

JCTVC-I0507: Non-CE1

Coding of SAO merge left & merge up

K. Minoo, D. Baylon

Motorola Mobility

I. S. Chong, M. Karczewicz

Qualcomm, Inc.

Proposed joint coding of merge flags

- HM6.0: separate merge left (up) flags per color
- Proposed: joint merge left (up) flags for all colors
 - ⇒ first check for joint merge left
 - ⇒ if no merge-left, check for joint merge up
 - ⇒ if no merge, signal SAO parameters

Proposed text changes

- Slice data syntax:

...	
if(slice_sao_interleaving_flag) {	
if(slice_sample_adaptive_offset_flag)	
sao_unit_cabac(xCtb, yCtb, 0)	
if(sao_cb_enable_flag)	
sao_unit_cabac(xCtb, yCtb, 1)	
if(sao_cr_enable_flag)	
sao_unit_cabac(xCtb, yCtb, 2)	
}	
...	

- Sample adaptive offset unit CABAC syntax :

sao_unit_cabac(rx, ry, cIdx) {	Descriptor
if(rx > 0 && CtbAddrInSlice != 0)	
sao_merge_left_flag	ae(v)
if(!sao_merge_left_flag) {	
if(ry > 0 && (AddrUp > 0	
slice_loop_filter_across_slices_enabled_flag))	
sao_merge_up_flag	ae(v)
if(!sao_merge_up_flag) {	
sao_offset_cabac(rx, ry, cIdx)	
sao_offset_cabac(rx, ry, 0)	
if(sao_cb_enable_flag)	
sao_offset_cabac(rx, ry, 1)	
if(sao_cr_enable_flag)	
sao_offset_cabac(rx, ry, 2)	
}	
}	
}	

Comparison With Other alternatives For Picture-based Optimization

	HM6.0	JCTVC-I0507	JCTVC-I0199
Number of Flags per LCU to Signal Merge(e.g. in Picture based Optimization)	3 Merge	1 Merge	6 SAO-On+Merge
Number of Flags per LCU to Signal SAO-Off assuming neighbors are also off (e.g. low-bitrate condition)	3 Merge	1 Merge	3 SAO-Off
Number of extra Context, Relative to HM6.0	0	-2	1
Conditional Parsing. Requires Line buffer for parsing	No	No	Yes