



TeleSoft International

Protocols For Developers



TsCONNECT – IP-PBX Voice to PSTN Connectivity Gateway

IP-PBXs enable companies of any size to take advantage of the increasing availability of broadband connections to offer low cost VoIP-based (Voice over Internet Protocol) calling plans. However, in order to connect VoIP calls to the millions of existing PSTN-based (Public Switched Telephone Network) telephones, switches and PBXs, it is necessary to provide a mechanism that converts VoIP signaling to PSTN signaling.

TeleSoft's TsCONNECT IP-PBX Gateway solution provides this conversion, and enables OEMs, manufacturers and suppliers of IP-PBXs and telephony cards to easily add PSTN connectivity to their SIP-based IP-PBX products. TsCONNECT incorporates the key features necessary to connect SIP-based VoIP calls to the PSTN in most countries in the world. Because the TsCONNECT API consists of industry standard IETF SIP messages, there is no need to change existing IP-PBX software to interface to a proprietary PSTN card API, avoiding extra cost, delay and risk.

TsCONNECT runs alongside the IP-PBX software on the same PC/server platform and under the same Linux operating system as for the IP-PBX. TsCONNECT is easy to install with a standards-based SIP API that interfaces directly to the IP-PBX SIP without requiring any hardware connections, thus eliminating the need for, or usage of, Ethernet ports. This is a purely software socket connection internal to the host PC/server and does not involve the host network interface card.

TsCONNECT IP-PBX Gateway is a software solution that takes the packetized SIP messages from the IP-PBX and translates them to the TDM (Time Division Multiplexed) messages used on the worldwide digital and analog PSTN networks. While most applications will require PRI ISDN other options include support for QSIG (the standard interface for PBX-to-PBX communications), T1 Robbed-Bit Signaling (used mainly in N. America as an alternative to ISDN) and E1 CAS R2 (widely used in S. America and Asia where ISDN is not deployed).

TsCONNECT takes advantage of existing proven TeleSoft TsLink3 stacks to provide a highly flexible solution that can be configured for virtually any telephone network in the world thus enabling manufacturers and suppliers to market and deploy their products on a worldwide basis.

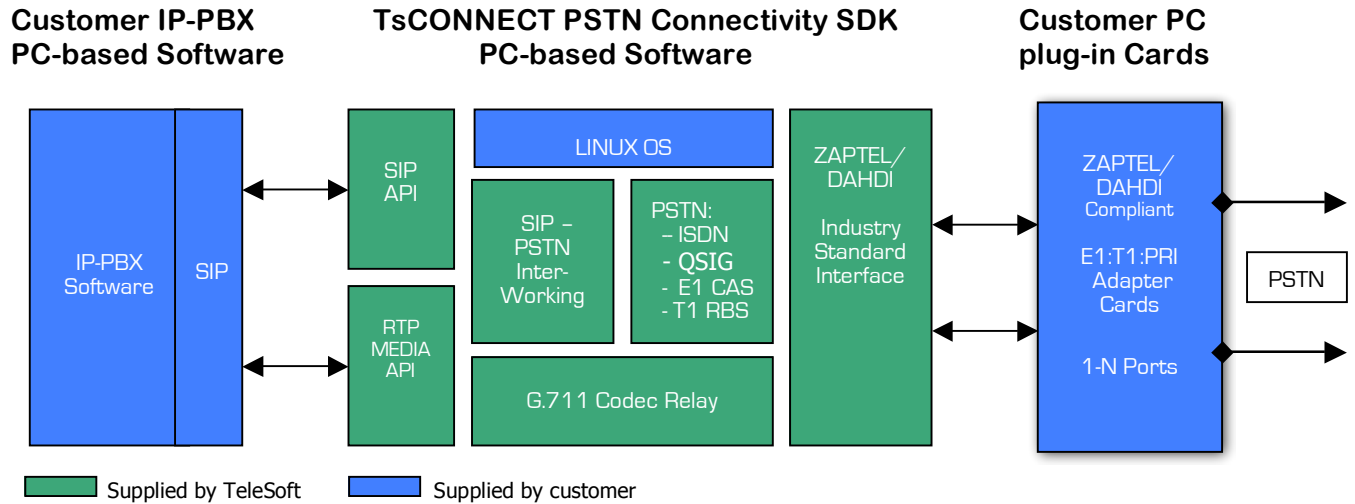
Features

- ◆ Worldwide PSTN connectivity
- ◆ Runs alongside IP-PBX on PC(s) & Linux
- ◆ Standards-based SIP API
- ◆ ISDN PRI worldwide signaling stacks
- ◆ QSIG support for PBX-PBX communications
- ◆ T1 RBS support for N. America
- ◆ E1 CAS R2 support for 16 countries
- ◆ No Ethernet ports required
- ◆ Based on proven TeleSoft stacks
- ◆ Works with off-the-shelf PRI/T1/E1 cards
- ◆ Interfaces to standard Zaptel/DAHDI driver
- ◆ Optional source code license

Applications

TsCONNECT is designed specifically for:

- ◆ Asterisk IP PBX
- ◆ Freeswitch IP PBX
- ◆ Proprietary IP-PBX Systems
- ◆ IP-PBX to PBX Protocol Adapters
- ◆ Enterprise Gateways
- ◆ Telco/VoIP Gateways
- ◆ Hybrid PBXs
- ◆ IP-PSTN Key Systems



TsCONNECT Functional Block Diagram

TsCONNECT is standards-based and conforms to the IETF, ITU-T, ANSI and ECMA standards

TsCONNECT SIP API including support for:

- ◆ INVITE, BYE, ACK, OPTIONS method per RFC 3261
- ◆ SDP Offer/Answer support per RFC 3264
- ◆ Hold, Call Forwarding, Caller ID and Call Waiting Supplementary Services

TsCONNECT is available with these TsLink3 ITU-T PRI, T1 RBS, E1 CAS R2 and ECMA QSIG stacks:

- ◆ QSIG PBX - PBX
- ◆ ISDN Worldwide ISDN switch variants
 - N. America NI-2, Lucent 5ESS, 4ESS and Nortel DMS100/250
 - ETSI EuroISDN TBR4 PRI
 - Japan INSnet1500
- ◆ T1 RBS and E1 CAS R2 for major world markets

TsCONNECT Interworking Module:

- ◆ Compliant with RFC 4497
- ◆ Handles call setup between and teardown between SIP and PSTN
- ◆ API allows complete control of dialing plan

TsCONNECT Interfaces:

- ◆ **Operating System** - Linux
- ◆ **Zaptel/DAHDI Interface** - connects to Zaptel/DAHDI driver & Zaptel/DAHDI compatible T1/E1/PRI PC cards
- ◆ **SIP API** - standards-based API that connects to the IP-PBX SIP interface

TsCONNECT provides diagnostic logging:

- ◆ Debugging & auditing - run-time logging of messages & events

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.

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