Non-CE2: Harmonization of implicit TU, AMP and NSQT
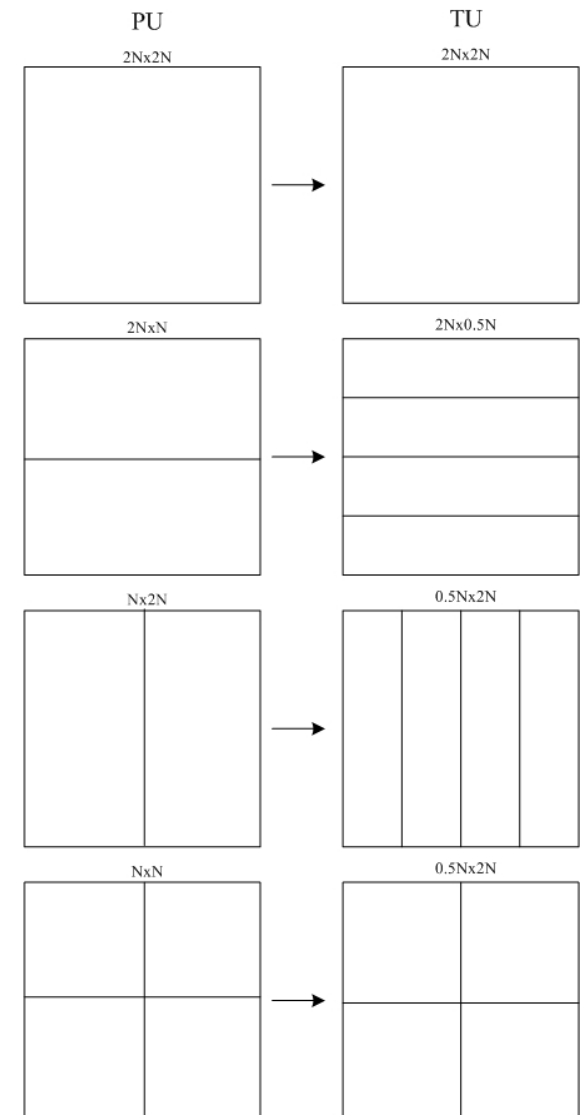
JCTVC-G519

Geneva, CH, November 2011

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Background

- Implicit transform split has been adopted when "QuadtreeTUMaxDepthInter" is set to 1

- Control condition at HM4:

pcCU->getPartitionSize(uiAbsPartIdx) == SIZE_2NxN ||
    pcCU->getPartitionSize(uiAbsPartIdx) == SIZE_Nx2N

