



## TeamSpirit® HD Voice&Video Engine

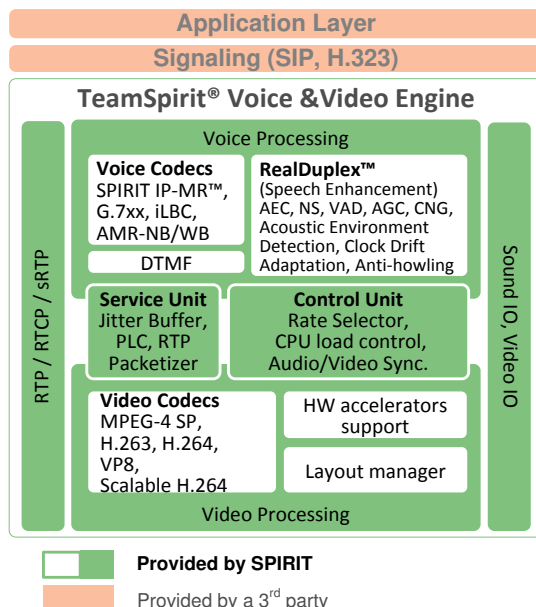
### Software for Licensing to Mobile Service Providers

With rapid evolving of the networks toward LTE and all-IP infrastructure, carriers must leverage investment in IMS to create and monetize new services. By offering inexpensive/freemium, feature-rich Over-The-Top (OTT) voice and video services with HD call quality and amazing ease of use, new independent service providers are gaining millions of users by leaps and bounds. At the same time, mobile carriers are deploying their own branded HD voice and video services which help them upsell new LTE products to their subscribers while preventing them from turning to third-party solutions (like Skype, Viber and Google Hangouts). With high-quality, real-time IP communications, new high-margin revenues can be generated from high-demand service offerings such as mobile and cloud-based business videoconferencing and real-time collaboration tools for smartphones and tablet computers. Another benefit for carriers and end users is the subsequent offloading of some call traffic to WiFi connections.

The growing penetration of mobile video telephony (like Apple's FaceTime) has set increasingly high standards for video call quality. Furthermore, carrier communication service should provide complete cross-platform compatibility and the same enjoyable user experience across all popular devices to meet the diversity of handsets and multiple OS flavors, created by a dynamic mobile OS and device ecosystem.

### Overview of TeamSpirit® VVoIP Engine Software

TeamSpirit® Voice&Video Engine is a digital signal and network processing SDK designed for the rapid development of high-quality, multi-platform voice and video over IP applications. TeamSpirit® Engine enables superior HD voice and video communications on all popular platforms. With TeamSpirit®, developers can focus on their own applications and quickly bring new products to market that include the best IP calling experience possible.



The number of global OTT mobile VoIP subscribers shot up more than 550% in 2012, to over 640 million, and approached the 1 billion mark in 2013

Combined, over-the-top mobile VoIP and VoLTE services are expected to become a \$16 billion business by 2017.

Infonetics Research

### Benefits

- Better compete with OTT providers on 3G and LTE networks to keep and aggressively expand your user base
- Avoid engineering efforts and keep your team focused on your own application
- Fast time-to-market, all popular smartphone and tablet platforms supported
- Surprise users with premium cross-platform HD voice and video quality

### Key Features

- Power-efficient mobile voice and video engine for all popular platforms (iOS, Android, Windows Phone, PC, Mac)
- Outstanding HD audio/video call quality and performance on any device on WiFi/3G/WiMax/LTE
- Advanced stream protection and real-time adaptation to changes in network, execution and physical environment
- Scalable conferencing server for high-performance video conferencing
- Developer-friendly SDK already used by creators of hundreds of market-leading products and services
- Effective support by Voice & Video Engine Experts with 15+ years of experience in digital signal processing

### Target application

- Carriers' voice and video communication IP services (VoLTE/IMS)
- Mobile VoIP apps by alternative service providers
- VVoIP-enabled devices by OEMs/ODMs

### CONTACTS

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## HD Voice and Video Engine for iOS / Android / Windows Phone Devices

TeamSpirit® Voice & Video Engine handles all network specific impairments to secure high quality voice and video over IP networks. It includes all necessary iOS, Android, Windows Phone and device specific tuning and is optimized for most popular ARM processors.

