The TelcoBridges Ttrans™ TMGIP7800 is our carrier-class VoIP transcoding gateway.

A Ttrans TMGIP7800 system consists of 1 or 2 TMGIP7800-CTRL controllers to manage up to 16 TMGIP7800-IP transcoder units.

Recognized for its high-capacity and high-performance, the TMGIP7800 is a 2,120 to 33,920 simultaneous G.711 to complex codec VoIP transcoding sessions gateway that offers the industry’s highest density solution.

Product Characteristics:
- Up to 33,920 sessions of G.726 <-> G.711
- Up to 27,136 sessions of G.729A <-> G.711
- Up to 23,744 sessions of G.723 <-> G.711
- Up to 20,864 sessions of EFR <-> G.711
- Up to 18,432 sessions of AMR-NB <-> G.711
- Up to 17,792 sessions of G.723 <-> G.729
- Up to 12,992 sessions of AMR-WB <-> G.711
- Up to 12,992 sessions of G.722 <-> G.711
- 2,120 to 33,920 simultaneous G.711 codec VoIP transcoding sessions
- Hot-swap redundant power supply (AC or DC)
- From 3U to 20U VoIP transcoding gateway

TelcoBridges TMGIP7800 is a highly scalable transcoding solution growing from a few thousand sessions to tens of thousands sessions without expensive entry costs. You can grow your TMGIP7800 system according to your business’ needs:

- Manage multiple N+1 redundancy groups
- Add new units to grow your live system without impacting actual traffic
- Single system to manage

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**TMGIP7800 System**

**TMGIP7800 solution components**
1 or 2 TMGIP7800-CTRL
1 to 16 TMGIP7800 transcoding units
2 TMGIP7800-TMS (optional)

**TMGIP7800-CTRL**
Manages all components in the system
Performs call control on all components
Supports active/standby redundancy

**TMGIP7800-IP transcoding unit**
Runs SIP signaling stack
Provides VoIP network interfaces
Hardware accelerated media processing
and transcoding
Each additional unit adds more capacity to the system

**TMGIP7800-TMS (optional)**
Non-blocking universal media switched fabric
 across all transcoding units
Second TMGIP7800-TMS enables redundancy

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**Fax/modem/data**
T.38 fax relay (V.17 and V.34)
Automatic G.711 fallback
Modem and data passthrough, NSE, VBD support
Clear mode (RFC 4040)

**DTMF relay**
RFC 2833/4733, SIP INFO method, in-band

**Echo cancellation**
G.168 echo cancellation
128 ms echo tail on all sessions simultaneously

**Voice processing**
Adaptive and programmable jitter buffer (20 to 200 ms)
Voice activity detection (VAD)
Comfort noise generation (CNG)

**Voice recording and announcement playback**
Up to 32,768 channels (using optional IVR mezzanine on each transcoding unit)
Also available using existing VoIP channels

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**Capacity and Voice Processing**

**VoIP interfaces**
Up to 32 Ethernet ports 100/1000Base-T (2 per transcoding unit)
RJ45 connectors on rear of unit
Up to 256 different IP addresses (16 per transcoding unit)
Ethernet port bonding and 802.1q VLAN support

**Vocoding**
2,120 to 33,920 VoIP transcoding sessions
Universal codecs: G.711, G.723.1, G.726, G.729ab, T.38 V.17, clear mode (RFC 4040)
Other codecs: G.722, G.722.2 (AMR-WB), G.728, G.729eg, iLBC, AMR, EVRC, GSM FR/EFR, QCELP, T.38 V.34

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**High Availability & Redundancy**

IP port redundancy
Self-recovery software
Seamless software upgrade
Fault tolerant software
Configuration database redundancy

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**Signaling**
Simultaneously supports any combination or all of the following signaling protocols:

**SIP**
Supported RFCs: 2327, 2833, 2976, 3204, 3261, 3262, 3263, 3264, 3311, 3323, 3325, 3326, 3372, 3389, 3398, 3515, 3551, 3555, 3578, 3581, 3665, 3666, 3764, 3891, 4028, 4694, 4733, 5806
SIP-I/SIP-T
Extensive SIP header manipulation
**Tctrl (Call Control)**

