InstaVoIP™ Embedded Solutions

InstaVoIP™ Embedded from Unicoi is a platform-independent VoIP software component designed for standalone use or to be embedded into another application. The InstaVoIP Embedded software suite provides a full-featured Call Manager, Voice Engine, and Information Subsystem, providing developers with a comprehensive VoIP development solution for devices such as IP Phones, VoIP ATAs, RoIP Gateways, security call-boxes and many others.

Sample applications for InstaVoIP Embedded

- SoftPhone
- Radio over IP (RoIP)
- Desktop IP Phone
- VoIP Call Box/Door Entry Phone

About InstaVoIP Embedded

A full ANSI C source code release allows InstaVoIP Embedded to be used on virtually any platform. Simply porting the Fusion Common Layer (FCL) abstraction to a platform's RTOS/OS, network stack, and file system (optional), and implementing an audio driver channel for the platform's audio hardware is all that is necessary to start making VoIP calls. Additionally, having full source code allows customer changes to be made to the code (such as implementing newer or less popular RFCs) and aids in debugging low-level problems.

InstaVoIP Embedded Features

Core VoIP Networking Protocols

- SIP, SDP, RTP, STUN
- Optional: SIPS, SRTP for secure communications

Call Management

- Supported Workflows: SoftPhone, Desktop Phone, POTS FXS, POTS FXO
- Actions: place calls, answer calls, disconnect calls, on/off hold, transfer, conference, generate DTMF, etc.
- Events: incoming call, peer on/off hold, peer disconnect, being transferred, DTMF received, registered/unregistered, etc.
- Call management control via HTTP/JSON-based web service for remote control

Voice engine

- Codecs: G.711, G.726 (16/24/33/40 kbps), G.722, DVI4 (narrow/HD/Ultra HD), iLBC, Speex
- Optional Codec: G.729
- Algorithms: Gain, Automatic Gain Control (AGC), DC Blocker, High-Pass Filter, Voice Activity Detector (VAD), Acoustic Echo Suppressor, Sample Rate Conversion, DTMF (Generator/Detector), Call Progress Tone Generator, Custom Ring Tone Generator, Comfort Noise Generator, Packet Loss Compensation
- Optional Algorithms: Custom Tone Generator, Acoustic Echo Canceller , Noise Reduction, Frequency Equalizer

Information Subsystem

- Configuration Information Management
- File-based by default
- Can integrate with platform's configuration style
- Runtime Information Management (e.g. call status)
- Access via HTTP/JSON-based web service for remote configuration and status monitoring

Web-Based Configuration UI

- Optional: HTTPS for secure access
- Expandable to include user-application configuration
- Allows real-time control of key system functionality such as dialing and answering calls
  Not included in Android & iOS

Sample Application Details

SoftPhone

InstaVoIP can easily be made into a standalone SoftPhone application. Example projects are included in the Embedded, Desktop, and Mobile versions which provide instant functionality and are ready for customer differentiation.

Radio over IP (RoIP)

Radio-over-IP is a growing market that gives traditional radios connectivity into corporate PBXs and/or traditional POTS lines. InstaVoIP Embedded or Module can be used to quickly create devices that bridge these environments for military, public emergency systems, or businesses.

Desktop IP Phone

InstaVoIP Embedded or Module can be used to create enterprise-ready desktop phones that interoperate with the most popular PBX solutions in the market.

VoIP Call Box/Door Entry Phone

InstaVoIP's User Interface API supports simple and highly differentiated user interfaces from a Call Box with its simpler "press this button in case of emergency" interface to highly POS kiosks and industrial control panels.