The TelcoBridges Tmedia™ TMG7800 is a very highly scalable, carrier-grade media gateway system that meets the needs of service providers looking to harness the convergence between TDM and IP networks, consolidating multiple racks of devices for call control and media into a single system. The TMG7800 media gateway system provides capacity of up to 32,768 universal voice ports and the flexibility to switch between TDM and IP signaling services such as SS7, ISDN, SIGTRAN, SIP, and H.248, as well as popular media processing codecs across a mix of T1/E1/J1, DS-3 and STM-1 interfaces, all within the same system.

Leveraging redundant integrated media gateway controllers or in conjunction with one or more H.248-compliant softswitches, the TMG7800 delivers core network services such as media gateway, TDM switching, VOIP hairpinning, transcoding, advanced call routing and fax relay. With separate chipsets for media processing and interactive voice response (IVR), and signaling performed in hardware, the TMG7800 media gateway provides full non-blocking capability of up to 32,768 channels per system.

The TMG7800 media gateway provides the ultimate in flexibility, easily scaling to full rack capacity of 1024 T1/E1/J1, 48 DS-3 or 16 STM-1 interfaces as service uptake increases, with the ability to mix and match different interface types. With an average 66% less power consumption than competing products of similar capacity, the TMG7800 media gateway supports the drive by service providers to reduce the environmental impact of their network footprint and increase their profitability and green credentials.

FEATURES & BENEFITS

Density: Supporting up to 1024 T1/E1/J1, 48 DS-3 or 16 STM-1 interfaces in a single system, the TMG7800 offers significant density in a single rack. The TMG7800 provides up to 32,768 IP voice ports at an industry-leading lowest cost per port. Enables consolidation of multiple disparate signaling and connectivity devices into a single unified system.

High-availability: The TMG7800 features redundancy at multiple layers across all hardware and software elements to ensure maximum uptime and graceful recovery in case of component failure. Network redundancy is provided with support for multiple redundant links and concurrent SS7 point codes.

Flexibility: A network-agnostic platform, the TMG7800 media gateway supports multiple 'any-to-any' switching across multiple network interfaces and signaling protocols (SS7, ISDN, SIGTRAN, SIP and H.248) in a single system. It also supports transcoding for all major wireline, wireless and internet codecs.

For more information on how the Tmedia TMG7800 media gateway can help transform your offerings, visit www.telcobridges.com.

AVAILABLE CONFIGURATIONS

TMG7810 – 256 x T1/E1/J1
TMG7812 – 512 x T1/E1/J1
TMG7814 – 768 x T1/E1/J1
TMG7816 – 1024 x T1/E1/J1
TMG7820 – 12 x DS-3
TMG7822 – 24 x DS-3
TMG7824 – 36 x DS-3
TMG7826 – 48 x DS-3
TMG7830 – 4 x STM-1
TMG7832 – 8 x STM-1
TMG7834 – 12 x STM-1
TMG7836 – 16 x STM-1

Each configuration is available with AC or DC power.

> Tmedia **TMG7800**

TMG7800 SPECIFICATIONS

NETWORK INTERFACES

Telephony
256 to 1024 T1/E1/J1 TDM ports (hardware & software upgradeable); or
12 to 48 DS-3 (hardware & software upgradeable); or
4 to 16 OC3/STM-1 (with Automatic Protection Switching (APS))
Additional T1/E1/J1 interfaces for SS7 signaling and/or BITS synchronization

Capacity
TDM: 1536 to 32,768 channels

VoIP: 1536 to 32,768 universal ports per device; even more using less complex codecs such as G.711

WAN IP
Multiple 100/1000 Base-T for VoIP traffic

LAN
Multiple 100/1000 Base-T access

MEDIA PROCESSING

PCM Coding	A-law to μ-law encoding and conversion
Universal Codecs	G.711, G.723.1, G.726, G.729ab, T.38 (2048 channels)
DTMF Relay	RFC2833, SIP INFO method, in-band
Echo Cancellation	G.168 – 128ms tail length on all channels simultaneously
Fax Support	T.38 fax relay, Group 3, Fax/modem bypass, G.711 fax fallback
Optional Codecs*	AMR, AMR-WB (G.722.2), GSM-FR/GSM-EFR, EVRC/QCELP, G.728, G729eg, iLBC

>Independent dynamic codec selection per channel

APPLICATION SOFTWARE

TB Media Gateway™ application
> TDM-to-TDM switching, TDM-to-IP-to-TDM gateway, IP-to-IP hairpinning
>Transcoding, trunking, call routing, fax relay and other functions
> Call Detail Records (CDR): user-definable text files and RADIUS
>High availability

CALL ROUTING FEATURES
> Fully scriptable (Ruby-based) call routing engine
> CLI (ANI)-based routing and translation
> DID (DNIS)-based routing and translation
> Least cost routing (with time of day/week/year scheduling and other criteria)
> Routing based on Nature of Address (NOA), Numbering Plan Indicator (NPI), and others
> Pre-and post-routing digit translation

REGULATORY COMPLIANCE

EMC	FCC Part 15, EN55022, EN61000, ENV50204
NEBS	Designed to meet Level 3
Safety	CE, UL60950, CSA C22.2 No.60950-1-03

SIGNALING

ISDN PRI (14+ variants), National ISDN-2, Euro ISDN, DMS100, DMS250, 4ESS, 5ESS, Japan INS-NET1500
SIP: RFC 3261 User Agent, SIP Authentication
CAS R2: scriptable state machine (shipping in Q3 2010)

SS7:* (20+ variants) MTP2, MTP3, SS7/C7 TCAP and ISUP
> Up to 64 SS7 links, up to 2048 CICs, HSL, redundant SS7, single or multiple point codes
SIGTRAN:* M2PA, M2UA, M3UA
H.248:* ITU-T H.248.1 (shipping in Q3 2010)

QUALITY OF SERVICE (VoIP)
Dynamic jitter buffer (adaptive and fixed), Packet loss concealment, Silence Suppression; Denial of Service (DoS) protection for VoIP media

IVR FEATURES
DSP-based plug-in modules with options of 512, 1024, 1536 and 2048 channels per system component; maximum total capacity of 32,768 channels per system; field-upgradeable
> Play and record
> DTMF detection, generation, suppression
> Voice Activity Detection (VAD), Comfort Noise Generation (CNG)

MANAGEMENT INTERFACES
Multiple 100/1000base-T management interfaces (OAM&P)

MANAGEMENT & CONTROL
TelcoBridges Element Management System
> Live configuration and software upgrades via HTTP
> Monitoring via HTTP
> Configuration of multiple appliances in the same system with a single interface

HARDWARE SPECIFICATIONS
Physical Interfaces
PSTN: 16 to 1024 T1/E1/J1 via RJ45, 4 to 48 dual BNC DS-3, 4 to 16 STM-1 optical or electrical link (with APS)
IP: Multiple 100/1000 Base-T Ethernet VoIP ports
OAM & Control: Multiple 100/1000 Base-T Ethernet ports

Dimensions
42U rack composed of up to 16 2U media gateway units
>Each 2U unit is 3.5" H (88.9 mm) x 17.4" W (442 mm) x 16" D (406 mm)
Weight: 2U model @ 22 lbs (10 kg)

Environmentals
AC Power: 90 to 260 Volts AC, 47/63 Hz
DC Power: -40 to -60 Volts DC
Operating temperature range: 0 to +55 °C, 95% rel. hum. non-condensing
Storage temperature range: -10 to +75 °C, 95% rel. hum. non-condensing

* Additional licenses required.