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AMENDMENT 1
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Information technology — Coding of audio-visual objects —

Part 15: Carriage of network abstraction layer (NAL) unit structured video in the ISO base media file format

AMENDMENT 1: Improved support for tiling and layering

Technologies de l'information — Codage des objets audiovisuels —

Partie 15: Transport de vidéo structurée en unités NAL sur la couche réseau au format ISO de base pour les fichiers médias

AMENDEMENT 1: .

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

A list of all parts in the ISO/IEC 14496 series can be found on the ISO website.

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Clause 4

At the end of Clause 4, add a new subclause as follows:

4.13 Alternative extraction source track grouping

Members of the track group with `track_group_type` equal to `'alte'` are alternatives to be used as a source for `'scal'` or `'sabt'` track reference. The value of (`flags` & 1) shall be equal to 1 in a `TrackGroupTypeBox` of type `'alte'` to indicate the uniqueness of `track_group_id` as specified in ISO/IEC 14496-12.

A `'scal'` or `'sabt'` track reference may refer to a `track_group_id` value of an `'alte'` track group. As implied by the general semantics of a track reference to a `track_group_id` specified in ISO/IEC 14496-12, any single track of an `'alte'` track group is a valid source for extraction as specified in A.3 and A.7 or for bitstream reconstruction from tile tracks as specified in subclause 10.5.4.

8.3.3.1.3

Add the following sentence at the end of the semantics of `nalUnit` in paragraph 13:

When one or more SEI NAL units containing an SEI manifest SEI message and/or an SEI prefix indication SEI message are available, they should be stored as instances of `nalUnit`.

9.2

Replace the paragraph that starts with ‘When the samples of a track contain”, including the note, with the following text:

When the samples of a track contain temporal sub-layers of an HEVC base layer but do not contain, natively or through extraction, the temporal sub-layer with TemporalId equal to 0 of an HEVC base layer, an `'hvc2'`, or `'hev2'` sample entry shall be used. When the samples of a track contain, natively or through extraction, an HEVC compatible base layer or a temporal subset of an HEVC base layer including a sub-layer with TemporalId equal to 0, an `'hvc1'`, `'hev1'`, `'hvc2'`, `'hev2'`, `'hvc3'`, or `'hev3'` sample entry shall be used.

NOTE When a sample entry type `'hvc2'`, `'hev2'`, `'hvc3'` or `'hev3'` is used in a track containing the base layer, parsers complying only with non-layered HEVC storage specified in Clause 8 are not able to process the track.

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9.5.3.1.1

In the definition, add 'hvc3' and 'hev3' to the lists in both the "Sample Entry and Box types" and "Mandatory" rows.

In the second paragraph below the definition, replace:

When the sample entry name is 'hev2'

with:

When the sample entry name is 'hev2' or 'hev3'

In the third paragraph below the definition, replace:

or when the sample entry name is 'hev1' or 'hev2'

with:

or when the sample entry name is 'hev1', 'hev2' or 'hev3'

Replace the paragraph immediately above NOTE 2 with the following:

In case two parameter sets with different content but using the same ID are present, it may not be possible to use a single sample entry of type 'hvc1', 'hvc2', 'hvc3' or 'lhv1'; file packagers should create either different sample entries of type 'hvc1', 'hvc2, 'hvc3' or 'lhv1', or use in-band parameter sets through 'hev1', 'hev2', 'hev3' or 'lhe1' sample entries.

Replace the two paragraphs immediately below NOTE 3 with the following:

For an HEVC or L-HEVC bitstream carried in more than one track, when the sample entry name of the base track is 'hvc1', 'hvc2' or 'hvc3', the sample entry name of other tracks carrying the same bitstream shall be 'hvc2', 'hvc3' or 'lhv1', and when the sample entry name of the base track is 'hev1', 'hev2' or 'hev3', the sample entry name of other tracks carrying the same bitstream shall be 'hev2', 'hev3' or 'lhe1'.

For an L-HEVC bitstream whose base layer is an AVC bitstream, when the sample entry name of the base track is 'avc1' or 'avc2', the sample entry name of the other tracks carrying the associated L-HEVC bitstream shall be 'hvc2', 'hvc3', or 'lhv1', and when the sample entry name of the base track is 'avc3' or 'avc4', the sample entry name of the other HEVC tracks carrying the associated L-HEVC bitstream shall be 'hev2', 'hev3' or 'lhe1'.

In both NOTE 6 and the sentence immediately following NOTE 6, replace (two occurrences):

'hvc1', 'hev1', 'hvc2', or 'hev2'

with:

'hvc1', 'hev1', 'hvc2', 'hev2', 'hvc3' or 'hev3'

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