

TMP800 TDM/VoIP Development platform - 1 to 16 T1/E1



The TelcoBridges™ Tdev TMP800 is a small-footprint telecom development platform that meets the needs of service providers looking to cost-effectively develop and deploy new value-added services.

The TMP800 provides capacity of up to 16 T1/E1 interfaces, and up to 512 universal VoIP channels.

Whether sitting at the edge of a wireline, wireless, or VoIP network, the TMP800 delivers seamless voice interoperability across TDM and IP networks. The TMP800 builds on those capabilities with an advanced application platform for delivering ring-back tones, unified communications, pre-paid/post-paid calling, hosted IP-PBX, conferencing, Fax over IP (T.38), voicemail, and other enhanced services to subscribers irrespective of access protocol or device.

Leveraging TelcoBridges Toolpack™ software toolkit, and a choice of host deployment platforms, the TMP800 provides the ability to rapidly develop and deploy applications that tie together real-time communications from the network with stored external data sources to provide unique subscriber-specific services.

Features & Benefits:

- Customisable
- Carrier grade
- Flexibility
- High-density
- High availability

Tdev™ TMP800 Data Sheet

TelcoBridges TMP800 is a highly customisable telecom development platform. You can customise your TMP800 unit based on the following options:

- Type of **Power** (redundant AC or DC)
- **SS7** (# links from 1 to 64)
- **SIGTRAN** (None, Relay or Termination)
- **IVR** (128 to 512 channels)
- **Control options** (Internal or none)
- **VoIP** (none, or 512 channels)
- **SIP** (Signalling Stack or none)
- **Toolpack** (software or none)
- **ISDN** (ISDN variants or none)

Pulse Supply
909 Ridgebrook Road
Sparks, MD 21152
USA

Tel: +1.410.583.1701

sales@pulsesupply.com
www.pulsesupply.com

Capacity and Voice Processing

PSTN interfaces

1 to 16 T1/E1

Configurable per port for T1 or E1

RJ48C connectors on rear of unit

VoIP interfaces

Up to 6 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

32 to 512 VoIP channels with universal codecs

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 512 channels (using optional IVR mezzanine or specially licensed VoIP channels)

High Availability & Redundancy

Power supply redundancy

IP port redundancy

Self-recovery software

Fault tolerant software

MTP2/SS7 links redundancy

1+1 solution (optional)

The 1+1 solution extends the high-availability and redundancy features of the TMP800

VoIP gateway redundancy (active/standby)

Full capacity protection (TDM and IP)

Configuration database redundancy

Seamless software upgrade

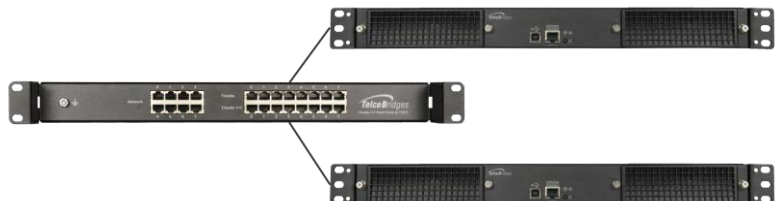
M3UA/MTP3/ISUP redundancy

1+1 solution consists of:

1 active unit and 1 standby unit

Up to 2 units 1+1 Patch Panel(s)

1+1 Patch Panels are passive (no power required)



1+1 solution schematic

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

SS7

Up to 64 MTP2 links (56, 64, n x 56/64 kbps) or 2 x HSL

Multiple redundant MTP2 links

Up to 64 originating point codes and 256 linksets

Up to 256 destination point codes

ISUP variants: ITU 92, ITU 97, ANSI 88, ANSI 92, ANSI 95, Q.767, Telcordia 97, ETSI v3, China, Singapore, UK, SPIROU, Japan NTT, Russia

SIGTRAN

M2PA, M2UA, M3UA (IPSP, ASP, SG), IUA

SCTP (raw IP and UDP)

SS7 termination and/or relay supported

Up to 64 M2UA / M2PA links

Up to 64 M3UA peer server processes

ISDN PRI

Q.931 ISDN PRI (user and network side)

ISDN variants: NI-2, 4ESS, 5ESS, DMS-100, DMS-250, Euro ISDN ETSI NET5 (France, Germany, UK, China, Hong Kong, Korea), Euro Numeris (VN6), NTT (Japan), Australia

ISDN NFAS with D-channel backup

CAS

MF R1 (including E&M, loop start, ground start)

MF R2 (including standard ITU, Brazil, Mexico, Venezuela)

Customizable script files to implement any CAS variant

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 (SIP, SS7 and ISDN), including Nature of Address (NOA)

RADIUS authentication and authorization (supports multiple RADIUS servers)

NPA-NXX routing (over 5 million records)

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

- 2 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

Dimensions & Weight

TMP800

- 1U, 19" rackmount
- 1.75" (44.5 mm)H x 16.9" (429 mm)W x 16" (406 mm)D
- 13.9 lbs (6.3 kg)

1+1 patch panel (8 T1/E1)

- 1U, 19" rack mount
- 1.75"(44.5 mm)H x 16.9"(429 mm)W x 5.25"(133 mm)D
- 3.4 lbs (1.6 kg)

Electrical Characteristics

- 90 to 260 VAC, 47 to 63 Hz or -36 to -72 VDC
- Hot-swap redundant power supplies (AC or DC)
- Maximum 63W 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)

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



Tmedia TMP800 AC (rear view)