Fraunhofer IIS licenses xHE-AAC audio codec software to Facebook

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Fraunhofer IIS, primary developer of the xHE-AAC audio codec, is pleased to announce the licensing of its xHE-AAC and MPEG-D DRC software implementation to Facebook, Inc.

xHE-AAC enables consumers to enjoy uninterrupted streaming with all types of content – such as movies, music, audiobooks or podcasts. xHE-AAC offers maximum coding efficiency with a usable bit rate range that spans from 12 kbit/s to 500 kbit/s and above for stereo services. This helps video and audio streaming providers to overcome audio bandwidth constraints and thereby facilitates an enhanced, more reliable consumer experience. Such efficiency is particularly crucial in emerging markets where 2G/3G networks still exist in significant numbers and wherever congested 4G/5G networks in major cities are a common reality.

"We are very excited about deploying xHE-AAC audio to our users," says David Ronca Director, Video Processing at Facebook. "The audio codec delivers superior audio quality experience compared to previous AAC versions. It also enables great features like Audio Adaptive Bitrate (ABR) switching, and client-side loudness and dynamic range control."

Created with adaptive streaming via DASH or HLS in mind, xHE-AAC delivers transparent quality under good network conditions and, when necessary, seamlessly switches to the bit rates and quality levels that a congested network can support. Audio bandwidth saved as a result of xHE-AAC's efficiency can be used to improve the video quality.

"The xHE-AAC audio codec is suitable for all content types including music, film, user generated content and other audio programming with mixed speech and music elements," says Marc Gayer, Head of Business Department & Deputy Division Director Audio and Media Technologies at Fraunhofer IIS. "As a result, xHE-AAC is the perfect match for Facebook's diverse content offerings."

One of the key features of xHE-AAC is the mandatory MPEG-D loudness and dynamic range control metadata. It allows service providers to embed content- and endpoint-specific metadata in the audio bit stream for transmission which can then be used on the playback

side to achieve a consistent loudness level and optimal dynamic range for any playback device and environment. In a living room environment, a film can be enjoyed with the full dynamic range, the way that the mix was intended. The same film on a mobile device in a noisy environment might call for loudness management in order to be enjoyed with intelligible dialog. With MPEG-D metadata, a single stream meets the needs of both of these use cases — and everything in between.

About xHE-AAC

xHE-AAC is the latest member of the MPEG AAC audio codec family. Fraunhofer played a substantial role in the development of xHE-AAC and the MPEG-D DRC standard. xHE-AAC is natively supported in the latest Apple, Android and Amazon operating systems and products, and Fraunhofer's xHE-AAC implementation has recently been licensed to Microsoft. Professional xHE-AAC encoder software is available [directly from Fraunhofer IIS](#) or its streaming equipment partners. Fraunhofer is offering a web-based test service that developers and manufacturers can use to validate their implementations of the xHE-AAC$^®$ audio codec for compliance with MPEG standards. The service, which is available exclusively at https://test.xhe-aac.com, is free to use upon registration with Fraunhofer IIS and will test both encoders and decoders. xHE-AAC and MPEG-D DRC patents are included in the AAC patent licensing program administered by VIA Licensing at no additional cost.

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