The TelcoBridges Ttrans™ TMGIP is our mid-level VoIP transcoding gateway.

Recognized for its high-capacity and high-performance, the TMGIP3200 is a 203 to 2120 simultaneous G.711 to complex codec VoIP transcoding sessions gateway that offers the industry's highest density in a single box (1U) solution.

**Product Characteristics:**

- Up to 2120 sessions of G.726 <-> G.711
- Up to 1696 sessions of G.729A <-> G.711
- Up to 1484 sessions of G.723 <-> G.711
- Up to 1304 sessions of EFR <-> G.711
- Up to 1152 sessions of AMR-NB <-> G.711
- Up to 1112 sessions of G.723 <-> G.729
- Up to 812 sessions of AMR-WB <-> G.711
- Up to 812 sessions of G.722 <-> G.711
- 203 to 2120 simultaneous G.711 codec VoIP transcoding sessions
- Hot-swap redundant power supply (AC or DC)
- 1U VoIP gateway
**Capacity and Voice Processing**

**VoIP interfaces**
- Up to 4 Ethernet ports 100/1000Base-T
- RJ45 connectors on rear of unit
- Up to 16 different IP addresses
- Ethernet port bonding and 802.1q VLAN support

**Vocoding**
- 203 to 2120 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 channels 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 2048 channels (using optional IVR mezzanine)
- Also available using existing VoIP channels

**High Availability & Redundancy**
- Power supply redundancy
- IP port redundancy
- Self-recovery software
- Configuration database redundancy
- Seamless software upgrade
- Fault tolerant software

**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
1 Ethernet control ports 100/1000Base-T
1 USB Type B serial port
1 RJ45 RS232 serial port
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

Electrical Characteristics
90 to 260 VAC, 47 to 63 Hz or -36 to -72 VDC
Hot-swap redundant power supply (AC or DC)
Maximum 128W power consumption

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)

HS Code
85176200

Dimensions & Weight
1U, 19" rackmount
1.75" (44.5 mm)H x 16.9" (429 mm)W x 16" (406 mm)D
14.25 lbs (6.5 kg)

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

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