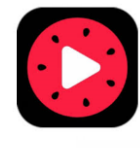


JVET-AH0116

EE2-3.1/2 related: Additional chained motion
vector prediction candidates

Na Zhang, Kai Zhang, Li Zhang
Bytedance Inc.



Summary

■ Motivation

- *EE2-3.1 introduces a chained motion vector prediction (CMVP) into inter merge candidate list construction.*
- *CMVP candidates are inserted after HMVP candidates.*
- *CMVP may not have enough positions in the inter merge candidate list.*

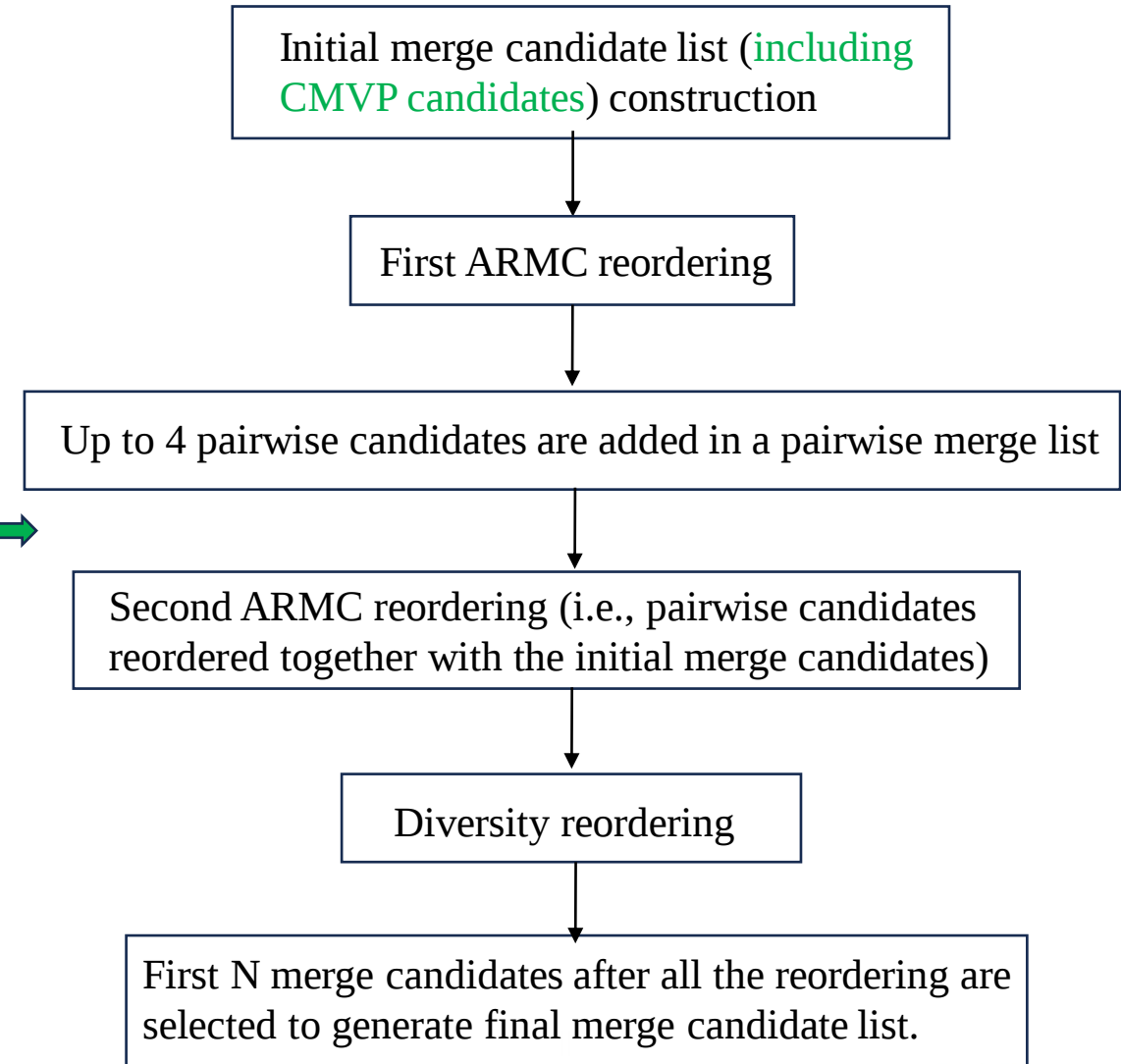
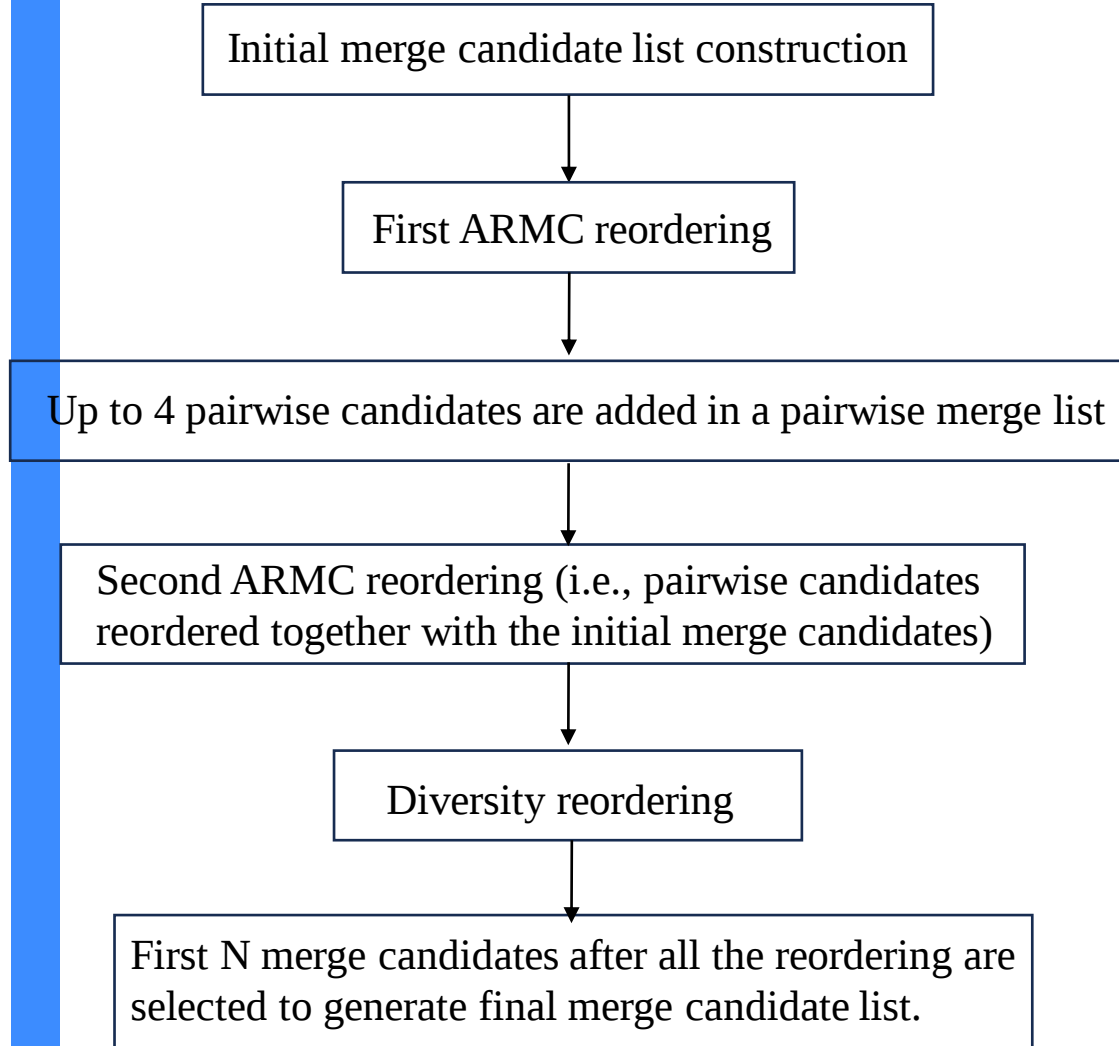
■ Proposed method

