

## 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)

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## 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

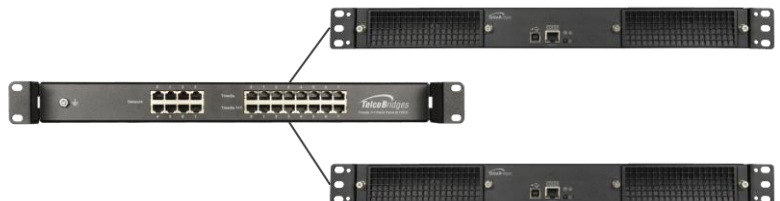
M3UA/MTP3/ISUP redundancy

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

## 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 (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)

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