

Proven advanced starting points

## CompactSIP SDK

## Source Code Stack

The TeleSoft CompactSIP User Agent SIP software stack offers a highly optimized SIP stack solution that combines a very small memory footprint with high performance and no compromises on functionality and scalability. CompactSIP is a modular SIP Software Development Kit (SDK) source code module written in ANSI C for portability, and tailored to suit the application to optimize both memory footprint and software development costs.

The CompactSIP User Agent SIP software module is supplied pre-ported to a choice of operating systems for mobile, embedded and PC-based applications. The pre-ported interfaces include support for: Android, iPhone, Symbian, Windows Mobile & Nucleus for mobile devices; Micrium, MQX, ThreadX, uClinux & VxWorks for embedded platforms; and Linux & Windows for PCs.

Also available is the [TsSmartPhone](#) SIP SDK that includes a rich GUI for mobile, embedded and PC-based applications.

### Features

CompactSIP is a modular, high performance SIP stack with a micro memory footprint:

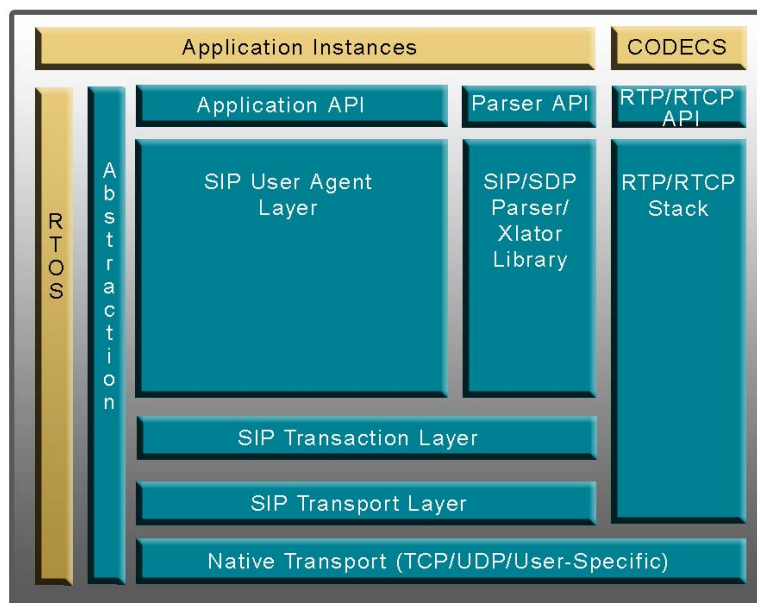
- ◆ Ideal for on-chip & embedded applications
- ◆ Micro system memory size 75KB-150KB
- ◆ Flexible, full-featured core
- ◆ Modular architecture
- ◆ User Agent Client/Server
- ◆ OS independent
- ◆ IETF Conformant (3GPP/IMS optional)
- ◆ Written in ANSI C for ease of portation

### Applications

CompactSIP is ideal for cost and memory sensitive applications:

- ◆ Mobile phones
- ◆ VoIP wired phones
- ◆ PDAs and Pocket PCs
- ◆ Set-top Boxes
- ◆ PSTN/VoIP Gateways
- ◆ ATA/Residential Gateways

NOTE: CompactSIP is available pre-integrated with GIPS MediaEngines.



