



REDEFINING MOBILITY



Non-CE6: Improved binarization and signaling of index coding for transition copy mode

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sPoint signalling in CE 6 Test C.2 (Transition Copy)

- One more regular bin in sPoint signaling compared to SCM2.0

Table 1. Palette mode sPoint binarization in Transition Copy

Mode	First bin	Second bin
Index mode	0	N/A
Copy above mode	1	0
Transition copy mode	1	1

Regular bin

Regular bin

Proposal

- sPoint signaling is the same as in SCM-2.0
- Add CU level flag **use_transition_flag** to indicate transition is used or not
 - If **use_transition_flag** is equal to 0, index coding is same as in SCM-2.0 (TBC)
 - If **use_transition_flag** is equal to 0:
 - Code **equal_to_transition** flag (bypass)
- Index coding:
 - If **equal_to_transition** flag is 1, the index is equal to transition index
 - If **equal_to_transition** flag is 0, use TBC after adjustment to code index

Simulation Results

Anchor: Common test condition for SCM2.0 (full frame IBC)

	CE6 Test C.2			Proposed		
	All Intra			All Intra		
	G/Y	B/U	R/V	G/Y	B/U	R/V
RGB, text & graphics with motion, 1080p	-1.1%	-1.2%	-1.2%	-1.1%	-1.2%	-1.2%
RGB, text & graphics with motion, 720p	-0.8%	-0.8%	-0.8%	-1.0%	-1.0%	-1.0%
RGB, mixed content, 1440p	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%
RGB, mixed content, 1080p	-0.2%	-0.3%	-0.3%	-0.2%	-0.4%	-0.3%
RGB, Animation, 720p	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RGB, camera captured, 1080p	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
YUV, text & graphics with motion, 1080p	-1.2%	-1.4%	-1.4%	-1.2%	-1.5%	-1.5%
YUV, text & graphics with motion, 720p	-0.4%	-0.8%	-1.0%	-0.7%	-0.9%	-1.0%
YUV, mixed content, 1440p	0.0%	-0.2%	-0.2%	0.0%	-0.3%	-0.3%
YUV, mixed content, 1080p	-0.1%	-0.4%	-0.4%	-0.2%	-0.5%	-0.4%
YUV, Animation, 720p	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%
YUV, camera captured, 1080p	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Enc Time[%]	105%			104%		
Dec Time[%]	101%			100%		

Conclusion

- Modified transition copy mode (CE6 test C.2)
 - Keep SCM-2.0 sPoint signalling
 - Better worst-case context-coded bin complexity
- A CU level flag to turn transition mode on or off.
- Modified index coding
 - Bypass flag to indicate whether the index is equal to transition index
- Same or better performance as CE6 test C.2
 - Additional 0.2% gain for RGB, text & graphics with motion, 720p
 - Additional 0.3% gain for YUV, text & graphics with motion, 720p