, LTE-based backup for improved service reliability, remote troubleshooting, reduced truck rolls, and time-to-repair.
- Cost optimization by splitting traffic between service-assured VPN and “best-effort” LTE services.
- Full suite of MEF Carrier Ethernet 2.0 capabilities for SLA monitoring, diagnostics, and fault detection.

As business requirements for global connectivity continue to increase, service providers are looking for effective solutions to quickly expand network coverage for Carrier Ethernet based VPN services.

VB-803X-T/LTE enables service providers to rapidly roll out Ethernet services using LTE. It enables extending Ethernet services over LTE in locations where fixed-line access is not available. Alternatively, LTE may be used as backup for an optical primary connection, increasing service reliability.

This unique device provides a complete set of MEF Carrier Ethernet 2.0 features, enabling delivery of service assured VPN services. At the same time, it enables secure tunneling of Ethernet EVCs over public Internet, or over a third party IP network, with an integrated LTE modem.

CARRIER GRADE SERVICES

VB-803X-T/LTE incorporates a complete set of CE 2.0-certified Ethernet service tools. It supports advanced scheduling, WRED per CoS, shaping per EVC and port, with flexible classification rules and access lists.

VB-803X-T/LTE delivers the following MEF services: E-Line (EVL, EVPL), E-LAN (EPLAN, EVPLAN), E-Tree (EP-TREE, EVP-TREE), and E-Access services.

SDN READY MANAGEMENT AND CONTROL

VB-803X-T/LTE leverages Vibicom’s field-proven, carrier grade operating system - integrated in the entire VB family - to provide a familiar and uniform interface for provisioning, administration, and maintenance operations.

VB-803X-T/LTE can be managed using any SNMP-based management system. The device supports a variety of access protocols, including CLI over Telnet, SNMPv3, and TFTP, with a comprehensive security suite.

VB-803X-T/LTE implements Vibicom’s unique ZTP process, allowing devices to onboard automatically and securely without human intervention, and enabling operators to provision services easily and reliably.

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FEATURES AND BENEFITS

- Secure tunneling of Ethernet services (EVCs) over IP (LTE), using L2oGRE or L2TPv3 with optional IPsec encapsulation
- IPv4 Fragmentation to overcome LTE max MTU limitation
- Optional Integrated LTE (CAT4 or CAT6) modem with global coverage and automatic fallback from 4G to 3G
- Initial IP from the network using DHCP or PPP support
- QoS to give precedence to the preferred services when going to the LTE network
- PPPoE protocol for DSL broadband modem connection
- MEF CE2.0 compliant service attributes
- Data and management protection with automatic switchover and switchback
- Advanced management capabilities
- Full Zero Touch Provisioning to reduce OPEX
- Standard front access protected SIM card slot
- Radio Signal Strength front panel indication
- Integrated wide-range AC/DC power supply
- Compact half 19" 1RU form factor, fanless metal enclosure

Specifications

ETHERNET INTERFACES

Ports	Five GbE ports (orderable as SFP or UTP)
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BRIDGING

Compliance	IEEE 802.1D, 802.1Q, 802.1ad
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Max. Frame Size	12,288 bytes
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Operation Mode	VLAN-aware, VLAN-unaware
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VLAN Editing	Inner/outer VLAN editing per VLAN and p-bit values
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EVC TUNNELING OVER IP NETWORKS

Ethernet Encapsulation	L2oGRE and L2TPv3
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Optional Encryption	Using IPsec
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GENERAL

Environmental

Storage Temperature	-40 to 85°C (-40 to 185°F)
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Operating Temperature	0 to 50°C (32 to 122°F), fanless
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Humidity	5% to 90% non-condensing
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Physical

