TeleSoft International
Protocols for Developers

The TeleSoft Advantage

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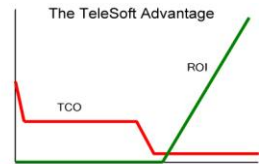
Proven advanced starting points

TsSmartPhone VoIP SDK

Source Code Stack

TsSmartPhone VoIP

The TsSmartPhone VoIP Software Development Kit (SDK) from TeleSoft International is a flexible, powerful and easy-to-use VoIP telephone software reference design suitable for a wide range of SIP-telephony-based products.

The TsSmartPhone SDK provides the key VoIP features required for a variety of SIP-telephony-based products:

♦ VoIP softphones for OSs including Android, Apple iPhone, Windows Mobile, Windows desktop and Linux.
♦ IP desktop phones and specialized embedded devices for industries including entertainment, security, communications, transportation, and defense.

Simplifies Phone Design – Speeds Time-to-Market

Powerful features save valuable engineering resources and simplify VoIP product development. Complexity of SIP phone functionality is encapsulated via a simple stimulus-based API presented to the application. This capability allows developers to focus on adding value such as localizing the GUI for specific markets and custom applications.

Includes Full Function SIP Software

The TsSmartPhone SDK incorporates the proven TeleSoft CompactSIP protocol software stack. Written in ANSI C language, and using a minimal set of operating system calls, this SDK is highly portable to a wide range of desktop and embedded operating systems and environments.

CompactSIP Features

CompactSIP is a modular, high performance, easy-to-use SIP stack:

♦ Ideal for on-chip & embedded applications
♦ Micro system memory size 75KB-150KB
♦ Flexible, full-featured core
♦ Modular architecture
♦ Hardware independent
♦ OS independent
♦ IETF Conformant
♦ Written in ANSI C for portability

Applications

TsSmartPhone is ideal for cost and memory sensitive applications:

♦ Mobile SmartPhones
♦ VoIP wired phones
♦ PDAs and Pocket PCs
♦ Mobile Internet Devices
♦ Industrial embedded VoIP phones
♦ Security VoIP phones

TsSmartPhone User Interface Features

Comprehensive set of voice phone functions including:

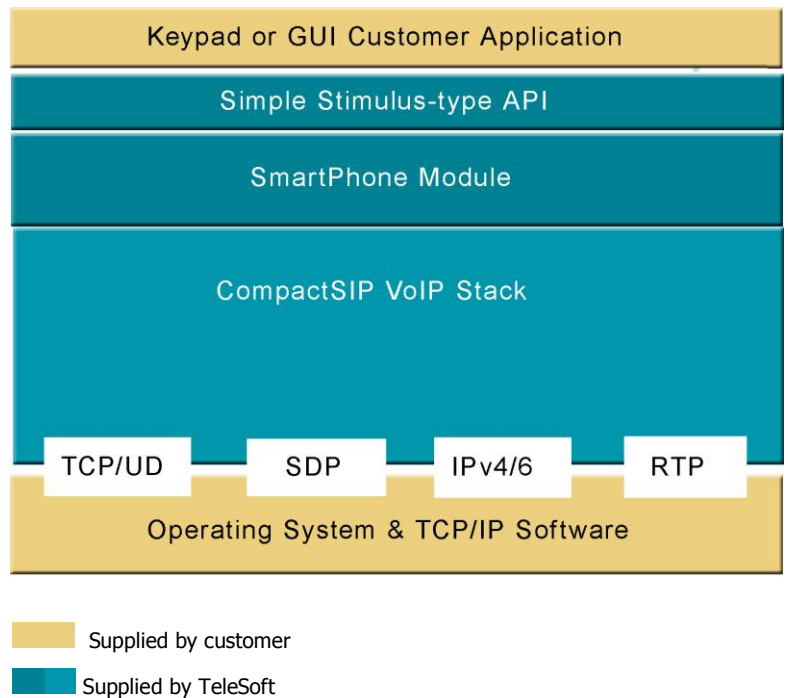|	
❖ Multiple line appearances	❖ VoiceMail Message Waiting Indicator
❖ CallerID	❖ 3-Way Calling/Call Conferencing
❖ Call Waiting	❖ Star Commands
❖ Call Hold	➢ *67 CallerID Block
❖ Call Transfer	➢ *69 Call Return
❖ SpeedDial	➢ *72/*73 Call Forwarding
❖ Redial	➢ *77/*87 Anonymous Call Block
❖ Mute	➢ *78/*79 Do Not Disturb
	➢ *123 Access VoiceMail

Simple, Stimulus-Based API

The TsSmartPhone SDK API is driven by simple stimulus-type commands from the application such as "Press 1 key" or "Press Conference key." Application only has to know which button is pushed, processing of the command is handled by the intelligence in the SDK thus greatly reducing customer development to just creating a simple interface. Only a minimal knowledge of SIP or actual implementation of phone features is required.

TsSmartPhone stimulus-type virtual buttons:

❖ Two line buttons – Lines 1 & 2
❖ Telephone 12 keypad
❖ Hookswitch & speakerphone
❖ SpeedDial
❖ Menu for phone configuration
❖ Transfer
❖ Conference
❖ Redial
❖ Mute

Keypad or GUI Customer Application

Simple Stimulus-type API

SmartPhone Module

CompactSIP VoIP Stack

TCP/UD | SDP | IPv4/6 | RTP

Operating System & TCP/IP Software

Supplied by customer
Supplied by TeleSoft

Easy-to-Use

♦ Example intuitive UI code easily ported to all types of VoIP phones
♦ Easy end-user phone setup and administration

Media Engine Support

CompactSIP is available pre-integrated with third party high quality media processing/codec software (e.g. GlobalIP Solutions) providing a packaged, pre-tested VoIP smartphone solution. Platforms supported include ARM, ADI, x86, PC, MacOS, Linux, Windows Mobile, XP & Vista, iPhone Symbian, Nucleus, MQX, VxWorks,

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.

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