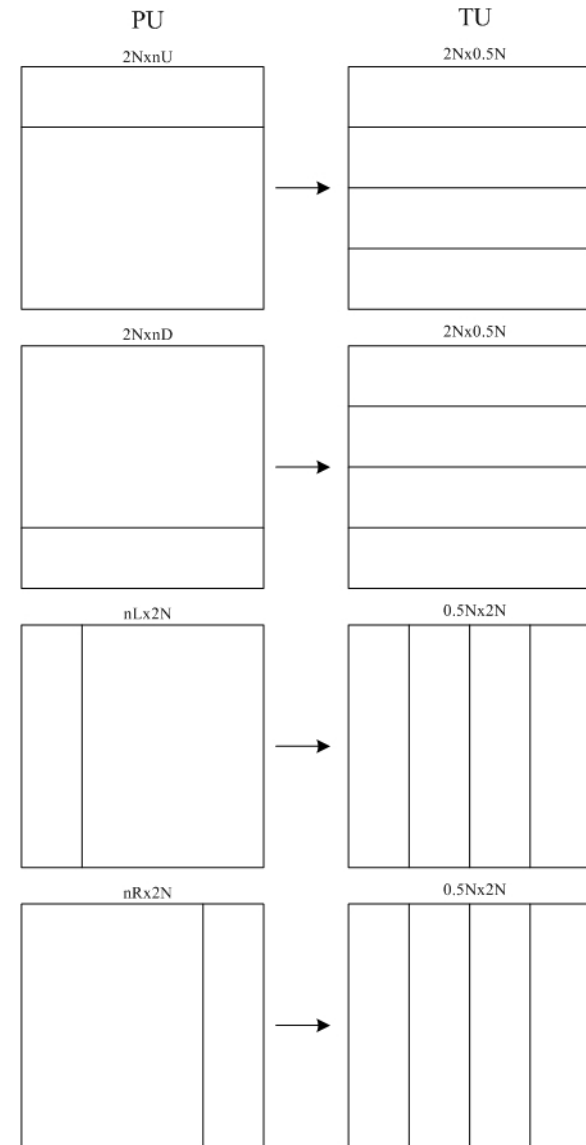# Proposed solution

● Extend current HM method to AMP partitions

● Control condition at HM4:

Change from

pcCU->getPartitionSize(uiAbsPartIdx) == SIZE_2NxN ||
pcCU->getPartitionSize(uiAbsPartIdx) == SIZE_Nx2N

To

pcCU->getPartitionSize(uiAbsPartIdx) != SIZE_2Nx2N

Test results

- Reference: HM4.0 – "QuadtreeTUMaxDepthInter==1"
- Tested: HM4.0 + G519 - "QuadtreeTUMaxDepthInter==1"

	Random Access HE			Random Access LC		
	Y	U	V	Y	U	V
Class A	0.0%	0.0%	0.1%	0.0%	-0.5%	-0.4%
Class B	-0.1%	-0.5%	-0.3%	-0.1%	-0.3%	-0.2%
Class C	-0.2%	-0.2%	-0.2%	-0.2%	0.0%	0.0%
Class D	-0.1%	0.0%	0.0%	-0.1%	0.1%	0.0%
Class E						
Class F	-0.1%	-0.2%	-0.2%	-0.1%	-0.1%	-0.1%
Overall	-0.1%	-0.2%	-0.1%	-0.1%	-0.2%	-0.1%
	-0.1%	-0.2%	-0.1%	-0.1%	-0.2%	-0.1%
Enc Time		99%			100%	
Dec Time[%]		99%			100%	

	Low delay P HE			Low delay P LC		
	Y	U	V	Y	U	V
Class A						
Class B	-0.1%	-0.8%	-1.0%	-0.1%	-0.4%	-0.2%
Class C	-0.1%	-0.5%	-0.2%	-0.1%	0.0%	0.0%
Class D	-0.2%	-0.1%	-0.2%	-0.2%	0.3%	0.1%
Class E	-0.2%	-0.8%	-0.1%	-0.2%	0.5%	-0.2%
Class F	-0.2%	-0.1%	-0.1%	-0.1%	0.1%	0.2%
Overall	-0.1%	-0.5%	-0.4%	-0.1%	0.0%	0.0%
	-0.2%	-0.4%	-0.3%	-0.1%	0.0%	0.0%
Enc Time[%]		100%			100%	
Dec Time[%] (with classF)		99%			99%	

	Low delay B HE			Low delay B LC		
	Y	U	V	Y	U	V
Class A						
Class B	-0.1%	-0.8%	-0.8%	-0.1%	-0.5%	-0.6%
Class C	-0.1%	-0.4%	-0.4%	-0.1%	-0.2%	0.0%
Class D	-0.2%	-0.3%	-0.2%	-0.3%	0.1%	0.1%
Class E	-0.3%	-0.8%	0.3%	-0.2%	-0.6%	-0.5%
Class F	-0.2%	-0.3%	0.0%	-0.1%	-0.4%	-0.1%
Overall	-0.2%	-0.5%	-0.3%	-0.1%	-0.3%	-0.2%
	-0.2%	-0.5%	-0.3%	-0.1%	-0.3%	-0.2%
Enc Time[%]		100%			101%	
Dec Time[%]		100%			101%	

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Conclusion

- Recommend to adopt the harmonization solution of implicit TU, AMP and NSQT to working draft and HM5

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Thanks Samsung's help on cross-checking!

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Thank you!

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