Height mm (in)	43.7 (1.7)
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Width mm (in)	215.5 (8.5)
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Depth mm (in)	301 (11.9)
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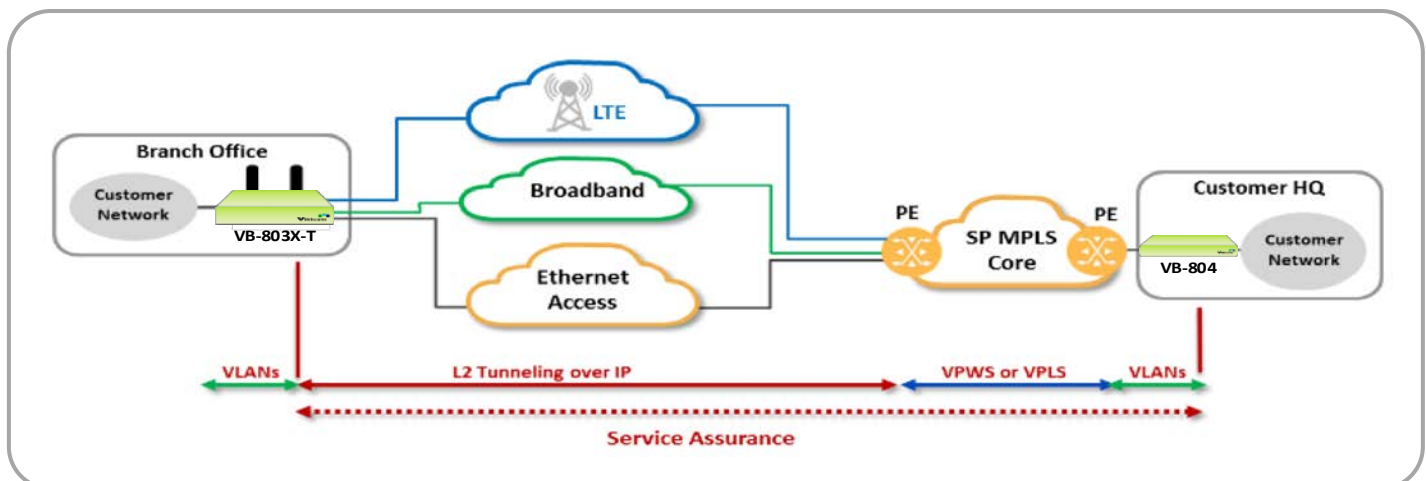
Weight kg (lb)	2.12 (4.7)
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Power

Power Supply	Integrated wide-range AC/DC power supply with auto detection
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Width mm (in)	AC: 100 to 240 VAC (-10%, +6%), 50/60 Hz DC: 48 VDC (40 to 72 VDC)
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Power Consumption	23W maximum
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OAM AND DIAGNOSTICS

ICMP Echo	Over L2 and L3 services Tests IP connectivity (PING)
Loopback Tests	Non-disruptive loopback per flow, with MAC/IP address swap Loopbacks at Ethernet port level
Service Activation Tests	RFC-2544: 8 built-in testers ITU-T Y.1564: 8 built-in testers
Standards	IEEE 802.1ag Connectivity Fault Management (CFM) IEEE 802.3ah EFM Link-fault OAM ITU-T Y.1731 PM (SLM; DM) RFC 5618 TWAMP responder and receiver TWAMP sender

RESILIENCY

Dual Homing	Dual homed link redundancy
Ethernet Path Protection	G.8031 linear 1:1 protection Automatic fallback from 4G to 3G on the LTE modem
Ethernet Ring	G.8032v2 rings with sub 50 ms protection for Ethernet traffic
Link Aggregation	IEEE 802.1ax (802.3ad) 1:1 LAG with LACP for pairs of network or user Ethernet ports

INTEGRATED LTE MODEM OPTIONS

LTE CAT4

L1 EMEA, Korea, Thailand	LTE FDD: B1, B3, B5, B7, B8, B20 LTE TDD: B38, B40, B41 WCDMA: B1, B5, B8 GSM: B3, B8
L3 Australia, New Zealand, Taiwan, Brazil	LTE FDD: B1, B2, B3, B4, B5, B7, B8, B28 LTE TDD: B40 WCDMA: B1, B2, B5, B8 GSM: B2, B3, B5, B8

L4 North America	LTE FDD: B2, B4, B5, B12, B13, B14, B66, B71 WCDMA: B2, B4, B5
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LTE CAT6 *

L61 EMEA, APAC, Brazil	LTE FDD: B1, B3, B5, B7, B8, B20, B28, B32* LTE TDD: B38, B40, B41 WCDMA: B1, B3, B5, B8
L63 Japan	LTE FDD: B1, B2, B3, B4, B5, B7, B8, B28 LTE TDD: B40 WCDMA: B1, B2, B5, B8
L64 North America	LTE FDD: B2, B4, B5, B7, B12, B13, B25, B26, B29*, B30, B66 LTE TDD: B41 WCDMA: B2, B4, B5

