

TMGIP7800 VoIP Transcoding Gateway – Up to 33,920 transcoding sessions



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

Ttrans[™] TMGIP7800 Data Sheet

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

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

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

High Availability & Redundancy

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

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

TMG-CONTROL (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)

GUI-based and CLI system upgrade

GUI-based configuration copy, backup and restore

Storage for multiple software versions

Storage for multiple configuration files

Extensive system status display

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

FCC Part 15:2013, Subpart B,

CE Mark (EN55022:2010, Class A, EN61000, ETSI EN 300 386)

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)



Ttrans TMGIP7800-CTRL, front view



Ttrans TMGIP7800-CTRL, rear view



7trans TMGIP7800-IP transcoding unit, front view



7trans TMGIP7800-IP transcoding unit, rear view

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