TR-07 & TR-08 Update/Revision Effort

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Media Links

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Revision Activity Group

34 VSF Members have joined the activity Group

18 Meetings have been held

Meeting every week, Thursday 10:00am EDT

Goals for this Activity Group Effort

Responding to Industry Feedback

Address and add JPEG XS Temporal Differential Coding

Expand Interop Points for some non broadcast frame rates

Provide clarifications for better understanding and consistent implementations

TR07
Updates

TR-07
Capability Sets for Temporal Differential Coding (TDC)

Explanation

- The TDC profile makes use of a new coding tool that allows the wavelet coefficients to be predicted from a frame buffer. The frame buffer is a compressed memory buffer that always keeps track of the last version of the wavelet coefficients. So, it is continuously updated with each new frame that is being processed.
- TDC can optimize quality at a given rate or allow reduced bit rates for some types of content

New Capability Sets

- Matching Capability Sets to A, B, C have been added; AT, BT & CT for TDC
- TDC Profile also includes the JXS High Profile, so it can do both

TR-07
Expanded Interoperability Points

Responding to Industry feedback, expanding interop points to include the following format and frame rates:

- 1080p
  - 23.98, 24, 29.97, 30 & 60 fps
- 2160p
  - 23.98, 24, 29.97, 30 & 60 fps

TR-07
Overall Document Improvements

Specific clarifications to allow more consistent understanding and implementations with better interoperability, some examples below

- Rec. ITU-T H.222.0 (2021) | ISO/IEC 13818-1:2021: "Information Technology - Generic Coding of moving pictures and associated audio information - Part 1: Systems has been updated and current version should be referenced (some corrections made)
- Adding MPEG2TS/JXS examples of interlace handling as it seems to be an area of confusion
- Including Elementary Stream Buffer Model as this is another area of concern,
  - Including Gapped and Linear Sending modes
  - Targeted to improve sender behavior
- Clear definitions for ES/TS header values, lengths and Table frequency values provided
- Minimum Audio Channel per PID Requirement added
- JXS Elementary stream definition consistent between TR-07 & TR-08

TR08
Updates

TR-08
Capability Sets for Temporal Differential Coding (TDC)

Explanation

- The TDC profile makes use of a new coding tool that allows the wavelet coefficients to be predicted from a frame buffer. The frame buffer is a compressed memory buffer that always keeps track of the last version of the wavelet coefficients. So, it is continuously updated with each new frame that is being processed.
- TDC can optimize quality at a given rate or allow reduced bit rates for some types of content

New Capability Sets

- Matching Capability Sets to A, B, C, D have been added; AT, BT, CT & DT for TDC
- TDC Profile also includes the JXS High Profile, so it can do both

TR-08
Capability Sets/Interop Points for 1Gb Max Rate Trunk

Goals

- Add specific capability set (E) for 1Gb max trunks to TR-08
- Includes a maximum Bpp of 2.0, with setting of Sublev 2bpp for:
  - Capability Set E & ET (TDC) Interop Points for 720p, 1080i FHD
  - Capability Set E & ET (TDC) Interop Points for 1080p, 2160P UHD1

- Will include expanded interop points for non broadcast frame rates on the next slide

TR-08
Expanded Interoperability Points

Responding to Industry feedback, expanding interop points to include the following format and frame rates:

- 1080p
  - 23.98, 24, 29.97, 30 & 60 fps
- 2160p
  - 23.98, 24, 29.97, 30 & 60 fps

TR-08
RFC 9134 Reference

- New RFC is in process within IETF AVT Core group
- TR-08 will reference the new RFC

Schedule for Revision

Activity Group Meetings Ongoing every week

- Completing TR07 Buffer Model
- Finalizing TR07 Document Improvements
- Finalizing TR08
- Publish draft revised documents
- Consider file exchange/Interop

Target for draft document completion by the end of the year

Questions
Comments

Thank you

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