**PROPOSED DRAFT AMENDMENT****© ISO/IEC 2018 – All rights reserved****Text of ISO/IEC 23008-2:201x/PDAM 1** **63****Part 2: High efficiency video coding, AMENDMENT 1: Additional supplemental enhancement information****Information technology — High efficiency coding and media delivery in heterogeneous environments****Élément introductif — Élément central — Partie 3: Titre de la partie****Information technology — High efficiency coding and media delivery in heterogeneous environments — Part 2: High efficiency video coding, AMENDMENT 1: Additional supplemental enhancement information****E****2018-10-12****(30) Committee****ISO/IEC****ISO/IEC J****201x****1****Amendment****International Standard****201x****18023****ISO/IEC 23008‑****ISO/IEC 23008‑2****ISO/IEC 23008-2:201x/PDAM 1****JISC****Coding of audio, picture, multimedia and hypermedia information****Information technology****11****29****1** **2****見出し 2****見出し 1****0****2****STD Version 2.1c2****30** **4** **ISO/IEC JTC 1/SC 29 /WG 11 N 18023**

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**Text of ISO/IEC 23008-2:201x/PDAM 1**

ISO/IEC JTC 1/SC 29/WG 11

Secretariat:

**Information technology — High efficiency coding and media delivery in heterogeneous environments — Part 2: High efficiency video coding, AMENDMENT 1: Additional supplemental enhancement information**

*Élément introductif — Élément central — Partie 3: Titre de la partie*

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| --- |
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Amendment 1 to ISO/IEC 23008-2:201x was prepared by Joint Technical Committee ISO/IEC JTC 1, *Coding of audio, picture, multimedia and hypermedia information*, Subcommittee SC 29, *Coding of moving pictures and audio*, in a joint collaboration with ITU-T Study Group 16. Technically aligned twin text is developed as Recommendation ITU-T H.265.

Information technology — High efficiency coding and media delivery in heterogeneous environments — Part 2: High efficiency video coding, AMENDMENT 1: Additional supplemental enhancement information

