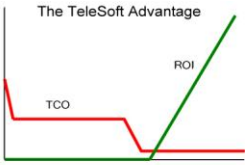


TsGATE Soft SIP-to-PSTN Gateway SDK — Source Code Stack

TsGATE is an integrated software SIP-to-PSTN Gateway design Software Development Kit (SDK) 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 software stacks by combining the CompactSIP SIP stack with the TsLink3 PSTN signaling stacks and integrating these with the TeleSoft SIP-to-PSTN Interworking Module. TsGATE is an ideal software 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.

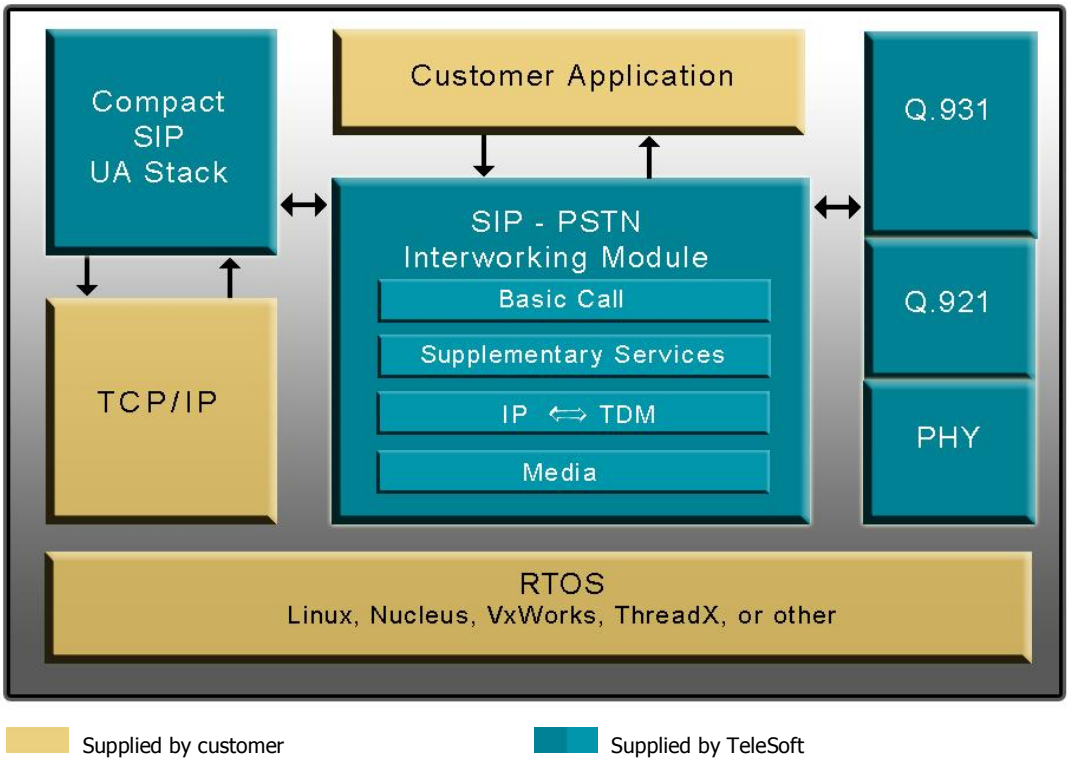
Features

- CompactSIP User Agent SIP Stack
- World-wide PRI, QSIG, BRI Signaling Stacks
- SIP-to-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:

- Media Gateways
- PBX-PBX Protocol Adapters
- IP-PSTN Key Systems
- Integrated Access Devices
- Telco/VoIP Gateways
- Hybrid PBXs



TsGATE Block Diagram

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:

- 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

TsGATE Application Specific Versions available:

- TsGATE ARINC-746 Gateway for avionics CCU, CTU and SDU applications
- TsLinkNet Asterisk-PSTN Gateway for IP-PBX to Zaptel/DAHDI hardware

TeleSoft Advantages

TsGate software protocol stacks are specifically architected for all types of embedded and host-based applications and are optimized for high performance and small code size.

Written in ANSI C and delivered as source code SDKs with a pre-ported interface to a defined RTOS of your choice, a TsGate stack gives you an advanced starting point to shorten your development schedule, minimize technical risk and maintain the flexibility to exercise full control over your end product.

TsGate protocol software stacks are based on a Standard Core Architecture (SCA) that enables easy portation to different software/hardware platforms.

TsGate is engineered to require minimal knowledge of ISDN, QSIG and SIP protocols to build gateway products, while providing flexibility and power for complex applications to more fully control protocol message content and add functions.

Smaller inventory

- Each T1/E1 line can be configured at run-time for a different ISDN PRI or QSIG protocol variant

Well-Structured, Maintainable Code

Maintainability and scalability are designed into each TsGate stack. Comprehensive comments and documentation support you as your project goes forward.

Shorter Learning Curve & Faster Customization

- ITU-T and IETF primitives and software structure – make it easy to relate TsGate code to other ITU-T and IETF based protocols
- ETSI/ECMA compliant code - ensures interoperation with other equipment (e.g., PBX) that is ETSI/ECMA compliant
- 'C' switch statements that closely correspond to the related ITU-T and IETF standards - straightforward to read and modify code, and locate the event/state action points in the ITU-T and IETF standards
- Adherence to ANSI 'C' standards – provides for full portability
- OS-independence - choice of RTOS, not locked into a single vendor
- Processor-independence - enables mobility across CPU platforms
- Simple state machine design - easy to understand and change code for national-specific variants
- Consult with our experienced engineers early to avoid expensive pitfalls later

Faster debugging

- Specific defined constants, comment strings and variable naming - supports use of text search techniques to quickly locate a specific section of code and determine the side effects of changes that are being considered
- ITU-T and IETF primitives and software structure - clear traceable dataflow
- Development and testing available on standard Windows and Linux PC/server hardware - clean, proven and robust code

Software Tools

Internal Protocol State Logging Tool and Debugging Tool are invaluable aids during portation and integration, included with every TsGate stack at no additional charge.

Documentation

Comprehensive documentation includes API Guides, Porting Guides, Internals Guides and User Guides. All are provided in a searchable soft format.

Purchasing TsGate Software

TsGate SDKs are supplied in comprehensive, portable packages of 'C' source code modules and interfaces necessary to develop robust products. Project costs are kept under control with cost-effective licensing fees based only on the modules required for the project.

Technical and Custom Support

3-months included with each license. 12-month maintenance extensions include code updates and quick-response technical support via E-mail, phone and fax.

About TeleSoft International

TeleSoft International, Inc., is an industry-leading, US-based provider of field-proven, scalable, standards-based protocol stacks for developers. We specialize in telecom applications, licensing source code stacks to OEMs and ODMs worldwide for VoIP, ISDN, Q.931, Q.921, QSIG, Supplementary Services, ML-PPP, PPP, Frame Relay, T1 RBS, E1 CAS R2, and X.25.

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