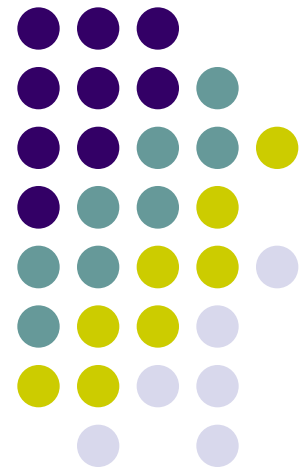
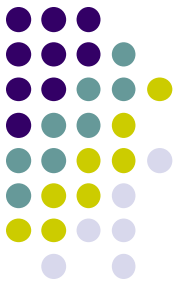


# CE5.H related: Results on Simplified Binarization for depth\_intra\_mode (JCT3V-E0204)

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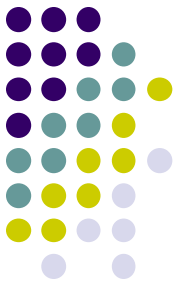




# Problem Statement

- In last Meeting, a unified intra mode singling design was proposed in JCT3V-D0195 [1] and adopted. JCT3V-D0195 significantly simplifies the syntax design.
- However, a new syntax element **depth\_intra\_mode** was introduced and a new method of binarization was used for this syntax element.

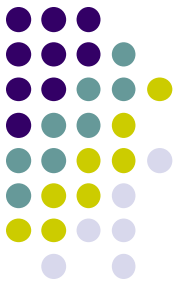




# Problem Statement

Name of depth_intra_mode	Bin String		
	( cLog2CbSize == 3 & & PartMode[ xC ][ yC ] == PART_2Nx2N )    ( cLog2CbSize > 3 && cLog2CbSize < 6 )	cLog2CbSize == 3 && PartMode[ xC ][ yC ] == PART_NxN	cLog2CbSize == 6
INTRA_DEP_SDC_PLANAR	00	-	0
INTRA_DEP_NONE	010	0	10
INTRA_DEP_SDC_DMM_WFULL	011	-	-
INTRA_DEP_DMM_WFULL	100	10	-
INTRA_DEP_DMM_CPREDTEX)	101	-	-
INTRA_DEP_DMM_WPREDTEX)	110	110	-
INTRA_DEP_SDC_DC	1110	-	11
INTRA_DEP_DMM_WPREDDIR)	11111	-	-
INTRA_DEP_CHAIN	11110	111	-





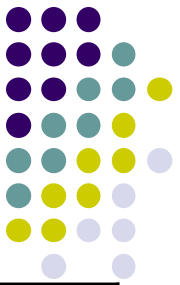
# Proposed method

- To simplify the binarization and avoid new method of binarization, we propose to use truncated unary code to binarize **depth\_intra\_mode**.
- However, in the consideration of coding efficiency, we use **depth\_intra\_mode\_offset\_flag** to indicate the offset of DepthIntraMode.

depth_modeling_table( x0 , y0 ) {	Descriptor
if ((cLog2CbSize == 3 && PartMode[ xC ][ yC ] == PART_2Nx2N)    (cLog2CbSize > 3 && cLog2CbSize < 6))	
depth_intra_mode_offset_flag[ x0 ][ y0 ]	u(1)
depth_intra_mode[ x0 ][ y0 ]	ae(v)
.....	
}	

Bypass →

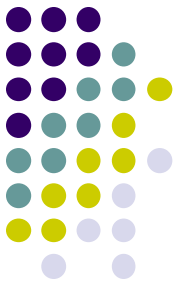




# Proposed method

Name of depth_intra_mode	Bin String			
	(cLog2CbSize == 3 && PartMode[ xC ][ yC ] == PART_2Nx2N)    (cLog2CbSize > 3 && cLog2CbSize < 6)		cLog2CbSize == 3 && PartMode[ xC ][ y C ] == PART_NxN	cLog2CbS ize == 6
	!depth_intra_mode_o ffset_flag	depth_intra_mode_ ffset_flag		
INTRA_DEP_SDC_PLANAR		0	-	0
INTRA_DEP_NONE		10	0	1 0
INTRA_DEP_DMM_WPREDD IR)		110	-	-
INTRA_DEP_CHAIN		111	1 1 1	-
INTRA_DEP_SDC_DC	0		-	-
INTRA_DEP_SDC_DMM_WF ULL	10		-	-
INTRA_DEP_DMM_CPREDT EX)	110		-	-
INTRA_DEP_DMM_WPREDT EX)	1110		1 1 0	-
INTRA_DEP_DMM_WFULL	1111		1 0	1 1

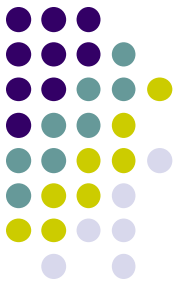




# Experimental Results

- Synth PSNR / total bitrate
  - Common test condition (CTC)
    - 0.1% BD-rate gains
  - All Intra
    - 0.00%
- Same encode & decoding time

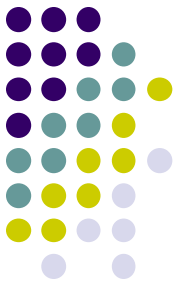




# Conclusion

- This proposal simplifies the binarization of the syntax element **depth\_intra\_mode** .
- Moreover, this proposal achieves 0.1% BD-rate gains compared to 3D-HTM7.0\_r1 under the common test condition (CTC).





This concludes my presentation.  
Thank You.

Q & A