LTE NETWORK DATA RATES

CAT4 (max speed)

LTE	LTE FDD: 150Mbps (DL) / 50Mbps (UL) LTE TDD: 130Mbps (DL) / 35Mbps (UL)
UMTS	DC-HSDPA: 42Mbps (DL) HSUPA: 5.76Mbps (UL) WCDMA: 384Kbps (DL) / 384Kbps (UL)
GSM	EDGE: 296Kbps (DL) / 236.8Kbps (UL) GPRS: 107Kbps (DL) / 85.6Kbps (UL)

CAT6* (max speed)

LTE	LTE FDD: 300Mbps (DL) / 50Mbps (UL) LTE TDD: 226Mbps (DL) / 28Mbps (UL)
UMTS	DC-HSDPA+: 42Mbps (DL) / 5.76Mbps (UL) WCDMA: 384Kbps (DL) / 384Kbps (UL)

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QUALITY OF SERVICE (QOS)

Classification	Per port, outer VLAN or outer + inner VLAN, PCP, TOS/DSCP, EtherType, IP/MAC source/destination address
Policing	Color-aware/unaware dual token bucket with user-configurable CIR, CBS and EIR, EBS
Scheduling	Eight CoS per EVC scheduling elements Strict Priority (SP) and Weighted Fair Queue (WFQ)
Shaping	Per port, per EVC, or per EVC.CoS

MANAGEMENT

Control Port	Interface: V.24/RS-232 DCE Connector: RJ-45 Format: Asynchronous Data rate: 9.6, 19.2, or 115.2 kbps
Management Options	Local management via LAN port or serial port Remote management via in-band VLAN Password-protected access with authorization levels
Management Port	Type: 10/100/1000BASE-T Connector: RJ-45
Plug and Play	DHCP auto-configuration
Zero Touch Provisioning	XML configuration files download via TFTP/SCP
Protocols and Security	Secure CLI via SSH Telnet, SNMPv3, SFTP NETCONF/YANG management interface Dual Stack IPv4 and IPv6 routing IP forwarding Static routing RADIUS or TACACS+ authentication Access Control List (ACL) Configuration backup and restore

STANDARDS COMPLIANCE

CE 2.0, MEF 6 (E-Line – EPL and EVPL, E-LAN – EPLAN and EVPLAN), MEF 9, MEF10, MEF 14, MEF 20, MEF 36, MEF 46, IEEE 802.3, 802.3u, 802.1D, 802.1Q, 802.1p, 802.3ad, 802.3-2005, 802.1ax, 802.1ag, ITU-T Y.1731, G.8031, G.8262, G.8265, RFC-2544, ITU-T Y.1564

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Ordering

RECOMMENDED CONFIGURATIONS

VB-803X-T/LTE/2SFP/3UTP/Lx

Metal enclosure, Integrated LTE modem, two GbE SFP ports, three GbE UTP ports

Legend

Lx	CATn modem
L1	CAT4 modem for EMEA, Korea, Thailand
L3	CAT4 modem for Australia, New Zealand, Taiwan, Brazil
L4	CAT4 modem for North America
L61*	CAT6 modem for EMEA, APAC, Brazil
L63*	CAT6 modem for Japan
L64*	CAT6 modem for North America

*The CAT6 modem is in CA maturity level.

SUPPLIED ACCESSORIES

AC power cord

Two cellular antennas for /LTE option

OPTIONAL ACCESSORIES

Console cable

CBL-RJ45/D9/F/6FT

Serial console and RS-232 data ports cable

Rack Mount Kit

RM-35

HW kit for mounting one or two units

Antennas

VB-ANT4G/2M

Outdoor antenna for VB 4G cellular modem, 2m connecting cable, 3dBi, 699-960 MHz/1710-2170 MHz/2500-2690 MHz

VB-ANT4G/5M

Outdoor antenna for VB 4G cellular modem, 5m connecting cable, 3 dBi, 699-960 MHz/1710-2170 MHz/2500-2690 MHz



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