*Replace D.2.1 with the following:*

**D.2.1 General SEI message syntax**

|  |  |
| --- | --- |
| sei\_payload( payloadType, payloadSize ) { | **Descriptor** |
| if( nal\_unit\_type  = =  PREFIX\_SEI\_NUT ) |  |
| if( payloadType  = =  0 ) |  |
| buffering\_period( payloadSize ) |  |
| else if( payloadType  = =  1 ) |  |
| pic\_timing( payloadSize ) |  |
| else if( payloadType  = =  2 ) |  |
| pan\_scan\_rect( payloadSize ) |  |
| else if( payloadType  = =  3 ) |  |
| filler\_payload( payloadSize ) |  |
| else if( payloadType  = =  4 ) |  |
| user\_data\_registered\_itu\_t\_t35( payloadSize ) |  |
| else if( payloadType  = =  5 ) |  |
| user\_data\_unregistered( payloadSize ) |  |
| else if( payloadType  = =  6 ) |  |
| recovery\_point( payloadSize ) |  |
| else if( payloadType  = =  9 ) |  |
| scene\_info( payloadSize ) |  |
| else if( payloadType  = =  15 ) |  |
| picture\_snapshot( payloadSize ) |  |
| else if( payloadType  = =  16 ) |  |
| progressive\_refinement\_segment\_start( payloadSize ) |  |
| else if( payloadType  = =  17 ) |  |
| progressive\_refinement\_segment\_end( payloadSize ) |  |
| else if( payloadType  = =  19 ) |  |
| film\_grain\_characteristics( payloadSize ) |  |
| else if( payloadType  = =  22 ) |  |
| post\_filter\_hint( payloadSize ) |  |
| else if( payloadType  = =  23 ) |  |
| tone\_mapping\_info( payloadSize ) |  |
| else if( payloadType  = =  45 ) |  |
| frame\_packing\_arrangement( payloadSize ) |  |
| else if( payloadType  = =  47 ) |  |
| display\_orientation( payloadSize ) |  |
| else if( payloadType  = =  56 ) |  |
| green\_metadata( payloadsize ) /\* specified in ISO/IEC 23001-11 \*/ |  |
| else if( payloadType  = =  128 ) |  |
| structure\_of\_pictures\_info( payloadSize ) |  |
| else if( payloadType  = =  129 ) |  |
| active\_parameter\_sets( payloadSize ) |  |
| else if( payloadType  = =  130 ) |  |
| decoding\_unit\_info( payloadSize ) |  |
| else if( payloadType  = =  131 ) |  |
| temporal\_sub\_layer\_zero\_index( payloadSize ) |  |
| else if( payloadType  = =  133 ) |  |
| scalable\_nesting( payloadSize ) |  |
| else if( payloadType  = =  134 ) |  |
| region\_refresh\_info( payloadSize ) |  |
| else if( payloadType  = =  135 ) |  |
| no\_display( payloadSize ) |  |
| else if( payloadType  = =  136 ) |  |
| time\_code( payloadSize ) |  |
| else if( payloadType  = =  137 ) |  |
| mastering\_display\_colour\_volume( payloadSize ) |  |
| else if( payloadType  = =  138 ) |  |
| segmented\_rect\_frame\_packing\_arrangement( payloadSize ) |  |
| else if( payloadType  = =  139 ) |  |
| temporal\_motion\_constrained\_tile\_sets( payloadSize ) |  |
| else if( payloadType  = =  140 ) |  |
| chroma\_resampling\_filter\_hint( payloadSize ) |  |
| else if( payloadType  = =  141 ) |  |
| knee\_function\_info( payloadSize ) |  |
| else if( payloadType  = =  142 ) |  |
| colour\_remapping\_info( payloadSize ) |  |
| else if( payloadType  = =  143 ) |  |
| deinterlaced\_field\_identification( payloadSize ) |  |
| else if( payloadType  = =  144 ) |  |
| content\_light\_level\_info( payloadSize ) |  |
| else if( payloadType  = =  145 ) |  |
| dependent\_rap\_indication( payloadSize ) |  |
| else if( payloadType  = =  146 ) |  |
| coded\_region\_completion( payloadSize ) |  |
| else if( payloadType  = =  147 ) |  |
| alternative\_transfer\_characteristics( payloadSize ) |  |
| else if( payloadType  = =  148 ) |  |
| ambient\_viewing\_environment( payloadSize ) |  |
| else if( payloadType  = =  149 ) |  |
| content\_colour\_volume( payloadSize ) |  |
| else if( payloadType  = =  150 ) |  |
