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ISO/IEC JTC 1/SC 29

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

Part 2:

High efficiency video coding

AMENDMENT 2: Shutter interval information SEI message

Partie 2: Codage vidéo à haute efficacité

AMENDEMENT 2: Titre manque

ICS: 35.040.40

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The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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Amendment 2 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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Information technology — High efficiency coding and media delivery in heterogeneous environments — Part 2: High efficiency video coding, AMENDMENT 1: Shutter interval information SEI message

Clause 4

Add an abbreviation as follows:

ATSC Advanced Television Systems Committee

D.2.1

Replace the contents of D.2.1 with the following:

D.2.1 General SEI message syntax

	Descriptor
sei_payload(payloadType, payloadSize) {	
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_idx(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)	
else if(payloadType == 203)	
shutter_interval_info(payloadSize)	
else	
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)
}	
}	

D.2.48

Renumber subclause D.2.48 as D.2.49.

D.2.48

Add a new subclause D.2.48, as follows:

D.2.48 Shutter interval information SEI message syntax

	Descriptor
shutter_interval_info(payloadSize) {	
sii_time_scale	u(32)
fixed_shutter_interval_within_clvs_flag	u(1)
if(fixed_shutter_interval_within_clvs_flag)	
sii_num_units_in_shutter_interval	u(32)
else {	
sii_max_sub_layers_minus1	u(3)
for(i = 0; i <= sii_max_sub_layers_minus1; i++)	
sub_layer_num_units_in_shutter_interval[i]	u(32)
}	
}	

D.3.1

Replace the the three paragraphs following NOTE 2 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 203, 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 203, 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 203, inclusive.

D.3.1

In Table D.1, insert the following row at the end of the table:

Shutter interval information	The CLVS containing the SEI message
------------------------------	-------------------------------------