JPEG XS Interoperability Activity Group

2021 May Meeting Status Update

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Presentation Outline

1. Overview
2. Objective/Output
3. Liaison & Industry Standards
4. Status

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1. JPEG XS Overview

JPEG XS is ISO/IEC standard, 21122, (JPEG XS), designed for latency-critical real time applications and offering near lossless and visually lossless quality with low complexity

- Applicable to SD, HD, UHD, and HDR, WCG content
- Near lossless at 6:1
- Visually lossless at up to 10:1
- Smooth lossy compression beyond
- Robust over multiple coding
- Low power consumption (less processing and memory needed)

2. Objective/Output

- Create a technical recommendation primarily focused on WAN applications which utilizes JPEG XS coding and MPEG2TS/SMPTE 2022-2 Encapsulation (TR-07)
- Create technical recommendation focused on LAN applications for JPEG XS coding utilizing SMPTE 2110-22 Encapsulation (TR-08)
- Develop interoperable capability sets which include multiple interoperability points for specific target applications/conformance levels
  - Applications/conformance levels include typical broadcast 2K formats, frame rates, sampling
  - Applications/conformance levels for 4K & 8K resolutions including HDR and WCG
  - Applications/conformance levels for multi-media extensions including RGB, 4:4:4 sampling. 8bit and 12 bit depth

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2. Objective/Output

- Includes applicable recommendations for a complete system including video, audio ancillary data, and robust transmission
- Organize file exchange online workshop
- Assist in moving IETF IETF draft-ietf-payload-rtp-jpegxs-07 “RTP Payload Format for ISO/IEC 21122 (JPEG XS)” to a standard RFC (nearly complete)

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2. Objective/Output

Capability Sets

Conformance Level		Capability Set A IntraFacility Use	Capability Set B Inter-Facility	Capability Set C Intra-Campus with Multimedia extensions	Capability Set D Intra-Campus with Multimedia extensions
ALL	Timing	SYNC	ASYNC	ASYNC and IPMX	IPMX
FHD	Video	JPEG XS YCbCr 4:2:2 only bit depth = 10 maximum rate 4bpp frame rate <= 60Hz image width <= 1920 image height <= 1080	JPEG XS YCbCr 4:2:2 only bit depth = 10 maximum rate 4bpp frame rate <= 60Hz image width <= 1920 image height <= 1080	JPEG XS YCbCr 4:2:2, YCbCr 4:4:4, RGB 4:4:4 bit depth <= 10 maximum rate 4bpp frame rate <= 60Hz image width <= 2048 image height <= 1200	JPEG XS YCbCr 4:2:0 YCbCr 4:2:2, YCbCr 4:4:4, RGB 4:4:4 bit depth <= 12 Maximum Rate 4bpp image width <= 2048 image height <= 1200

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3. Liaison & Industry Standards

- Assist in moving IETF IETF draft-ietf-payload-rtp-jpegxs-07 “RTP Payload Format for ISO/IEC 21122 (JPEG XS)” to a standard RFC
- Coordinate with other VSF Activity Groups via participation
- Other reference documents are complete

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4. Status

- Editing team meeting regularly, at final review now
- Cross membership of other activity groups to keep in sync
- TR-07 has had minor changes, final review is complete, now waiting on confirmation of JXS RAND Licensing availability
- Ongoing final review of TR-08, waiting on confirmation of JXS RAND Licensing availability, and publication of IETF JPEG XS RFC
- Have not discussed file exchange workshop, but could be taken up shortly, following completion of TR-08
- Expect TR documentation completion within the next 2 weeks, could be longer for publication based on above

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Thank You

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