**Toolpack framework call control**
- Call routing based on: trunk group, calling/called numbers (with digit manipulation) and/or various other protocol information/headers.
- Customizable routing including priority-based, load-balancing, black listing, call limiting, route retries, etc.
- Customizable call cause code mapping
- Programmable call routing
- Access and manipulation of call parameters
- RADIUS authentication and authorization (supports multiple RADIUS servers)
- SIP-based local number portability and CNAM lookup

**H.248 (MEGACO) call control**
- ITU-T H.248 versions 1 and 2
- UDP, SCTP, IPSec transport
- DTMF and fax detection
- Call progress, DTMF and COT tone generation
- Call quality and inactivity alerts
- H.248 control port redundancy (supports virtual IP)

**Session management and billing**
- SIP peer availability polling
- RTP inactivity monitoring, RTCP
- CDR generation (RADIUS and/or csv files)
- Integrated lawful intercept (ETSI ES 201 671 v.2.1.1)

**OAMP+T**

**Operations & Administration**
- Provisioning, management and status GUI
- CLI and configuration file machine-to-machine interface (RESTful)
- Configuration change audit logging
- Access, user and privilege management
- SNMP V2, V3 GET, TRAPs (alarms)
- Extensive SNMP call statistics MIBs

**Management**
- Up to 4 Ethernet ports 100/1000Base-T (2 per TMG-CTRL unit)
- Up to 2 VGA for local monitor (1 per TMG-CTRL unit)
- Up to 8 USB ports (4 per TMG-CTRL unit)
- Up to 2 DB9 RS232 serial port (2 per TMG-CTRL unit)

**Provisioning**
- Non-service affecting configuration changes
- Offline configuration validation
- Multiple configuration files archive
- Northbound API (RESTful) for automated provisioning

**Network Analytics (TB Analytics)**
- Live call trace with protocol information and ladder diagrams
- Live test call with media playback and recording
- TB Sigtrace – Protocol signaling capture into pcap files
- Media call recording (scriptable for calling and called numbers)

**Maintenance**
- Replaceable fan filters on transcoding units

**Regulatory Compliance**

**Safety**
- CAN.CSA C22.2
- EN 60950-1:2005
- EN 60950-1:2006

**EMC**

**HS Code**
- 85176200

**Environmental**
- Operating temperature: 0 to +70 °C, 95% rel. hum. non-condensing
- Storage temperature: -10 to +85 °C, 95% rel. hum. non-condensing
- Designed to meet NEBS Level 3
- RoHS compliant
TMGIP7800-CTRL specification
IBM 5458 System x3250 Express Model
Xeon E3-1231 v3 3.4GHz 1600MHz 4C processor
8MB cache, 16 GB memory
40 GB RAID 1 SSD

Electrical characteristics
TMGIP7800 System
90 to 260 VAC, 47 to 63 Hz, -40 to -60 VDC
Hot-swap redundant power supplies
(for each component)
From 616 to 3210W power consumption
(depending on configuration)

TMGIP7800-CTRL
90 to 260 VAC, 47 to 63 Hz
Hot-swap redundant power supplies
Maximum 460W power consumption

TMGIP7800-IP transcoding units
90 to 260 VAC, 47 to 63 Hz, -40 to -60 VDC
Hot-swap redundant power supplies
Maximum 131W power consumption

TMGIP7800-TMS
90 to 260 VAC, 47 to 63 Hz, -40 to -60 VDC
Hot-swap redundant power supplies
Maximum 72W power consumption

Dimensions & Weight
TMGIP7800 Overall System
3U to 20U depending on configuration
19” rack mount
Height: 5.25” (133.4mm) to 40.25” (1022.4mm)
Width: 17.4” (442mm)
Depth: 22” (559mm)
Weight: 60.2lbs (27.3kg) to 332.4lbs (151.4kg)

TMGIP7800-CTRL
1U, 19” rack mount
1.75” (44.5mm) H x 16.9” (429mm) W x 22” (559mm) D
23lbs (10.4kg)

TMGIP7800-IP transcoding units
1U, 19” rack mount
1.75” (44.5mm) H x 16.9” (429mm) W x 16” (406mm) D
14.25lbs (6.5kg)

TMGIP7800-TMS
1U, 19” rack mount
1.75” (44.5mm) H x 16.9” (429mm) W x 16” (406mm) D
17lbs (7.71kg)