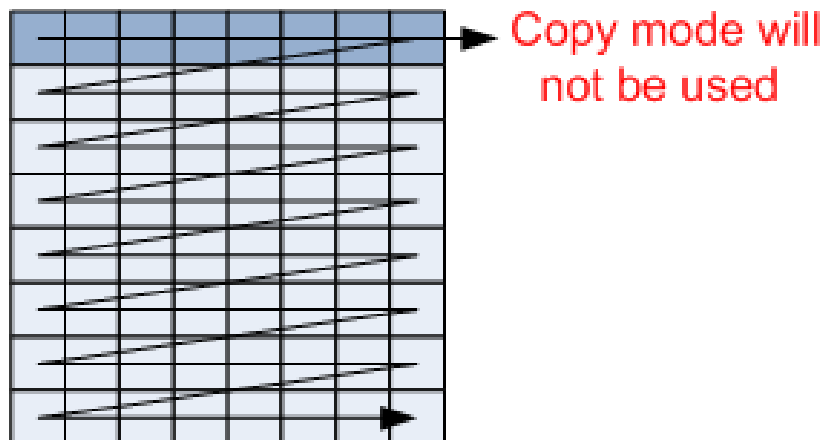


AHG10: Adaptive Scan Order on Palette Based Coding [JCTVC-Q0169]

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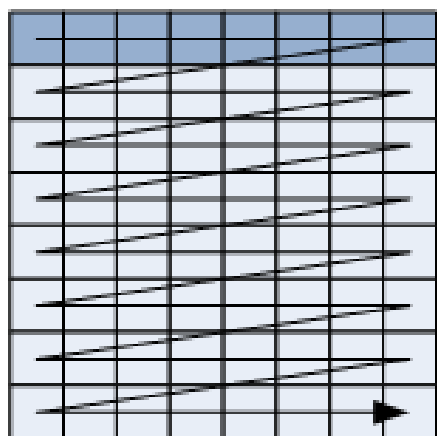
17th JCT-VC meeting, Valencia, 2014/03/27-04/05

- AHG10 was established for further study on Palette based coding
- A base software, P0303, for AHG10 investigation on palette coding tool was suggested.
 - The pixels in the CU are encoded in a raster scan order.
 - 3 modes for each pixels: “copy-above”, “index-run” and “pixel-escape”.
 - “copy-above” mode is forbidden for the 1st line to reduce the prediction cross CUs.

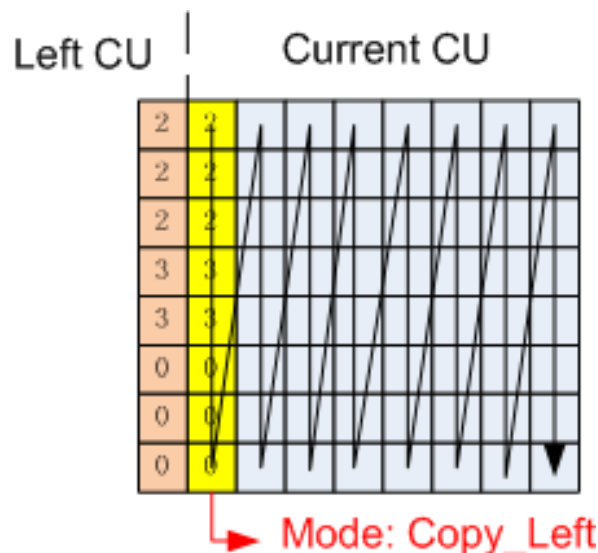


Our Proposal

- Adaptive scan order
- A flag, `PLT_Scan_order`, is used to indicate horizontal scan order or vertical scan order.
 - For horizontal scan order, no “copy-above” is used for 1st line.
 - For vertical scan order, “copy-left” is allowed for all columns, including 1st column.



Copy mode will
not be used

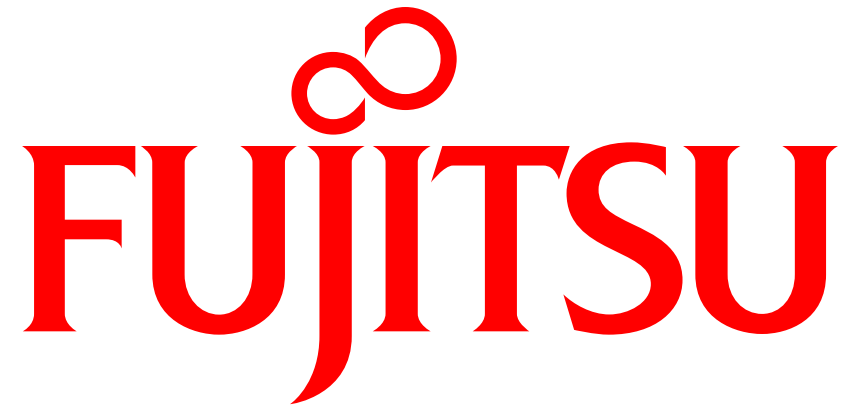


Simulation results(lossless)

- Anchor: P0303 with bug fixed on calculation of run

	AI											
	Compression ratio								Bit-rate increase			
	Total		Average		Min		Max		Total	Avg	Min	Max
	Ref.	Tested	Ref.	Tested	Ref.	Tested	Ref.	Tested				
Class F	4.60	4.61	5.60	5.60	2.27	2.27	11.22	11.23	0.0%	0.0%	0.0%	0.0%
Class B	2.25	2.25	2.26	2.26	2.08	2.08	2.44	2.44	0.0%	0.0%	0.0%	0.0%
RGB 4:4:4 SC	10.86	10.89	15.6	15.73	7.20	7.20	34.56	35.03	-0.3%	-0.4%	-1.3%	0.0%
RGB 4:4:4 Animation	2.83	2.83	2.9	2.86	2.41	2.41	3.14	3.14	0.0%	0.0%	0.0%	0.0%
YCbCr 4:4:4 SC	12.69	12.72	17.8	17.89	8.58	8.58	36.62	37.12	-0.3%	-0.4%	-1.3%	0.0%
YCbCr 4:4:4 Animation	3.08	3.08	3.2	3.23	2.67	2.67	3.98	3.98	0.0%	0.0%	0.0%	0.0%
RangeExt	1.98	1.98	2.44	2.44	1.52	1.52	4.43	4.43	0.0%	0.0%	0.0%	0.0%
RGB 4:4:4 SC (Optional)	50.26	50.97	64.17	65.59	23.79	24.00	103.84	106.87	-1.4%	-1.7%	-2.8%	-0.8%
YCbCr 4:4:4 SC (Optional)	57.98	58.66	73.49	75.06	29.20	29.32	125.42	129.06	-1.2%	-1.5%	-2.8%	-0.4%
Enc Time[%]	118%											
Dec Time[%]	105%											

- Recommend to consider different scanning order in Palette based coding



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