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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: Support for neural-network post-filter supplemental enhancement information and other improvements

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: Prise en charge des informations supplémentaires d'amélioration post-filtre du réseau neuronal et autres améliorations

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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: Support for neural-network post-filter supplemental enhancement information and other improvements

Clause 2

Add the following normative references:

ISO/IEC 15938-17, *Information technology — Multimedia content description interface — Part 17: Compression of neural networks for multimedia content description and analysis*

ISO/IEC 23002-7, *Information technology — MPEG video technologies — Part 7: Versatile supplemental enhancement information messages for coded video bitstreams*

4.10

Replace the content with the following:

4.10 SEI information box

4.10.1 Definition

Box Type: `'seii'`

Container: `SchemeInformationBox` (`'schi'`) or `VisualSampleEntry`

Mandatory: Yes (in the `SchemeInformationBox`), no (in a `VisualSampleEntry`)

Quantity: One (in the `SchemeInformationBox`), zero or one (in a `VisualSampleEntry`)

The `SeiInformationBox` documents SEI messages in a bitstream. When contained in a `VisualSampleEntry`, `numRequiredSEIs` shall be 0. By inspecting the `SeiInformationBox` a player will know which SEI messages it can assume to be present, and which are deemed necessary by the file author for correct playback. There might be other SEI messages present in the bitstream that are not documented by this box.

NOTE Writers can list non-required SEI messages in the `SeiInformationBox` included directly in the sample entry and required SEI messages in the `SeiInformationBox` in the `SchemeInformationBox` of the same track.

The SEI messages listed in the `SeiInformationBox` should be stored either in the bitstream or in the configuration record within the untransformed sample entry. The `SeiInformationBox` does not contain the actual SEI messages, it only lists those that occur in the bitstream.

4.10.2 Syntax

```
aligned(8) class SeiInformationBox extends Box('seii') {
   unsigned int(16) numRequiredSEIs;
```

```
    for (i = 0; i < numRequiredSEIs; i++) {
        unsigned int(16) requiredSEI_ID;
    }
    unsigned int(16) numNotRequiredSEIs;
    for (i = 0; i < numNotRequiredSEIs; i++) {
        unsigned int(16) notrequiredSEI_ID;
    }
}
```

4.10.3 Semantics

`requiredSEI_ID` takes on the value "payloadType" of an SEI message present in the bitstream that is deemed necessary by the file author for correct playback.

`notrequiredSEI_ID` takes on the value "payloadType" of an SEI message present in the bitstream that is not deemed necessary by the file author for correct playback.

4.11

Replace the content with the following:

4.11 Post-decoder requirements scheme for signalling of SEI

4.11.1 General

In order to handle situations where the file author requires certain actions on the player or renderer, the ISO base media file format specifies the restricted-video mechanism where untransformed sample entries are hidden behind the sample entry type `'resv'`. Subclause 4.11.2 uses the restricted-video mechanism to specify a scheme for post-decoder requirements for handling SEI messages that is identified by the `'aSEI'` scheme type. The mechanism specified in subclause 4.11.2 applies to all coding systems identified in this document. For the case of signalling of SEI messages, a file author can list occurring SEI message payload type values and classify them into two categories: those that are deemed required by the file author for correct playback, and others. The occurrence of either type of SEI messages can be signalled in the `SeiInformationBox`.

Many of the applicable video coding standards define an SEI manifest SEI message, which can be used to indicate SEI message payload types that are considered necessary. When the processing of a particular SEI message payload type is considered as essential for consuming the content of a track, the following applies:

— When the untransformed sample entry type does not impose a player to process SEI manifest SEI messages, the file writer shall use a restricted video track with the `'aSEI'` scheme type and include that particular SEI message payload type as `requiredSEI_ID` in `SeiInformationBox`.

— When the untransformed sample entry type imposes a player to process SEI manifest SEI messages, the file writer shall include, in the sample entry, an SEI manifest SEI message where that particular SEI message payload type is indicated to be necessary.

— It is allowed to include both an SEI manifest SEI message in the sample entry and an `SeiInformationBox` for the same sample entry, provided that both declare the same SEI message payload types consistently.

4.11.2 Definition

The restricted video scheme for signalling of SEI messages categorized to those requiring certain actions on the player or renderer and those whose processing by the player or renderer is not required is defined in this subclause.

The `scheme_type` equal to '`aSEI`' is used.

The `SeiInformationBox` is mandatory in the `SchemeInformationBox` under the `'aSEI'` scheme. In this case, it contains information about the SEI messages present in the bitstream. Although the SEI messages are not required for decoding, the file author may require certain actions for rendering or other purposes. The