| equirectangular\_projection( payloadSize ) |  |
| else if( payloadType  = =  151 ) |  |
| cubemap\_projection( payloadSize ) |  |
| else if( payloadType  = =  152 ) |  |
| fisheye\_video\_info( payloadSize ) |  |
| else if( payloadType  = =  154 ) |  |
| sphere\_rotation( payloadSize ) |  |
| else if( payloadType  = =  155 ) |  |
| regionwise\_packing( payloadSize ) |  |
| else if( payloadType  = =  156 ) |  |
| omni\_viewport( payloadSize ) |  |
| else if( payloadType  = =  157 ) |  |
| regional\_nesting( payloadSize ) |  |
| else if( payloadType  = =  158 ) |  |
| mcts\_extraction\_info\_sets( payloadSize ) |  |
| else if( payloadType  = =  159 ) |  |
| mcts\_extraction\_info\_nesting( payloadSize ) |  |
| else if( payloadType  = =  160 ) |  |
| layers\_not\_present( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  161 ) |  |
| inter\_layer\_constrained\_tile\_sets( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  162 ) |  |
| bsp\_nesting( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  163 ) |  |
| bsp\_initial\_arrival\_time( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  164 ) |  |
| sub\_bitstream\_property( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  165 ) |  |
| alpha\_channel\_info( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  166 ) |  |
| overlay\_info( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  167 ) |  |
| temporal\_mv\_prediction\_constraints( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  168 ) |  |
| frame\_field\_info( payloadSize ) /\* specified in Annex F \*/ |  |
| else if( payloadType  = =  176 ) |  |
| three\_dimensional\_reference\_displays\_info( payloadSize ) /\* specified in Annex G \*/ |  |
| else if( payloadType  = =  177 ) |  |
| depth\_representation\_info( payloadSize ) /\* specified in Annex G \*/ |  |
| else if( payloadType  = =  178 ) |  |
| multiview\_scene\_info( payloadSize ) /\* specified in Annex G \*/ |  |
| else if( payloadType  = =  179 ) |  |
| multiview\_acquisition\_info( payloadSize ) /\* specified in Annex G \*/ |  |
| else if( payloadType  = =  180 ) |  |
| multiview\_view\_position( payloadSize ) /\* specified in Annex G \*/ |  |
| else if( payloadType  = =  181 ) |  |
| alternative\_depth\_info( payloadSize ) /\* specified in Annex I \*/ |  |
| else if( payloadType  = =  200 ) |  |
| sei\_manifest( payloadSize ) |  |
| else if( payloadType  = =  201 ) |  |
| sei\_prefix\_indication( payloadSize ) |  |
| else if( payloadType  = =  202 ) |  |
| annotated\_regions( payloadSize ) |  |
| reserved\_sei\_message( payloadSize ) |  |
| else /\* nal\_unit\_type  = =  SUFFIX\_SEI\_NUT \*/ |  |
| if( payloadType  = =  3 ) |  |
| filler\_payload( payloadSize ) |  |
| else if( payloadType  = =  4 ) |  |
| user\_data\_registered\_itu\_t\_t35( payloadSize ) |  |
| else if( payloadType  = =  5 ) |  |
| user\_data\_unregistered( payloadSize ) |  |
| else if( payloadType  = =  17 ) |  |
| progressive\_refinement\_segment\_end( payloadSize ) |  |
| else if( payloadType  = =  22 ) |  |
| post\_filter\_hint( payloadSize ) |  |
| else if( payloadType  = =  132 ) |  |
| decoded\_picture\_hash( payloadSize ) |  |
| else if( payloadType  = =  146 ) |  |
| coded\_region\_completion( payloadSize ) |  |
| else |  |
| reserved\_sei\_message( payloadSize ) |  |
| if( more\_data\_in\_payload( ) ) { |  |
| if( payload\_extension\_present( ) ) |  |
| **reserved\_payload\_extension\_data** | u(v) |
| **payload\_bit\_equal\_to\_one** /\* equal to 1 \*/ | f(1) |
| while( !byte\_aligned( ) ) |  |
| **payload\_bit\_equal\_to\_zero** /\* equal to 0 \*/ | f(1) |
| } |  |
| } |  |

