Bruce Devlin

Compression

Since my August 2020 writeup on Compression, there has been a lot of activity in this area. The founder of the Moving Picture Experts Group (MPEG), Leonardo Chiariglioni, has publicly written his displeasure with the International Organization for Standardization (ISO) and has founded a nonprofit organization called the Moving Picture, Audio and Data Coding by Artificial Intelligence (MPAI). The concepts put forward in many online postings and press releases are interesting and will, no doubt, produce some surprising technical results in the months and years to come. The work of the former MPEG committee continues, and we should not forget that within ISO, the Joint Picture Experts Group (JPEG) group also continues to push back the boundaries of compression technology with their work on holographic and point-cloud compression technologies.

SMPTE maintains collaborative partnerships with both MPEG and JPEG, and our liaisons are available to all Standards Committee members who have joined the Liaisons Team online. Please contact standards-support@smpte.org if you would like to join the team but are unsure how.

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Within SMPTE, our VC-6 compression standard (SMPTE ST 2117) is being mapped into MXF, and a public committee draft of the document will be freely available on the SMPTE website at https://smpte.org/public-committee-drafts/ for potential implementers and commenters to review.

Teams are working on conformance software for SMPTE's VC-2 and VC-5 compression standards. This is being developed to test both the standard as well as implementations. We hope to have these this year to provide testing tools and examples of how to write good compression testing software.

Aside from SMPTE's compression work, the development of the versatile video codec (VVC), low-complexity enhancement video codec (LCEVC), and new fast variants of the AV1 codec are taking place. There is a lot of debate about the merits of the different technologies and the licensing models of these business to consumer (B2C) codecs, but one thing that I, personally, find interesting is that there seems to be a split between this class of codec and the B2B codec used in production and post-production. With the rise in cloud processing in the B2B space, it seems that there is a shift to requirements for CPU-efficient codecs that are intrinsically hierarchical with lossless capabilities to cope with various business needs for viewing and processing 4K, 8K, and other ultra-high resolutions including virtual reality (VR).

It will be interesting to see how the cost curves for bandwidth and compression affect the software applications upon which the professional media industry relies. The road ahead will be very interesting.

Our next Standards meetings will be held virtually in June. Guest participation is free, so rush to find out what actually goes on. Our Quarterly Standards Update webcasts are also available on the SMPTE website to enable you to catch up on individual projects or maybe get a feel for the breadth of work that SMPTE undertakes.

2021 TECHNOLOGY COMMITTEE MEETINGS

7–10 June 2021 Virtual

17–20 August or 14–17 September 2021 Virtual (TBD)

6–9 December 2021 Virtual

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