



EBU TECHNICAL

14:00 Introduction by moderator
14:05 MPEG DASH Webinar
15:15 Questions about Webinar
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15:30 End

WebEx login details will be distributed Thursday 17-th of November. These can be forwarded to non-ECP members. Everybody who is sincerely interested can access the Webinar. Please contact ECP Management ([Filka Hänni \(EBU\)](#)) if you need more information.

Moderator: Bram Tullemaans, EBU Project Manager Broadband Technology and Online Services

Presenter Webinar: Thomas Stockhammer, CEO Nomor Research

Abstract Webinar MPEG DASH

Internet video is experiencing a dramatic growth in both fixed and mobile environments. All available data points indicate that Internet video is likely to be the long-awaited killer application for mobile data networks. It will also create significant new business opportunities for the fixed Internet access providers. Internet video is currently dominated by a handful proprietary technologies that exploit and reuse existing Web infrastructure to deliver Internet video. To address these market demand, MPEG in coordination with 3GPP has taken the lead to define an enabler standard for streaming video and multimedia delivery over the Internet. MPEG Dynamic Adaptive Streaming over HTTP (DASH) specifies a delivery format that enables interoperability between different servers and client from various vendors. DASH clients can select and dynamically switch Representations in order to provide a seamless user experience. The standard evolves the proprietary HTTP streaming solutions to provide a universal format for Internet video delivery by reusing, building on and interfacing with a significant amount of existing state-of-art technologies. The talk will provide insight into the ongoing standardization process, the technology itself, comparisons to existing proprietary solutions and steps towards deployments.

Questions Dr. Stockhammer will address:

- Why is the live profile most popular even for on demand delivery?
- How does subtitling work (outside or inside container)?
- Is there language support available?
- What trick modes are supported in live and on demand profiles?
- What are the minimal common features supported for different clients (interoperability between Silverlight, Flash, IOS, etc.)?
- Are extra server side components needed for the live or on demand profile?
- Is there an impact analysis available from encoding to distribution?
- What are the best practices around segmentation?

- What are the implications of MPEG TS or ISO base media file format?
- What is the preferred profile to distribute both live and on demand (presuming broadcasters want one infrastructure meaning one file base and on streaming platform).
- Are there show cases and test streams available?
- How much work is it to support more/all profiles?
- What is the latency?
- What is the target of the bandwidth, are there limitations to take into account?
- Scalability is the same for MPEG DASH (caching and so on) compared to HLS streaming?
- What are the security / encryption possibilities? Probably common encryption format is supported?
- If there is no encryption available, how easy is it to copy/download files?
- Answer question how MPEG DASH will perform with IPv6 and Multicast?
- Concerning caching and MPEG DASH; are the ISP's ready to support HTTP caching in big broadcast volumes?
- Does encryption make HTTP packages unique and does this mean caching is a problem?

Speaker Bio:

Thomas Stockhammer (IEEE M' 98, SM'09) received his Dipl.-Ing. and Dr.-Ing. degree from the Munich University of Technology, Germany. He was visiting researcher at Rensselaer Polytechnic Institute (RPI), Troy, NY and at the University of San Diego, California (UCSD). He is co-founder and CEO of Novel Mobile Radio (NoMoR) Research, a privately owned company providing consulting and software development services as well as products on emerging communication networks such as HSPA, MBMS, LTE, LTE-Advanced as well as on Mobile TV, IPTV and Web TV-related matters. He has published more than 150 conference and journal papers, is member of several technical program committees and holds about 70 patents. As part of consultant duties for Siemens, BenQ mobile, Digital Fountain, Inc, LG Electronics and now Qualcomm he regularly participates and contributes to different standardization activities, e.g. MPEG, ITU-T, IETF, 3GPP, and DVB. He has led working and adhoc groups in 3GPP and DVB and also acts as rapporteur/editor of several standardization documents. In particular he is rapporteur and editor of 3GPP and MPEG's Dynamic Adaptive Streaming over HTTP (DASH) specifications. His research interests include video transmission, cross-layer and system design, forward error correction, content delivery protocols, adaptive streaming protocols, rate-distortion optimization, information theory, and mobile communications.