*Renumber clause D.2.47 (Reserved SEI message syntax) as D.2.48.*

*Add clause D.2.47, as follows:*

**D.2.47 Annotated regions SEI message syntax**

|  |  |
| --- | --- |
| annotated\_regions( payloadSize ) { | **Descriptor** |
| **ar\_cancel\_flag** | u(1) |
| **ar\_not\_optimized\_for\_viewing\_flag** | u(1) |
| **ar\_true\_motion\_flag** | u(1) |
| **ar\_occluded\_object\_flag** | u(1) |
| **ar\_partial\_object\_flag\_present\_flag** | u(1) |
| **ar\_object\_label\_present\_flag** | u(1) |
| **ar\_object\_confidence\_present\_flag** | u(1) |
| if( ar\_object\_confidence\_present\_flag ) |  |
| **ar\_object\_confidence\_length\_minus1** | u(4) |
| if( ar\_object\_label\_present\_flag ) { |  |
| **ar\_object\_label\_language\_present\_flag** | u(1) |
| if( ar\_object\_label\_language\_present\_flag ) { |  |
| while( !byte\_aligned( ) ) |  |
| **ar\_bit\_equal\_to\_zero** /\* equal to 0 \*/ | f(1) |
| **ar\_object\_label\_language** | st(v) |
| } |  |
| **ar\_num\_cancelled\_labels** | ue(v) |
| for( i = 0; i < ar\_num\_cancelled\_labels; i++ ) |  |
| **ar\_cancelled\_label\_idx**[ i ] | ue(v) |
| **ar\_num\_new\_labels** | ue(v) |
| for( i = 0; i < ar\_num\_new\_labels; i++ ) |  |
| **ar\_label\_idx**[ i ] | ue(v) |
| while( !byte\_aligned( ) ) |  |
| **ar\_bit\_equal\_to\_zero** /\* equal to 0 \*/ | f(1) |
| **ar\_label**[ ar\_label\_idx[ i ] ] | st(v) |
| } |  |
| } |  |
| **ar\_num\_cancelled\_objects** | ue(v) |
| for( i = 0; i < ar\_num\_cancelled\_objects; i++ ) |  |
| **ar\_cancelled\_object\_idx**[ i ] | ue(v) |
| **ar\_num\_objects\_minus1** | ue(v) |
| for( i = 0; i  <=  ar\_num\_objects\_minus1;i++ ) { |  |
| **ar\_object\_idx**[ i ] | ue(v) |
| **ar\_new\_object\_flag[** ar\_object\_idx[ i ] ] | u(1) |
| if( !ar\_new\_object\_flag[ ar\_object\_idx[ i ] ] ) |  |
| **ar\_bounding\_box\_update\_flag[** ar\_object\_idx[ i ] ] | u(1) |
| if( ar\_new\_object\_flag[ ar\_object\_idx[ i ]  &&  ar\_object\_label\_present\_flag ) |  |
| **ar\_object\_label\_idc**[ ar\_object\_idx[ i ] ] | ue(v) |
| if( ar\_partial\_object\_flag\_present\_flag ) |  |
| **ar\_partial\_object\_flag**[ ar\_object\_idx[ i ] ] | u(1) |
| if( ar\_object\_bounding\_box\_update\_flag[ ar\_object\_idx[ i ] ]  | | ar\_new\_object\_flag[ ar\_object\_idx[ i ] ] ) { |  |
| **ar\_object\_top[** ar\_object\_idx[ i ] ] | u(16) |
| **ar\_object\_left**[ ar\_object\_idx[ i ] ] | u(16) |
| **ar\_object\_width**[ ar\_object\_idx[ i ] ] | u(16) |
| **ar\_object\_height**[ ar\_object\_idx[ i ] ] | u(16) |
| if( ar\_object\_confidence\_present\_flag ) |  |
| **ar\_object\_confidence**[ ar\_object\_idx[ i ] ] | u(v) |
| } |  |
| } |  |
| } |  |

*In D.3.1, replace the following paragraphs:*

The list SingleLayerSeiList is set to consist of the payloadType values 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, and 200 to 201, inclusive.

The list VclAssociatedSeiList is set to consist of the payloadType values 2, 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, and 200 to 201, inclusive.

The list PicUnitRepConSeiList is set to consist of the payloadType values 0, 1, 2, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 133, 135 to 152, inclusive, 154 to 159, inclusive, and 200 to 201, inclusive.

*with the following:*

The list SingleLayerSeiList is set to consist of the payloadType values 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, and 200 to 202, inclusive.

The list VclAssociatedSeiList is set to consist of the payloadType values 2, 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, and 200 to 202, inclusive.

