TeleSoft International
## Protocols for Developers

The TeleSoft Advantage

ROI

TCO

Proven advanced starting points

TsProxy Server Overview

Source Code SDK

A SIP Proxy Server is a Session Initiation Protocol (SIP) server that acts as an intermediary for requests from clients (users) seeking to send and receive calls to and from other clients via the Proxy Server. Typically, clients register with the SIP proxy server to indicate where (i.e., current IP address) they may be reached by callers at a given point in time. Thus, a SIP Registrar is frequently integrated with the SIP Proxy Server to provide registration and calling functions to client SIP endpoints that register with the SIP Proxy Server.

The TsProxy Server is a software proxy server designed to run as an application on a wide range of operating systems and embedded or host-based platforms. TsProxy is frequently configured with integrated Registrar.

TsProxy is a member of the TsSipServer family of SIP server building blocks that can be assembled in different combinations for different customer applications. Other members include a Back-to-Back UA (B2BUA) with or without Registrar(s) and SIP Proxy Server.
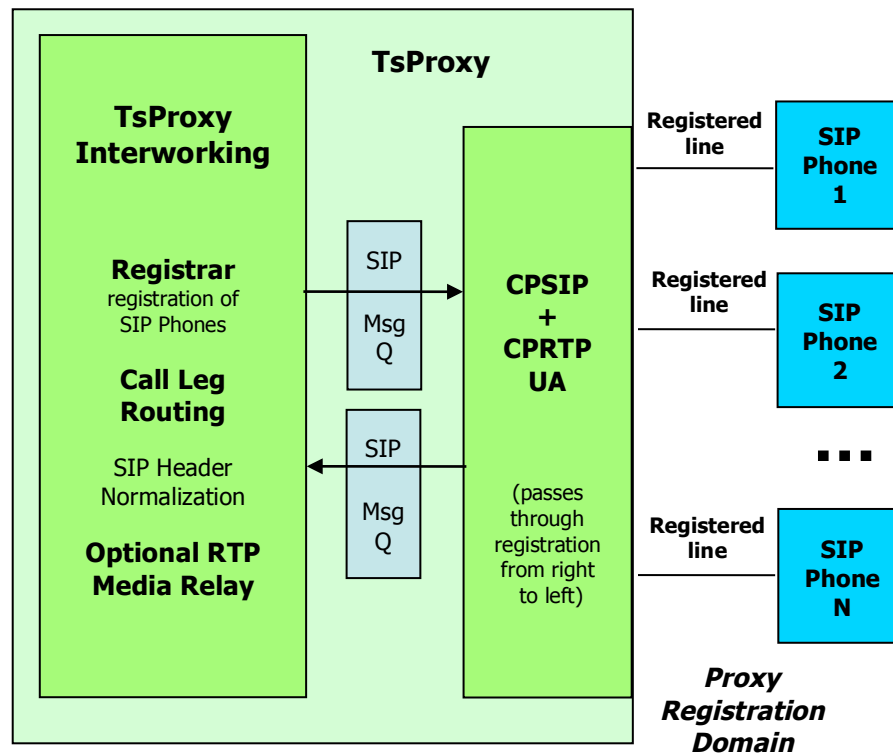
TsProxy with Registrar Configuration

Proxy Server typical applications include:

- Content scanning to prevent malware transmission
- Application of access policy, e.g. blocking sites.
- Scanning of outbound content, e.g., for data leak protection.

- Acceleration of web access using caching
- Logging and auditing for usage reporting
- Security – maintaining anonymous operation between clients

As with all other TeleSoft protocol stacks, TsProxy Server is a standards-based solution; TsProxy has been developed to comply with the latest IETF SIP Recommendations and SIP Forum SIPconnect Technical Recommendations. The TsProxy Server SDK is written in ANSI C language for ease of portation, low overhead operation and small memory footprint.

In most applications TsProxy will have one User Agent (UA) software entity with an integrated Registrar in the TsProxy Registration Handler entity.

TsProxy - SIP Proxy Server

In the SIP-PBX-type configuration, endpoints (e.g., SIP phones) register with TsProxy to allow voice and video calls to be placed between users registered with TsProxy, providing call routing, security and media relay functions.

TsProxy Registration Processing

At the time of phone power-on or connection to the Proxy Registration Domain network, each SIP phone registers with the TsProxy Registrar module. TsProxy uses this registration process to maintain the TsProxy registration database so that TsProxy can route calls from one registered SIP phone to another.

