

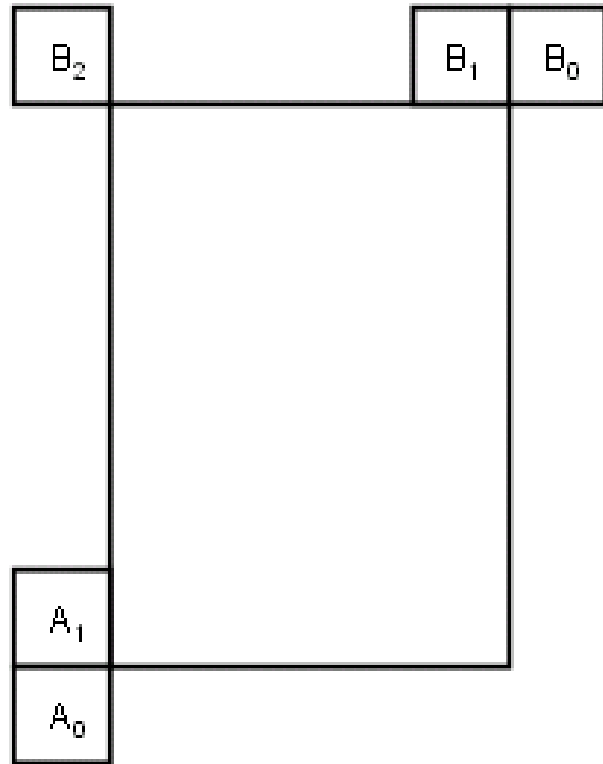
JCTVC-J0145: Simplification on spatial AMVP candidate derivation

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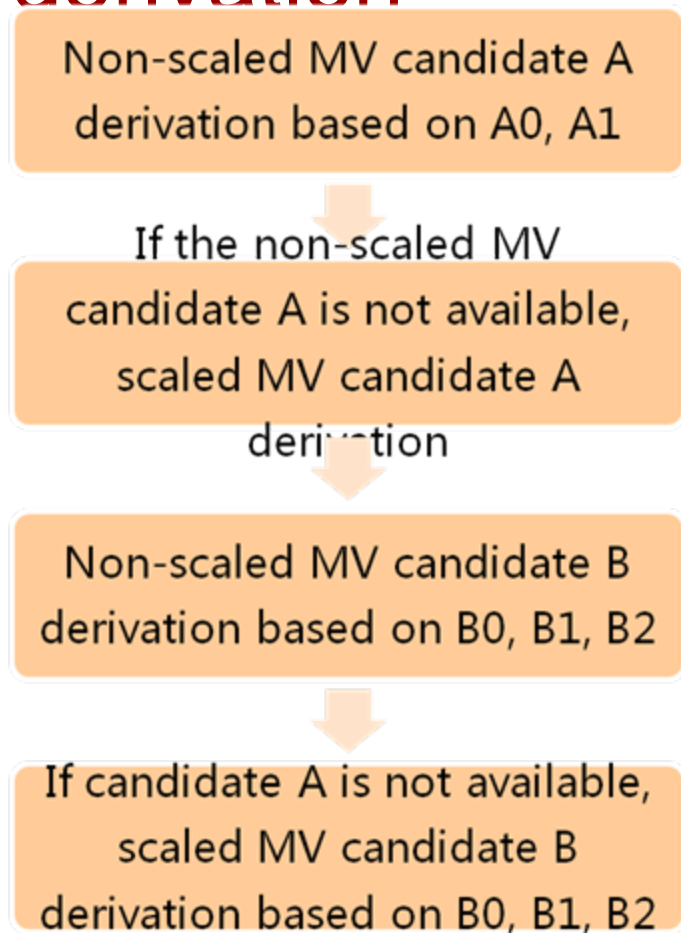
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Spatial AMVP candidate derivation in HM7