The list PicUnitRepConSeiList is set to consist of the payloadType values 0, 1, 2, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 133, 135 to 152, inclusive, 154 to 159, inclusive, and 200 to 202, inclusive.

*In D.3.1, in Table D.1, append the following row to the end of the table:*

|  |  |
| --- | --- |
| Annotated regions | Specified by the syntax of the SEI message |

*Add clause D.3.47, as follows:*

**D.3.47 Annotated regions SEI message semantics**

The annotated regions SEI message carries parameters that identify annotated regions using bounding boxes representing the size and location of identified objects.

**ar\_cancel\_flag** equal to 1 indicates that the annotated regions SEI message cancels the persistence of any previous annotated regions SEI message that is associated with one or more layers to which the annotated regions SEI message applies. ar\_cancel\_flag equal to 0 indicates that annotated regions information follows.

Let picA be the current picture. Each region identified in the annotated regions SEI message persists for the current layer in output order until any of the following conditions are true:

– A new CLVS of the current layer begins.

– The bitstream ends.

– A picture picB in the current layer in an access unit containing an annotated regions SEI message that is applicable to the current layer is output for which PicOrderCnt( picB ) is greater than PicOrderCnt( picA ), where PicOrderCnt( picB ) and PicOrderCnt( picA ) are the PicOrderCntVal values of picB and picA, and the semantics of the annotated regions SEI message for PicB cancels the persistence of the region identified in the annotated regions SEI message for PicA.

**ar\_not\_optimized\_for\_viewing\_flag** equal to 1 indicates that the decoded pictures that the annotated regions SEI message applies to are not optimized for user viewing, but rather are optimized for some other purpose such as algorithmic object classification performance. ar\_not\_optimized\_for\_viewing\_flagequal to 0 indicates that the decoded pictures that the annotated regions SEI message applies to may or may not be optimized for user viewing.

**ar\_true\_motion\_flag** equal to 1 indicates that the motion information in the coded pictures that the annotated regions SEI message applies to was selected with a goal of accurately representing object motion for annotated objects. ar\_true\_motion\_flag equal to 0 indicates that the motion information in the coded pictures that the annotated regions SEI message applies to may or may not be selected with a goal of accurately representing object motion for annotated objects.

**ar\_occluded\_object\_flag** equal to 1 indicates that the ar\_object\_top[ ar\_object\_idx[ i ] ], ar\_object\_left[ ar\_object\_idx[ i ] ], ar\_object\_width[ ar\_object\_idx[ i ] ], and ar\_object\_height[ ar\_object\_idx[ i ] ] syntax elements each represent the size and location of an object or a portion of an object that may not be visible or may be only partially visible within the cropped decoded picture due to occlusion by other objects. ar\_occluded\_object\_flagequal to 0 indicates that the ar\_object\_top[ ar\_object\_idx[ i ] ], ar\_object\_left[ ar\_object\_idx[ i ] ], ar\_object\_width[ ar\_object\_idx[ i ] ], and ar\_object\_height[ ar\_object\_idx[ i ] ] syntax elements represent the size and location of the visible portion of the object in the cropped decoded picture.

**ar\_partial\_object\_flag\_present\_flag** equal to 1 indicates that ar\_partial\_object\_flag[ ar\_object\_idx[ i ] ] syntax elements are present. ar\_partial\_object\_flag\_present\_flag equal to 0 indicates that ar\_partial\_object\_flag[ ar\_object\_idx[ i ] ] syntax elements are not present.

**ar\_object\_label\_present\_flag** equal to 1 indicates that label information corresponding to the annotated objects is present. ar\_object\_label\_present\_flag equal to 0 indicates that label information corresponding to the annotated objects is not present.

**ar\_object\_confidence\_present\_flag** equal to 1 indicates that ar\_object\_confidence[ ar\_object\_idx[ i ] ] syntax elements are present. ar\_object\_confidence\_present\_flag equal to 0 indicates that ar\_object\_confidence[ ar\_object\_idx[ i ] ] syntax elements are not present.

