Redefining the Communication Experience: Fraunhofer IIS Makes Full-HD Voice Available for VoIP Apps

Full-HD Voice VoIP using the AAC-ELD codec delivers CD-like quality for highly improved communication experiences.

Erlangen, Germany – Nov 12, 2012 – Fraunhofer IIS, the world’s renowned source for audio and multimedia technologies, will showcase how its Full-HD Voice codec, Enhanced Low Delay AAC (AAC-ELD), supercharges the communication quality of any VoIP app, be it for smartphones, tablets or televisions at CES 2013.

Natively supported in iOS and Android, the AAC-ELD codec is now readily available to app developers and service providers to offer superior VoIP applications that run at the Full-HD Voice quality level. This delivers a completely new same-room communication experience to the end-user.

“From mobile phones to TVs, consumers expect the highest audio quality from their entertainment experiences. There is no reason the expectations for VoIP communication should be any different,” said Harald Popp, head of the Multimedia Realtime Systems department at Fraunhofer IIS. “By providing developers direct, native access to the best codecs to deliver Full-HD Voice VoIP apps, consumers can expect the best quality possible.”

Fraunhofer’s Full-HD Voice technology is already widely used to provide CD-like audio quality for professional video conferencing systems, as well as consumer video telephony applications, such as Apple FaceTime. With AAC-ELD now available in iOS and Android, this same level of professional communication quality can be readily deployed in consumer VoIP apps.

App developers can access the natively-integrated AAC-ELD codec through the Fraunhofer FDK Codec Library in Android since version 4.1 and in iOS since version 4.0 as well as in OSX, allowing cross-platform deployment of Full-HD Voice.

Background Information on Audio Quality in Communication Systems

Historically, the audio quality of VoIP services has been similar to legacy telephony, with a maximum audio bandwidth of 3.4 kHz. Recently, some services have offered a higher audio bandwidth of 7 kHz, which is still quite limited compared to 20 kHz which is the maximum bandwidth humans are able to hear. Another reason for the limited audio
quality of phone calls is usage of speech codecs. As their algorithms emulate a single human vocal tract, they are only optimized for a single speaker in a quiet environment. Speech codecs do not deliver other signals clearly, such as ambience sounds, music and background noise. The result is compromised audio quality in conversations and highly distorted background sounds or music.

With the state-of-the-art MPEG-4 communication codec AAC-ELD, app developers can easily offer a level of performance that removes the limitations of speech codecs and offers the full audio bandwidth of up to 20 kHz, giving voice, music, and ambience sounds equal treatment.

To experience a comparison between legacy telephony and Full-HD Voice visit www.full-hd-voice.com. For more information about AAC-ELD visit www.iis.fraunhofer.de/amm. For information about The Fraunhofer FDK Codec Library for Android visit www.iis.fraunhofer.de/fdk. To download the developer’s guide for the AAC-ELD implementation in iOS visit www.iis.fraunhofer.de/ammwhitepapers.