TeamSpirit® Voice&Video Engine Embedded

After the migration to an all-IP infrastructure world's leading carriers are increasingly rolling out IP services, to retain users, increase revenues despite slow economy and to protect from Internet-based communication and collaboration rivals taking telcos' minutes. Multimedia Services over IP, IPTV, IP-Centrex and Unified Communications now merge rich Internet experience with call functionality.

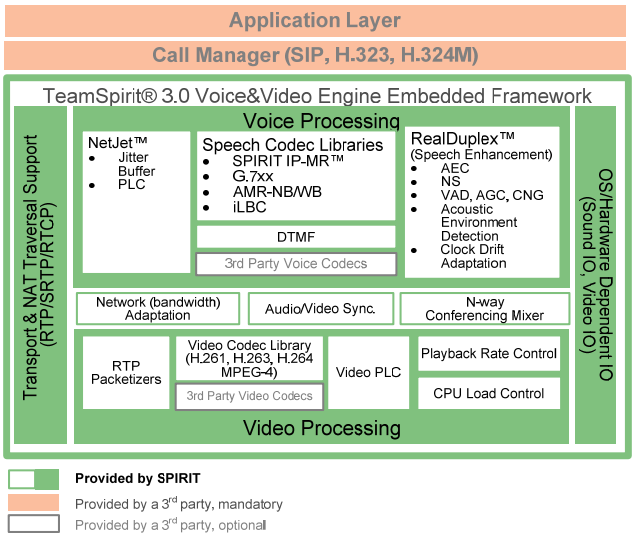
All of them include real-time voice and video over IP communication feature via an IP-based terminal device. That's why the quality of IP calls becomes the key to the overall services' success, while "smart IP networks" are not ready to guarantee end-to-end quality, because of the jammed last miles, congested backbones and network interconnection nodes.

SPIRIT's carrier-grade client-side VoIP software – TeamSpirit® 3.0 Voice&Video Engine Embedded complements (and remarkably amplifies!) network-specific QoS for positive user experience with IP video services. The Engine brings high quality real-time voice and video to media phones, video IP-phones, video conferencing terminals, IP set-top boxes, residential gateways, multimedia terminal adapters, etc.

Overview

TeamSpirit® Embedded is a comprehensive pre-integrated voice and video engine SDK, which includes a library of highly optimized, low-MIPS consuming speech and video codecs, voice and video synchronization tools, speech enhancement and network optimizing algorithms.

The TeamSpirit® Engine effectively solves all IP-immanent issues, eliminating echo and noise, minimizing delay, compensating for packet loss, tiding over the congested last mile, etc. for an attractive multimedia experience. Thanks to the highest level of optimization the Engine has low resource consumption, to lower processor load and allow users running several applications simultaneously. High-level API makes the integration of the complex voice and video processing solution quick and easy.



Features

- Proprietary engine framework to solve channel issues and guarantee smooth video and high quality voice regardless of the connection
- Hardware and software accelerators support for better video
- Proprietary IP-optimized patent-free wideband voice codec SPIRIT IP-MR™ for superior voice quality
- Network adaptation module to compensate for IP-related issues
- Resource-efficient solution to lower processor load and perform well in multitasking environment

Telecom providers should create more compelling communities by delivering a cross-platform, fully integrated communication and collaboration experience across mobile, fixed and IPTV services. This will enable to stem loss-of-share of communication time, as well as reduce churn.
"The changing face of communication" Analysis IBM Communications Sector, December 2008

Benefits

- Carrier-grade voice and video for customer satisfaction with IP services
- Compliant with major international quality standards to help OEMs pass carriers' acceptance tests
- Tightly-integrated optimized solution with high-level API for easy integration
- Resource-efficient solution to lower processor load and perform well in multitasking environment

Key Features

- Proprietary engine framework to secure voice and video quality regardless of connection
- Support for both IMS and traditional VoIP architectures
- Network optimization for reliable performance in both managed and unmanaged networks
- Supports both software and hardware accelerated video (VGA, CIF, QCIF and SQSIF with up to 30 fps)

Applications

Carriers' IP services:

- Consumer: IPTV, SoIP
- Enterprise: UC, IP-Centrex

Conventional and emerging terminal devices

- Media phones
- Video IP phones
- Video conferencing terminals
- Video telephony set-top boxes
- Residential VoIP gateways
- Multimedia terminal adapters
- WiMAX terminal chipsets

Supported Processors and OS

- ARM9E/11, Cortex A8
- TI OMAP3
- MIPS32
- Intel Atom™
- OS: Android, Ubuntu, Midinux, Moblin

Specifications

Speech Codecs	▪ SPIRIT IP-MR* ▪ G.722, G.722.1, AAC LD, GSM AMR-WB ▪ G.711, G.711 App.II, G.723.1, G.729AB, G.729.1, GSM EFR, GSM AMR-NB, iLBC
Video Codecs	▪ H.263 *(up to 30 fps)* ▪ H.263+ *(up to 30 fps)* ▪ MPEG.4** *(up to 30 fps)* ▪ H.264** *(up to 30 fps)* ▪ Hardware and software video accelerators support ▪ Video Conferencing Mixer**
Speech Enhancement - RealDuplex™	▪ Acoustic Echo Cancellation *(operates in full duplex mode, consumes 30 MIPS)* ▪ Noise Supressor (*tightly integrated with AEC to provide superior voice quality)* ▪ Automatic Gain Control *(adjusts speaker and microphone gains)* ▪ Voice Activity Detection ▪ Comfort Noise Generation ▪ Line Echo Cancellation G.168 – 2004 ▪ Clock Drift Control
Video processing	▪ Audio/Video Synchronization ▪ CPU Load Control
Telephony Algorithms	▪ DTMF over RTP in-band *(ITU-T Q.23),* out-of-band *(RFC 2833)*
Network Optimization	▪ Adaptive Jitter Buffer ▪ Packet Loss Concealment *(up to 30%)*
Media Transport	▪ RTP/RTCP
Supported OS	▪ Android ▪ Linux: Moblin, Midinux, Ubuntu ▪ Windows CE 4.x ▪ Windows CE 5.0

** The SPIRIT IP-MR™ codec, which payload is currently being standardized by the Internet Engineering Task Force (IETF), has been developed specifically for packet networks and ensures maximum speech quality on both the LAN and global IP networks such as the Internet*

*** call for details*

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