

Improvement of CAVLC run- coding by Prediction mode (JCTVC-F458)

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Summary

- ❖ Simple mapping inter and intra instead of separating intra luma and others in run-mode

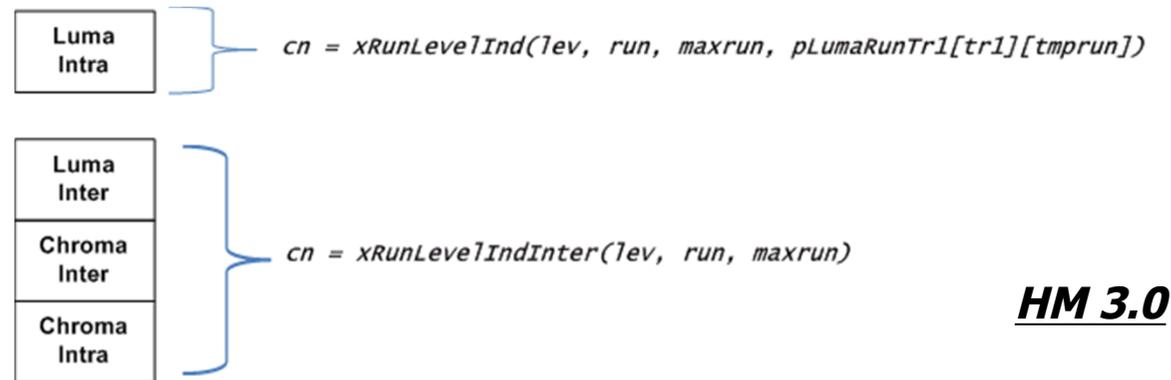
- ❖ Change:
 - Classifying inter or intra by introducing *IsIntra* flag.
 - No table changing.

- ❖ Coding efficiency
 - -0.2 / -0.1 / 0.0 % on average
 - Decoder complexity is slightly decreased, no complexity is change in the encoder.

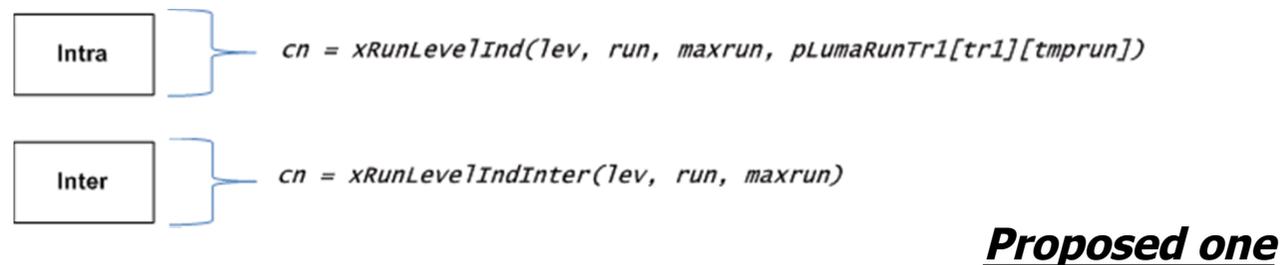
- ❖ Cross-check
 - F621 by Qualcomm

Changing in Run-coding

- ❖ In run mode, code number, cn is mapped to $\{lev, run\}$ pairs, using formula for intra luma and run-level table for others in HM 3.0



- ❖ Check the prediction mode of the blocks and simply mapping



Experimental results

❖ Common condition test

- Slightly high gain in Intra rather than inter
- No complexity increase

	All Intra LC			Random Access LC			Low delay B LC		
	Y	U	V	Y	U	V	Y	U	V
Class A	-0.1	-0.1	0.0	-0.1	0.6	0.5			
Class B	-0.2	-0.1	-0.1	-0.1	0.4	0.4	0.0	0.0	0.0
Class C	-0.2	-0.7	-0.8	-0.1	-0.2	-0.3	0.0	-0.1	-0.3
Class D	-0.3	-0.7	-1.0	-0.1	-0.4	-0.5	-0.1	0.0	-0.3
Class E	-0.1	0.4	0.1				0.0	1.3	-0.5
Overall	-0.2	-0.3	-0.4	-0.1	0.1	0.1	0.0	0.2	-0.3
Enc Time[%]	100%			100%			100%		
Dec Time[%]	100%			98%			99%		

Conclusions

- ❖ Only check the prediction mode
- ❖ The same function is used in the sequential Y, U, V coding
- ❖ Coding efficiency impact:
 - -0.2/-0.1/0.0 % on average
 - Complexity is slightly decreased
- ❖ We recommend to consider the proposed one for next HM update