- *In this contribution, additional CMVP candidates are introduced.*

Merge candidate list generation process

EE2-3.1

ECM-12.0



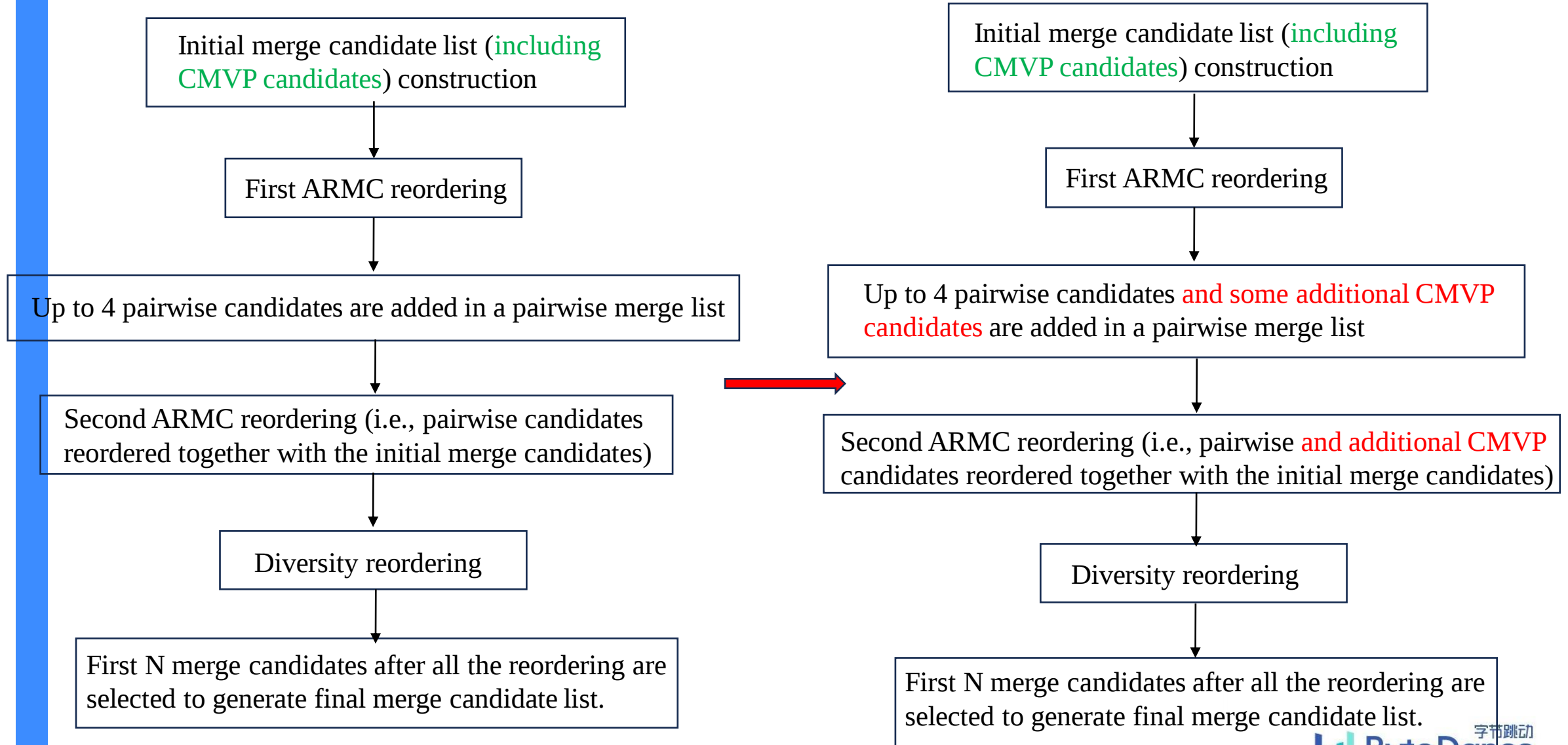
Proposed method

- It is proposed to add some additional CMVP candidates after pairwise candidates in the pairwise merge candidate list.
- In our implementation, the maximum size of the pairwise merge candidate list is increased. It will reserve some positions for the CMVP candidates.

Proposed merge candidate list generation process

EE2-3.1

Proposed



Simulation results

	Random Access Main 10						
	Over Test_3.2c						
	Y	U	V	EncT	DecT	EncVmPeak	DecVmPeak
Class A1	-0.03%	0.00%	-0.11%	100.2%	100.7%	100.0%	99.9%
Class A2	0.03%	-0.07%	-0.05%	100.3%	100.5%	100.0%	99.7%
Class B	0.01%	-0.18%	-0.05%	100.2%	100.8%	100.0%	100.1%
Class C	0.00%	-0.05%	-0.05%	100.1%	101.4%	99.6%	100.0%
Class E							
Overall	0.00%	-0.09%	-0.06%	100.2%	100.9%	99.9%	100.0%
Class D	-0.02%	-0.04%	0.01%	100.3%	101.1%	100.1%	100.0%
Class F	-0.03%	-0.14%	0.04%	100.2%	101.0%	99.9%	100.2%
Class TGM	-0.09%	-0.15%	-0.17%	100.1%	101.2%	99.7%	100.2%
	Low delay B Main 10						
	Over Test_3.2c						
	Y	U	V	EncT	DecT	EncVmPeak	DecVmPeak
Class A1							
Class A2							
Class B	-0.11%	-0.11%	-0.34%	100.1%	101.6%	100.2%	99.9%
Class C	-0.18%	-0.34%	0.28%	100.1%	102.3%	100.0%	100.2%
Class E	-0.14%	-0.69%	0.32%	100.2%	101.3%	99.7%	100.1%
Overall	-0.14%	-0.33%	0.03%	100.2%	101.8%	100.0%	100.1%
Class D	-0.18%	-0.05%	-0.21%	99.8%	101.4%	99.7%	100.0%
Class F	-0.14%	-0.50%	-0.78%	100.3%	101.6%	100.3%	99.9%
Class TGM	-0.14%	-0.17%	0.03%	100.2%	101.3%	100.2%	99.9%

Conclusion

- In this contribution, additional CMVP candidates are introduced.
- The proposed method can bring some coding gains with reasonable coding time change.
- It is recommended to study this method in EE2.