

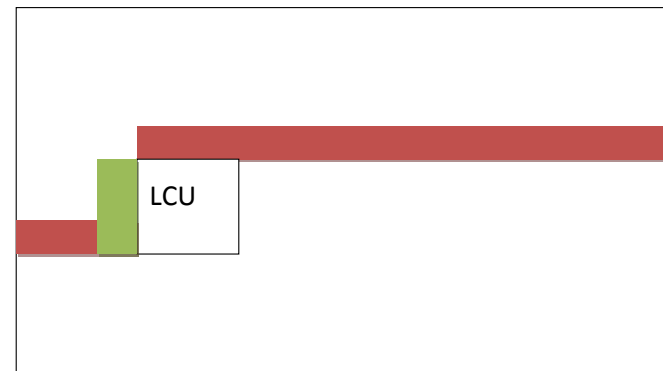
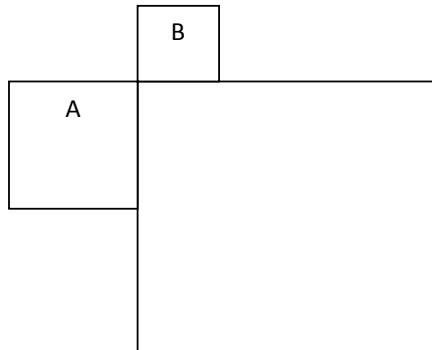
JCTVC-829:Context modeling of split flag for CABAC

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Qualcomm

Introduction

- In CABAC, information from neighboring blocks are often used in designing the context for certain syntax elements.
- Line buffer is required for context modeling



- Most of line buffer for CABAC context modeling were removed in HM4.0 but two syntax elements : `splt_flag` and `skip_flag`.

Proposed changes

- Left CU is available

ctxIdx	CUDepth=0	CUDepth=1	CUDepth=2
LeftCUDepth=0	0	1	1
LeftCUDepth=1	3	2	1
LeftCUDepth=2	3	3	1
LeftCUDepth=3	3	3	2

- Left CU is not available

	ctxIdx
CUDepth=0	1
CUDepth=1	1
CUDepth=2	2

Simulation results

BD-rate	All Intra HE			Random access HE			Low delay B HE		
	Y	U	V	Y	U	V	Y	U	V
Class A	0.0%	-0.1%	-0.1%	0.0%	-0.1%	-0.1%			
Class B	0.0%	0.0%	-0.1%	0.0%	0.1%	-0.1%	0.0%	-0.1%	-0.1%
Class C	0.0%	0.0%	-0.1%	0.1%	-0.1%	0.2%	0.1%	0.0%	-0.1%
Class D	0.0%	0.0%	-0.1%	0.1%	0.0%	-0.1%	0.0%	0.3%	-0.4%
Class E	0.1%	-0.1%	-0.1%				0.3%	-0.9%	0.9%
All	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.1%	-0.1%	0.0%
Enc T[%]	96%			96%			99%		
Dec T[%]	99%			100%			98%		

Comparison

	Number of contexts	Average coding performance (AI,RA,LD)	LD-ClassE
JCTVC-G200	6	0.0%/0.0%/0.1%	0.12%
JCTVC-G769	3	0.0%/0.0%/0.1%	0.45%
Proposed methods	4	0.0%/0.0%/0.1%	0.34%

Conclusions

- Coding performance between G200 and G769.
- Number of contexts between G200 and G769.
- A balanced method considering the coding performance and the number of contexts