**ar\_object\_confidence\_length\_minus1** + 1 specifies the length, in bits, of the ar\_object\_confidence[ ar\_object\_idx[ i ] ] syntax elements.

**ar\_object\_label\_language\_present\_flag** equal to 1 indicates that the ar\_object\_label\_language syntax element is present. ar\_object\_label\_language\_present\_flag equal to 0 indicates that the ar\_object\_label\_language syntax element is not present and that the language of the label is unspecified.

**ar\_bit\_equal\_to\_zero** shall be equal to zero.

**ar\_object\_label\_language** contains a language tag as specified by IETF RFC 5646 followed by a null termination byte equal to 0x00. The length of the ar\_object\_label\_language syntax element shall be less than or equal to 255 bytes, not including the null termination byte.

**ar\_num\_cancelled\_labels** indicates the number of cancelled labels associated with the annotated objects. ar\_num\_cancelled\_labels shall be in the range of 0 to 255, inclusive.

**ar\_cancelled\_label\_idx**[ i ] cancels the persistence of the label with index ar\_cancelled\_label\_idx[ i ]. The value of ar\_cancelled\_label\_idx[ i ] shall be in the range of 0 to 255, inclusive.

**ar\_num\_new\_labels** indicates the total number of new labels associated with the annotated objects that will be signalled. The value of ar\_num\_new\_labels shall be in the range of 0 to 255, inclusive.

**ar\_label\_idx**[ i ] indicates the index to the label associated with the corresponding annotated object. The value of ar\_label\_idx[ i ]shall be in the range of 0 to 255, inclusive.

**ar\_label**[ ar\_label\_idx[ i ] ] contains the label of the bounding box. The length of the ar\_label[ ar\_label\_idx[ i ] ] syntax element shall be less than or equal to 255 bytes, not including the null termination byte.

**ar\_num\_cancelled\_objects** indicates the number of cancelled annotated objects. ar\_num\_cancelled\_objects shall be in the range of 0 to 255, inclusive.

**ar\_cancelled\_object\_idx**[ i ] cancels the persistence of the object with index ar\_cancelled\_object\_idx[ i ] annotated object. The value of ar\_cancelled\_object\_idx[ i ]shall be in the range of 0 to 255, inclusive.

**ar\_num\_objects\_minus1** plus 1 indicates the total number of annotated objects identified in the current cropped decoded picture. ar\_num\_objects\_minus1 shall be in the range of 0 to 255, inclusive.

**ar\_object\_idx**[ i ] is the index of the identified object in the list of objects identified in the current cropped decoded picture.ar\_object\_idx[ i ]shall be in the range of 0 to 255, inclusive.

**ar\_new\_object\_flag**[ ar\_object\_idx[ i] ] equal to 1 indicates that the corresponding object is not represented in an earlier annotated regions SEI message in output order within the CLVS. ar\_new\_object\_flag[ ar\_object\_idx[ i ] ] equal to 0 indicates that the corresponding object is represented in an earlier annotated regions SEI messages in output order within the CLVS.

**ar\_object\_bounding\_box\_update\_flag**[ ar\_object\_idx[ i ] ] equal to 1 indicates that the bounding box of the corresponding object is not inferred from the bounding box specified in the previous annotated regions SEI message in output order in the CLVS with the same value of ar\_object\_idx[ i ]. ar\_object\_bounding\_box\_update\_flag[ ar\_object\_idx[ i ] ] equal to 0 indicates that the bounding box of the corresponding object is inferred from the previous annotated regions SEI message in output order in the CLVS that contains the same value of ar\_object\_idx[ i ].

**ar\_object\_label\_idc**[ ar\_object\_idx[ i ] ] is the index of the label corresponding to the object. When ar\_object\_label\_idc[ ar\_object\_idx[ i ] ] is not present, its value is inferred from the value for the previous annotated regions SEI messages in output order in the same CLVS. If ar\_object\_label\_idc[ ar\_object\_idx[ i ] ] is not present in earlier annotated regions SEI messages in output order within the CLVS, its value is undefined.

