



# TeleSoft International

## Protocols For Developers



### TsGATE Soft SIP-PSTN Gateway

Preliminary

TsGATE is an integrated software SIP to PSTN Gateway design kit that translates the packetized messages on IP networks to the TDM messages used on the digital PSTN networks. TsGATE takes advantage of existing proven TeleSoft stacks by combining the CompactSIP SIP stack with the TsLink3 PSTN signaling stacks and integrating these with the TeleSoft SIP-PSTN Interworking Module. TsGATE is an ideal solution for OEMs developing embedded gateways and adapters since the TsGATE Soft Gateway is hardware and RTOS independent and can be ported to a wide variety of platforms to create IP to TDM conversion products. TsGATE is also available integrated with an advanced TCP/IP networking stack that includes IPv4 and IPv6 to form a complete protocol signaling converter.

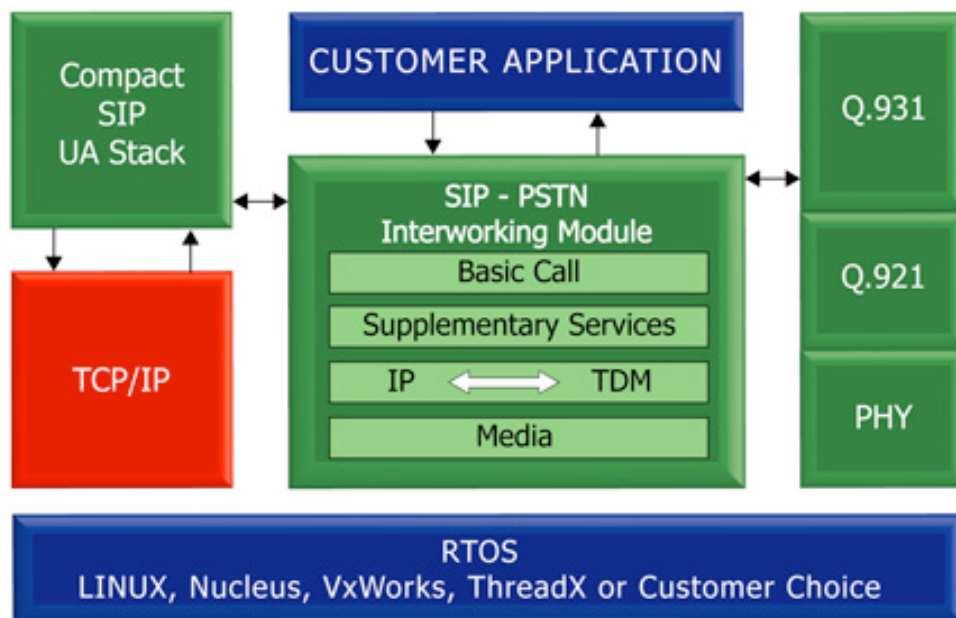
#### Features

- ◆ CompactSIP User Agent SIP Stack
- ◆ World-wide PRI, QSIG, BRI Signaling Stacks
- ◆ SIP-PSTN Interworking Module
- ◆ IETF & ITU Standards-based
- ◆ Processor and RTOS independent
- ◆ Based on proven stacks
- ◆ Written in ANSI C for ease of portation
- ◆ Developed for embedded applications

#### Applications

TsGATE Soft Gateway is ideal for cost and memory sensitive applications:

- ◆ Residential Gateways
- ◆ PBX-PBX Protocol Adapters
- ◆ IP-PSTN Key Systems
- ◆ Enterprise Gateways
- ◆ Telco/VoIP Gateways
- ◆ Hybrid PBXs



TsGATE Block Diagram with optional TCP/IP stack

Note: Information in this datasheet is preliminary and subject to change.

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**TsGATE conforms to IETF, ITU-T and ECMA standards:****CompactSIP IETF:**

- ◆ RFC 3261 – SIP: Session Initiation Protocol
- ◆ RFC 3262 – SIP Reliability (PRACK)
- ◆ RFC 3263 – SIP: Locating SIP Servers
- ◆ RFC 3264 – SDP Offer/Answer
- ◆ RFC 3265 – SIP Specific Event Notification
- ◆ RFC 1321 – MD5: Message Digest Algorithm
- ◆ RFC 2327 – SDP: Session Description Protocol
- ◆ RFC 2617 – HTTP Authentication
- ◆ RFC 2806 – URLs for Telephone Calls
- ◆ RFC 2833 – RTP Payload for DTMF Dial Digits, Telephone Tones & Telephony Signals
- ◆ RFC 2915 – NAPTR: Naming Authority Pointer
- ◆ RFC 2976 – SIP INFO Method
- ◆ RFC 3204 – MIME Objects for ISUP and QSIG
- ◆ RFC 3489 – STUN: Simple Traversal of User Datagram Protocol (UDP) Through NATs
- ◆ RFC 3550 – RTP: Real-Time Transport Protocol
- ◆ RFC 3515 – SIP Refer Method
- ◆ RFC 3581 – SIP Extension for Symmetric Response Routing
- ◆ RFC 3665 – SIP Basic Call Flow Examples
- ◆ DNS Query/Response

**TsGATE is available with any of the following TsLink3 ITU-T PRI, BRI and ECMA QSIG stacks:**

- ◆ Q.932 Supplementary Services
- ◆ QSIG PBX - PBX
- ◆ Q.931 Worldwide ISDN switch variants
  - N. America NI-1, NI-2, Lucent 5ESS, 4ESS and Nortel DMS100
  - ETSI EuroISDN PRI and BRI
  - Japan INSnet64 and INSnet1500
- ◆ Q.921 LAPD & X.25
- ◆ I. 430 Physical Layer Drivers for 35 devices

**TsGATE Interworking Module:**

- ◆ Compliant with RFC 4497
  - Handles basic call setup and teardown between SIP and PSTN
  - Relays provisional responses
  - Absorbs overlap dialing on PSTN side
  - Reliable provisional responses provide early media connections
  - API provides notification of necessary codec information for single or dual codecs
  - API allows complete customer control of dialing plan and PSTN <-> SIP URI translations

**TCP/IP**

- ◆ Please contact TeleSoft for more details

**TsGATE is easily ported to any environment:**

- ◆ Written in ANSI C for ease of portation
- ◆ Standardized coding conventions common to all TeleSoft stacks
- ◆ Portable to any memory model, including flat, heap, pool-based, and mbuf or zbuf
- ◆ Object-oriented API supports direct function-call interface, inter-task and inter-cpu messaging
- ◆ Highly scalable – no built-in limits other than those required by the system itself

**TsGATE provides a broad development and debugging environment:**

- ◆ Sample applications to demonstrate use of the APIs
- ◆ Initial ports include Linux, uCLinux, VxWorks, ThreadX and Nucleus RTOSes
- ◆ Sample make files and imake scripts
- ◆ Debugging & auditing features allow compile-time & run-time details for logging of messages & events

**Documentation:**

Comprehensive documentation customized for your load supplied in a searchable soft format

TeleSoft International is a US-based leading provider of "Protocols for Developers" for telecom applications. We license source code Protocol Stacks for VoIP, ISDN, Q.931, Q.921, QSIG, ML-PPP, PPP, Frame Relay, T1 RBS, E1 CAS R2 & X.25 to OEMs and ODMs worldwide.

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