JCTVC-I0360
Wavefront parallel processing simplification

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Proposal

- In the current WPP design if the number of sub-streams is less than the number of LCU rows, bitstream order does not follow decoding order (non-causal bitstream).

- Proposed simplification of WPP
  - one substream per LCU row following LCU order
  - provides maximum level of parallelism capability
  - addresses bitstream causality issue

Current

Proposed

Results

Config	Y	U	V
AI-Main	0.2%	0.1%	0.1%
AI-HE10	0.2%	0.1%	0.1%
RA-Main	0.9%	0.8%	0.9%
RA-HE10	0.9%	0.8%	0.8%
LB-Main	2.3%	1.9%	2.2%
LB-HE10	2.3%	1.9%	2.0%
LB-Main*	1.2%	1.2%	1.5%
LB-HE10*	1.2%	1.0%	1.2%

Anchor: HM 6.0 with WPP 1 substream
(*): without class E

WD changes

7.3.2.2 Picture parameter set RBSP syntax

pic_parameter_set_rbsp( ) {	Descriptor
pic_parameter_set_id	ue(v)
......	
output_flag_present_flag	u(1)
if(tiles_or_entropy_coding_sync_idc == 1) {	
tile_info_present_flag	u(1)
tile_control_present_flag	u(1)
if(tile_info_present_flag) {	
num_tile_columns_minus1	ue(v)
num_tile_rows_minus1	ue(v)
uniform_spacing_flag	u(1)
if(!uniform_spacing_flag) {	
for(i = 0; i < num_tile_columns_minus1; i++)	
column_width[i]	ue(v)
for(i = 0; i < num_tile_rows_minus1; i++)	
row_height[i]	ue(v)
}	
}	
if(tile_control_present_flag)	
loop_filter_across_tiles_enabled_flag	u(1)
} ~~else if(tiles_or_entropy_coding_sync_idc == 2)~~	
~~**num_substreams_minus1**~~	~~ue(v)~~
deblocking_filter_control_present_flag	u(1)
if(slice_type == P || slice_type == B)	
log2_parallel_merge_level_minus2	ue(v)
pps_extension_flag	u(1)
if(pps_extension_flag)	
while(more_rbsp_data( ))	
pps_extension_data_flag	u(1)
rbsp_trailing_bits( )	
}	

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