### TeamSpirit® Voice & Video Engine offers:

- Voice and video codecs, such as: G.7xx, GSM AMR NB/WB, iLBC, SILK, etc. and **SPiRiT IP-MR™** (IETF RFC 6262)\*, a patent-free adaptive wideband codec specifically optimized for robust high-quality voice transmission over IP networks, H.263, H.264\*\*, H.265\*\* and Google VP8/VP9\*\* video codecs along with hardware and software video acceleration support;
- Cutting-edge speech enhancement component with tightly integrated Acoustic Echo Cancellation, Noise Suppression, Gain and Howling Controls and smart Sound IO module for interaction with any device's IO subsystem;
- Dedicated module (adaptive jitter buffer, packet loss concealment integrated with RTP/RTCP stack and more) for IP network impairments compensation, such as latency, jitter and packet loss with various voice and video packet loss robustness and quality improvement algorithms;
- **Conferencing Server** based on scalable voice and video codecs for development of video conferencing applications with an unprecedented level of scalability.

## Specifications

<b>Speech Codecs</b>	<ul style="list-style-type: none"> <li>▪ SPiRiT IP-MR™ (IETF RFC 6262)*</li> <li>▪ G.722, G.722.1, GSM AMR WB</li> <li>▪ G.711, G.723.1, G.729AB, G.726, GSM FR (GSM 6.10), GSM AMR NB, iLBC</li> <li>▪ SILK, OPUS**</li> </ul>
<b>Video Codecs</b>	<ul style="list-style-type: none"> <li>▪ H.263, MPEG-4 SP, H.264 AVC**, H.265**, VP8/9**</li> <li>▪ SPiRiT Scalable H.264</li> <li>▪ Hardware Video Accelerators Support</li> </ul>
<b>Speech Enhancement</b>	<ul style="list-style-type: none"> <li>▪ Acoustic Echo Cancellation (with device-specific optimization)</li> <li>▪ Noise Suppressor (tightly integrated with AEC to provide superior voice quality)</li> <li>▪ Automatic Gain Control (adjusts speaker and microphone gains)</li> <li>▪ Non-linear Processor</li> <li>▪ Voice Activity Detection, Comfort Noise Generation</li> <li>▪ Anti-howling</li> <li>▪ Clock Drift Control</li> </ul>
<b>Control unit</b>	<ul style="list-style-type: none"> <li>▪ Lip Synchronization (audio/video sync)</li> <li>▪ Voice &amp; Video Automatic Rate Selection</li> <li>▪ CPU Load Control</li> </ul>
<b>Service unit</b>	<ul style="list-style-type: none"> <li>▪ Adaptive Jitter Buffer</li> <li>▪ Multi-component Voice and Video Packet Loss Concealment (up to 30%)</li> </ul>
<b>Telephony Algorithms</b>	<ul style="list-style-type: none"> <li>▪ DTMF over RTP in-band (ITU-T Q.23), out-of-band (RFC 4733)</li> </ul>
<b>Media Transport</b>	<ul style="list-style-type: none"> <li>▪ RTP/RTCP (RFC 3550/3551 (IETF STDD0064/0065))</li> <li>▪ SRTP (RFC 3711)</li> </ul>
<b>Signaling</b>	<ul style="list-style-type: none"> <li>▪ SIP (Available through partners)</li> </ul>
<b>Supported OS</b>	<ul style="list-style-type: none"> <li>▪ iOS</li> <li>▪ Android</li> <li>▪ Windows Phone 8**</li> <li>▪ Linux Mobile</li> </ul>

\* The SPiRiT IP-MR™ codec has been developed specifically for HD voice over IP networks and ensures maximum speech quality on both LAN and the Internet. IP-MR™ is used in many commercial business-grade systems and has been deployed by dozens of Tier 1 manufacturers since 2004. IP-MR™ outperforms most modern wideband coding standards in terms of packet loss, robustness and speech quality. IP-MR™ features Scalable Speech Coding technology providing adaptive quality and ultra-low server CPU consumption in conferencing scenarios.

\*\*Upon availability and subject to SPiRiT roadmap. Please call for details.

## Clients



And 250+ more high-tech leaders...

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