Unrecognized SIP Header/Header Parameter Default Processing

In general, the TsProxy Module and its associated SIP UA will each pass-through transparently to the other side call leg any SIP headers and/or SIP header parameters that are not recognized by the TsProxy or UA stack instance that is handling the SIP header or header parameter.

TsSipServer Family Overview

The TsProxy Server is one member of the TsSipServer family; the TsB2BUA – a Back-to-Back-User-Agent (B2BUA) – is another member. The TsSipServer modular architecture enables other variations of TsSipServer to be easily created by TeleSoft and our customers beyond those described below.

TsB2BUA will usually have two User Agents (UAs) software entities working back-to-back (i.e., with interworking code routing call legs and media between the two UAs). Often a Registrar and/or one or more Registering Entities are incorporated into the B2BUA Registration Handler entity.

TsB2BUA – SIP Back-to-Back User Agent (B2BUA)
In this TsSipServer configuration, endpoints (e.g., SIP phones) in two or more SIP domains are inter-connected via the TsB2BUA application to allow voice and video calls to be placed between users in different domains, while providing SIP registration, call routing, security and media relay functions.
TsB2BUA is described in the TsSipServer – B2BUA Overview document.

TsB2BUA configurations:
- ➢ TsB2BUA – SIP trunk on one side and Registrar on the other -- which can be configured to:
  - not register at all or
  - register with remote Registrar on that side of B2BUA

- ➢ TsB2BUA - SIP trunk on each side -- each side of which can be configured to:
  - not register at all or
  - register with remote Registrar on that side of B2BUA

- ➢ TsB2BUA SIPconnect Enterprise Network B2BUA - Registration Mode. This B2BUA configuration indirectly registers all of the provisioned telephone number registration accounts that may be established with SIP-PBX registering subscribers.

> ➢ <u>TsB2BUA SIPconnect Enterprise Network B2BUA</u> - <u>Static Mode</u>. This SIPconnect mode is for SIPconnect configurations where the relationship at the Service Provider Network equipment "SP-SSE" and TsB2BUA as "SIP-PBX" is peer-to-peer.

> ➢ <u>TsB2BUA Individual Registration Pass-through Mode</u> option for individual local side of TsB2BUA-as-Registrar registrations being mirrored in one-to-one registrations on the Service Provider(s) side of TsB2BUA.

Benefits of TeleSoft Software SDKs

Simplifies SIP Proxy Server Design – Speeds Time-to-Market

Powerful features save valuable engineering resources and simplify product development.

Includes Full Function SIP Software

The TsProxy Server is based on and incorporates the proven TeleSoft CompactSIP protocol software stack. Written in ANSI C and using a small set of operating system calls, this Proxy Server requires minimal resources from any platform.

TsProxy Server Features

TsProxy Server is a modular, high performance, easy-to-use SDK:

♦   Ideal for host & embedded applications
♦   Micro system memory size 150KB-250KB
♦   Modular architecture
♦   Hardware independent

♦   OS independent
♦   SIPconnect Conformant
♦   IETF Conformant
♦   Written in ANSI C for ease of portation

Applications

TsProxy runs as an application and can be run on a wide range of operating systems including Linux, MQX, Nucleus, Micrium UC/OS II, OSE and VxWorks.

TeleSoft CompactSIP is proven

♦   Extensively interop tested at multiple SIPits and against Asterisk, OpenSIPS and 35+ 3rd party devices
♦   Routinely torture tested against IETF RFC 4475 and PROTOS test suites and in our own test labs
♦   Millions of clients in daily use worldwide

TeleSoft Advantages

TeleSoft SIP software stacks are specifically architected for all types of embedded, mobile and host based applications and are optimized for high performance and very small code size.

All TeleSoft SIP protocol software stacks are 100% hardware independent and run as applications that enable easy portation to different software and hardware platforms.

Purchasing TeleSoft Software

TeleSoft software products are supplied under a commercial license in source code form. Project costs are kept under control with cost-effective licensing fees.

Documentation

Comprehensive documentation includes API Guide and User Guide provided in a searchable soft format.

About TeleSoft International, Inc.

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 SIP, VoIP, AS-SIP, ISDN, Q.931, Q.921, MLPP, QSIG, Supplementary Services, ML-PPP, PPP, Frame Relay, T1 RBS, E1 CAS R2, and X.25.

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