**ar\_partial\_object\_flag**[ ar\_object\_idx[ i ] ] equal to 1 indicates that the ar\_object\_top[ ar\_object\_idx[ i ] ], ar\_object\_left[ ar\_object\_idx[ i ] ], ar\_object\_width[ ar\_object\_idx[ i ] ] and ar\_object\_height[ ar\_object\_idx[ i ] ] syntax elements represent the size and location of an object that is only partially visible within the cropped decoded picture. ar\_partial\_object\_flag[ ar\_object\_idx[ i ] ] equal to 0 indicates that the ar\_object\_top[ ar\_object\_idx[ i ] ], ar\_object\_left[ ar\_object\_idx[ i ] ], ar\_object\_width[ ar\_object\_idx[ i ] ] and ar\_object\_height[ ar\_object\_idx[ i ] ] syntax elements represent the size and location of an object that may or may not be only partially visible within the cropped decoded picture. When not present, the value of ar\_partial\_object\_flag[ ar\_object\_idx[ i ] ] is inferred to be equal to 0.

**ar\_object\_top**[ ar\_object\_idx[ i ] ], **ar\_object\_left**[ ar\_object\_idx[ i ] ], **ar\_object\_width**[ ar\_object\_idx[ i ] ] and **ar\_object\_height**[ ar\_object\_idx[ i ] ] specify the coordinates of the top-left corner and the width and height, respectively, of the bounding box of the object with the index ar\_object\_idx[ i ] in the cropped decoded picture, relative to the conformance cropping window specified by the active SPS.

Let croppedWidth and croppedHeight be the width and height, respectively, of the cropped decoded picture in units of luma samples, as specified by Equations D-28 and D-29.

The value of ar\_object\_left[ ar\_object\_idx[ i ] ] shall be in the range of 0 to croppedWidth / SubWidthC − 1, inclusive.

The value of ar\_object\_top[ ar\_object\_idx[ i ] ] shall be in the range of 0 to croppedHeight / SubHeightC − 1, inclusive.

The value of ar\_object\_width[ ar\_object\_idx[ i ] ] shall be in the range of 0 to croppedWidth / SubHeightC − ar\_object\_left[ ar\_object\_idx[ i ] ], inclusive.

The value of ar\_object\_height[ ar\_object\_idx[ i ] ] shall be in the range of 0 to croppedHeight / SubHeightC − ar\_object\_top[ ar\_object\_idx[ i ] ], inclusive.

The identified object rectangle contains the luma samples with horizontal picture coordinates from SubWidthC \* ( conf\_win\_left\_offset + ar\_object\_left[ ar\_object\_idx[ i ] ] ) to SubWidthC \* ( conf\_win\_left\_offset + ar\_object\_left[ ar\_object\_idx[ i ] ] + ar\_object\_width[ ar\_object\_idx[ i ] ] ) − 1, inclusive, and vertical picture coordinates from SubHeightC \* ( conf\_win\_top\_offset + ar\_object\_top[ ar\_object\_idx[ i ] ] ) to SubWidthC \* ( conf\_win\_top\_offset + ar\_object\_top[ ar\_object\_idx[ i ] ] + ar\_object\_height[ ar\_object\_idx[ i ] ] ) − 1, inclusive.

The values of ar\_object\_top[ ar\_object\_idx[ i ] ], ar\_object\_left[ ar\_object\_idx[ i ] ], ar\_object\_width[ ar\_object\_idx[ i ] ] and ar\_object\_height[ ar\_object\_idx[ i ] ] persist in output order within the CLVS for each value of ar\_object\_idx[ i ]. If ar\_object\_top[ ar\_object\_idx[ i ] ], ar\_object\_left[ ar\_object\_idx[ i ] ], ar\_object\_width[ ar\_object\_idx[ i ] ] or ar\_object\_height[ ar\_object\_idx[ i ] ] were not present in earlier annotated regions SEI messages in output order within the CLVS with the same value of ar\_object\_idx[ i ], their values are undefined.