CompactSIP Block Diagram

**CompactSIP supports 50+ RFCs including:**

- ◆ 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 2617 – HTTP Authentication
- ◆ RFC 2806 – URLs for Telephone Calls
- ◆ RFC 2833 – RTP Payload for DTMF & Tones
- ◆ RFC 2915 – NAPTR: Naming Authority Pointer
- ◆ RFC 2976 – SIP INFO Method
- ◆ RFC 3204 – MIME Objects for ISUP and QSIG
- ◆ RFC 3310 – HTTP Digest Authentication – AKA
- ◆ RFC 3311 – SIP Update Method
- ◆ RFC 3329 – Security Mechanism for SIP
- ◆ RFC 3428 – SIP Extension for IM
- ◆ RFC 3489 – STUN: Simple Traversal UDP - NATs
- ◆ RFC 3550 – RTP: Real-Time Transport Protocol
- ◆ RFC 3515 – SIP Refer Method
- ◆ RFC 3581 – Symmetric Response Routing Ext'n
- ◆ RFC 3665 – SIP Basic Call Flow Examples
- ◆ RFC 3711 – SRTP Secure RTP
- ◆ RFC 3891 – SIP `Replaces' Header
- ◆ RFC 3903 – SIMPLE SIP for IM and Presence
- ◆ RFC 4028 – Session Timers in SIP
- ◆ RFC 4346 – TLS Transport Layer Security
- ◆ RFC 4566 – SDP Session Descrip'n Protocol/IPv6
- ◆ RFC 4568 – SDP Security for Media Streams
- ◆ DNS Query/Response
- ◆ TURN – STUN Relay

**CompactSIP is tight and fast**

- ◆ Support for methods, headers, and message processing is configurable to optimize memory usage
- ◆ Typical configuration fits in 128KB
- ◆ Just-in-time parser avoids parsing headers not used by SIP stack or application
- ◆ Optimized handling of timers avoids high start/stop overhead
- ◆ Crafted parser eliminates typical parser-generator bloat

**CompactSIP is easy to use**

- ◆ Low-level API provides complete control over all SIP functions and message content
- ◆ API supports multiple independent services including multi-homing
- ◆ User can easily add special method and header processing
- ◆ SDP parser is separate from SIP parser for use in alternate SDP applications

**CompactSIP is easily ported to any environment**

- ◆ 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

**CompactSIP provides a broad development and debugging environment**

- ◆ Ports include Android, iPhone, Linux, MQX, Nucleus, Symbian, ThreadX, uClinux, uC/OS-II, VxWorks, Windows & Windows Mobile
- ◆ Available pre-integrated to Global IP Solutions (GIPS) MediaEngine for high quality voice and video solutions
- ◆ Comprehensive example applications to demonstrate use of the APIs
- ◆ Sample make files and imake scripts
- ◆ Debugging & auditing features allow compile-time & run-time details for logging of messages & events

**CompactSIP is proven**

- ◆ Extensively interop tested at multiple SIPits and against Asterisk, OpenSIPS and 35+ 3rd party User Agents & Proxies
- ◆ Routinely torture tested against IETF RFC 4475 and PROTOS test suites and in our own test labs

**Tailoring to Your Application**

- ◆ Modular structure allows optimum code matching to application
- ◆ Licensing only the modules required enables the most cost-effective solution

**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.

Written in ANSI C and delivered as a source code SDK ported to a defined RTOS of your choice, a CompactSIP stack or a TsSmartPhone SIP stack gives you an advanced starting point to shorten your development schedule and minimize technical risk while maintaining the flexibility to exercise full control over your end product or application.

---

---

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

### **High-Level and Low-Level Application Programming Interfaces (API)**

Developers building a mobile phone or relatively simple softphone application, can use the high-level TsSmartPhone GUI. Developers who will benefit from access to the full range of CompactSIP capabilities can use a rich, low-level API.

CompactSIP is engineered to require minimal knowledge of SIP and minimal formatting of SIP messages to build simple products, while providing flexibility and power for complex applications to more fully control SIP message content and add functions.

### **Purchasing CompactSIP Software**

CompactSIP 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 that are based only on those modules required for the project.

### **Upgrade and Individual Modules**

Available SIP related modules include support for AS-SIP, NAT Traversal, RTP, Security, SIMPLE, STUN, Supplementary Services and SmartPhone.

### **Well-Structured, Maintainable Code**

Maintainability and scalability are designed into each CompactSIP stack. Comprehensive comments and documentation support you as your project goes forward. The value of CompactSIP stacks will be evident in each phase of your engineering schedule and each CompactSIP product's life span.

### **Documentation**

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

### **Technical and Custom Support**

3-months technical support is 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.

Contact Us:

T: +1.512.373.4224

F: +1.512.788.5660

sales@telesoft-intl.com