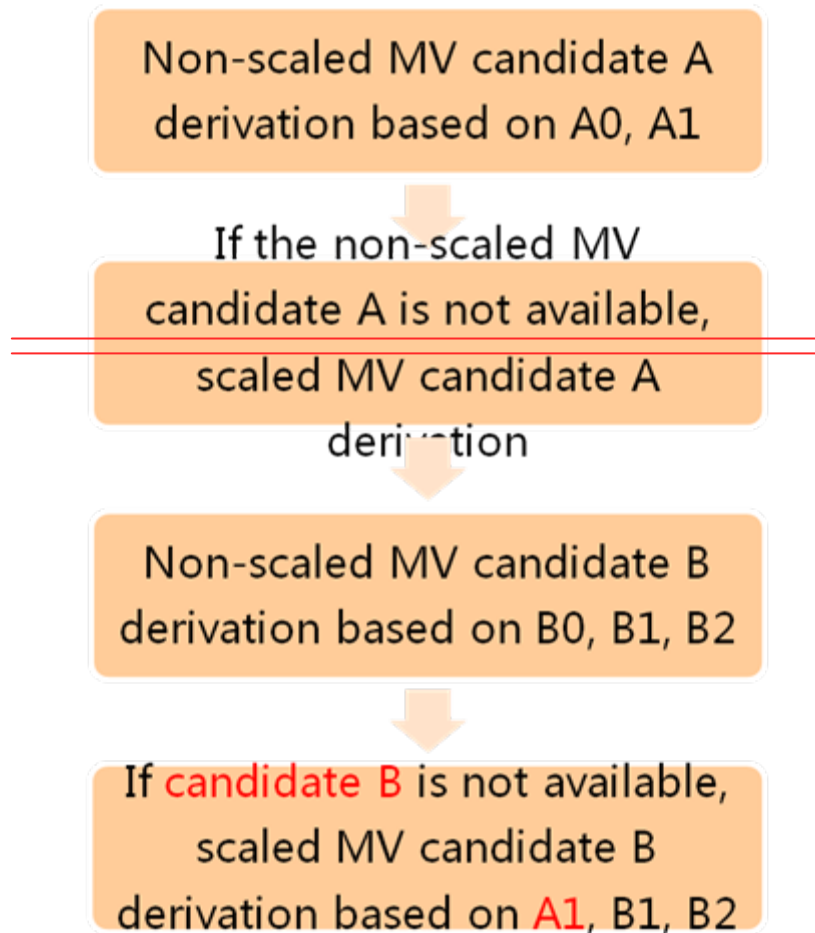


- **AMVP candidates**
 - 2 spatial AMVP candidates
 - 1 temporal AMVP candidate
- **Spatial AMVP derivation**
 - 5 neighboring positions are used
 - A_0 , A_1 , B_0 , B_1 , B_2
 - Both scaled and non-scaled MV candidates are derived based on these neighboring positions.

Simplification on Spatial AMVP derivation



Spatial AMVP derivation in HM7



Proposed

Comparison of coding efficiency with HM7.0

* Under common test condition

* Cross-checked in JCTVC-J0158 by LG

	Y	U	V	Enc_time	Dec_time
RA-MAIN	0.0%	-0.1%	0.0%	100%	100%
RA-HE10	0.0%	0.0%	0.0%	100%	100%
LDB-MAIN	-0.1%	0.0%	0.0%	100%	102%
LDB-HE10	0.0%	-0.2%	-0.1%	100%	99%

Recommendation

- **The proposed method**
 - ensure the non-scaled MV candidate derivation prior to the scaled MV candidate derivation
 - reduce the number of neighboring positions for the scaled MV derivation
 - texts are largely simplified and structured
 - no loss of coding efficiency
- **It is recommended to adopt the proposal**

Thank you!

Additional test for the proposal with 5 neighboring positions used in scaled MV candidate derivation

	Random Access Main			Random Access HE10		
	Y	U	V	Y	U	V
Class A	0.0%	-0.2%	0.0%	0.0%	-0.1%	0.3%
Class B	0.0%	0.1%	0.1%	0.0%	0.0%	-0.1%
Class C	0.0%	0.0%	0.1%	0.0%	0.1%	-0.1%
Class D	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Class E						
Overall	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Class F	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%
Enc Time[%]	100%			100%		
Dec Time[%]	100%			99%		

	Low delay B Main			Low delay B HE10		
	Y	U	V	Y	U	V
Class A						
Class B	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Class C	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%
Class D	-0.1%	-0.2%	0.2%	-0.1%	0.3%	-0.2%
Class E	-0.1%	-0.4%	-0.1%	0.1%	0.0%	-0.1%
Overall	0.0%	-0.1%	0.0%	0.0%	0.1%	0.0%
	0.0%	-0.1%	0.0%	0.0%	0.1%	0.0%
Class F	0.1%	0.3%	0.3%	0.1%	0.1%	0.5%
Enc Time[%]	100%			100%		
Dec Time[%]	101%			98%		