**ar\_object\_confidence**[ ar\_object\_idx[ i ] ] indicates the degree of confidence associated with the object with index ar\_object\_idx[ i ], in units of 2−( ar\_object\_confidence\_length\_minus1 + 1 ), such that a higher value of **ar\_object\_confidence**[ ar\_object\_idx[ i ] ] indicates a higher degree of confidence. The length of the ar\_object\_confidence[ ar\_object\_idx[ i ] ] syntax element is ar\_object\_confidence\_length\_minus1 + 1 bits. The value of ar\_object\_confidence[ ar\_object\_idx[ i ] ] persists in output order within the CLVS for each value of ar\_object\_idx[ i ]. If ar\_object\_confidence[ ar\_object\_idx[ i ] ] is not present in an earlier annotated regions SEI messages in output order within the CLVS with the same value of ar\_object\_idx[ i ], its value is undefined.

*In F.14.3.1 (General SEI payload semantics), replace the following paragraphs:*

The list VclAssociatedSeiList is set to consist of the payloadType values 2, 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, 161, 165, 167, 168, and 200 to 201, inclusive.

The list PicUnitRepConSeiList is set to consist of the payloadType values 0, 1, 2, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 133, 135 to 152, inclusive, 154 to 168, inclusive, and 200 to 201, inclusive.

*with the following:*

The list VclAssociatedSeiList is set to consist of the payloadType values 2, 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, 161, 165, 167, 168, and 200 to 202, inclusive.

The list PicUnitRepConSeiList is set to consist of the payloadType values 0, 1, 2, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 133, 135 to 152, inclusive, 154 to 168, inclusive, and 200 to 202, inclusive.

*In G.14.3.1 (General SEI payload semantics), replace the following paragraphs:*

The list VclAssociatedSeiList is set to consist of payloadType values 2, 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, 161, 165, 167, 168, 177, 178, 179, and 200 to 201, inclusive.

The list PicUnitRepConSeiList is set to consist of payloadType values 0, 1, 2, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 133, 135 to 152, inclusive, 154 to 168, inclusive, 176 to 180, inclusive, and 200 to 201, inclusive.

*with the following:*

The list VclAssociatedSeiList is set to consist of payloadType values 2, 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, 161, 165, 167, 168, 177, 178, 179, and 200 to 202, inclusive.

The list PicUnitRepConSeiList is set to consist of payloadType values 0, 1, 2, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 133, 135 to 152, inclusive, 154 to 168, inclusive, 176 to 180, inclusive, and 200 to 202, inclusive.

*In I.14.3.1 (General SEI payload semantics), replace the following paragraphs:*

The list VclAssociatedSeiList is set to consist of payloadType values 2, 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, 161, 165, 167, 168, 177, 178, 179, and 200 to 201, inclusive.

The list PicUnitRepConSeiList is set to consist of payloadType values 0, 1, 2, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 133, 135 to 152, inclusive, 154 to 168, inclusive, 176 to 181, inclusive, and 200 to 201, inclusive.

*with the following:*

The list VclAssociatedSeiList is set to consist of payloadType values 2, 3, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 131, 132, 134 to 152, inclusive, 154 to 159, inclusive, 161, 165, 167, 168, 177, 178, 179, and 200 to 202, inclusive.

The list PicUnitRepConSeiList is set to consist of payloadType values 0, 1, 2, 6, 9, 15, 16, 17, 19, 22, 23, 45, 47, 56, 128, 129, 131, 132, 133, 135 to 152, inclusive, 154 to 168, inclusive, 176 to 181, inclusive, and 200 to 202, inclusive.

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