## DRAFT AMENDMENT ISO/IEC 23008-2 DAM 1

ISO/IEC JTC 1/SC 29

Secretariat: JISC

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2019-10-02

### Information technology — High efficiency coding and media delivery in heterogeneous environments —

Part 2:

## High efficiency video coding

AMENDMENT 1: Additional supplemental enhancement information

Technologies de l'information — Codage à haute efficacité et livraison des medias dans des environnements hétérogènes —

Partie 2: Codage vidéo à haute efficacité NDARD PREVIEW (standards.iteh.ai)

AMENDEMENT 1:.

ICS: 35.040.40

ISO/IEC DIS 23008-2/DAmd 1 https://standards.iteh.ai/catalog/standards/sist/1be24e96-c318-418e-9501-81931d16b954/iso-iec-dis-23008-2-damd-1

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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.

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*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) TANDARD PREVIEW  |            |
| else if( payloadType == 3 )  filler revised( revisedSize ( <b>standards.iteh.ai</b> )  |            |
| filler_payload( payloadSize ) Standard US. Item. al)   |            |
| else if( payloadType = = 4)  |            |
| user_data_registered_itu_t_t35( payloadSize ) payloadSize ) payloadSize ) user_data_registered_itu_t_t35( payloadSize ) payloadS |            |
| else if( payloadType = $= 5$ )81931d16b954/iso-iec-dis-23008-2-damd-1  |            |
| 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 )   |            |

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| 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) TANDARD PREVIEW                         |  |
| time_code( payloadSize )  |  |
| else if( payloadType == 137) (standards.iteh.ai)                  |  |
| mastering_display_colour_volume( payloadSize )                    |  |
| else if( payloadType / = 138 ) 150/110 DIS 25008-2/15/4111   1    |  |
| segmented_rect_frame_packing_arrangement(_payloadSize_)damd-1     |  |
| 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 = 1580 TANDARD PREVIEW   |   |
| mcts_extraction_info_sets( payloadSize )  |   |
| else if( payloadType == 159) <b>Standards.iten.a1</b> )   |   |
| mcts_extraction_info_nesting( payloadSize )   |   |
| else if( payloadType = 160) ISO/IEC DIS 23008-2/DAInt 1 else if( payloadType = 160) https://standards/standards/standards/sist/1be24e96-c318-418e-9501- |   |
| layers_not_present( payloadSize ) (* specified in Annex) F */damd-1   |   |
| 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)  | 1 |
| frame field info( payloadSize ) /* specified in Annex F */  | 1 |
| name_note_into( payroadoize ) / specified in funica i /   |   |

| 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 )  |      |
| else  |      |
| reserved_sei_message( payloadSize )   |      |
| else /* nal_unit_type # # SUFFIX_SEA_NUT */ARD PREVIEW                              |      |
| if( payloadType == 3 ) (standards.itch.ai)  |      |
| filler_payload( payloadSize )   |      |
| else if( payloadType = = 4)  ISO/IFC DIS 23008-2/DAmd 1                             |      |
| user_data_registered_riturts135( payloadSize_dards/sist/1be24e96-c318-418e-9501-    |      |
| else if( payloadType == 5)81931d16b954/iso-iec-dis-23008-2-damd-1                   |      |
| 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 clauses D.2.41.3 through D.2.41.5 as D.2.41.4 through D.2.41.6.

Add clause D.2.41.3, as follows:

### D.2.41.3 Fisheye video information SEI message syntax

| fisheye_video_info( payloadSize ) {                               | Descriptor |
|---|------------|
| fisheye_cancel_flag   | u(1)       |
| if(!fisheye_cancel_flag) {  |            |
| fisheye_persistence_flag  | u(1)       |
| fisheye_view_dimension_idc  | u(3)       |
| fisheye_reserved_zero_3bits                                       | u(3)       |
| fisheye_num_active_areas_minus1                                   | u(8)       |
| for( i = 0; i <= fisheye_num_active_areas_minus1; i++) {          |            |
| fisheye_circular_region_centre_x[i]                               | u(32)      |
| fisheye_circular_region_centre_x[N] ARD PREVIEW                   | u(32)      |
| fisheye_rect_region_top[i]  | u(32)      |
| fisheye_rect_region_left[i   standards.iteh.ai)                   | u(32)      |
| fisheye_rect_region_width[ i ]                                    | u(32)      |
| fisheye_rect_region_height[i] SO/IEC DIS 23008-2/DAmd I           | u(32)      |
| fisheye_circular_region_radjus[ k]]954/jso-jec-dis-23008-2-damd-1 | u(32)      |
| fisheye_scene_radius[ i ]   | u(32)      |
| fisheye_camera_centre_azimuth[ i ]                                | i(32)      |
| fisheye_camera_centre_elevation[ i ]                              | i(32)      |
| fisheye_camera_centre_tilt[ i ]                                   | i(32)      |
| fisheye_camera_centre_offset_x[i]                                 | u(32)      |
| fisheye_camera_centre_offset_y[ i ]                               | u(32)      |
| fisheye_camera_centre_offset_z[ i ]                               | u(32)      |
| fisheye_field_of_view[ i ]  | u(32)      |
| fisheye_num_polynomial_coeffs[ i ]                                | u(16)      |
| for( j = 0; j < fisheye_num_polynomial_coeffs[ i ]; j++ )         |            |
| fisheye_polynomial_coeff[ i ][ j ]                                | i(32)      |
| }   |            |
| }   |            |
| }   |            |