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Title: Non-EE2: Fixing issues for RPR enabling and non-CTC configuration in ECM

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Purpose: Proposal

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Abstract

This contribution proposes slice level enabling condition check for adaptive DMVR and BM AMVP-merge mode. When the enabling condition is not fulfilled, the flag of adaptive DMVR and/or BM AMVP-merge mode is implicitly determined to be 0. The proposed method solves software issues with non-CTC configuration (e.g., RPR enabling). This contribution also proposes fixes for LIC and TM to enable RPR in ECM-3.1.

The proposed methods were implemented on top of ECM3.1 with merge request 47 (MR47). The simulation is conducted with RPR enabled. The test results confirm the software works properly.

Introduction

In JVET-V meeting, adaptive decoder side motion vector refinement (adaptive DMVR) [1] and bilateral matching AMVP-merge mode (BM AMVP-merge mode) [2] were adopted into ECM. The enabling condition for adaptive DMVR and BM AMVP-merge mode is that at least one unscaled reference picture is from the past of the current picture and at least one unscaled reference picture is from the future of the current picture. For adaptive DMVR, the enabling condition also requires equal POC distance between reference pictures and the current picture.

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MEETING NOTES

JVET-Y0128 Non-EE2: fixing issues for RPR enabling and non-CTC configuration in ECM [Z. Zhang, H. Huang, C.-C. Chen, V. Seregin, M. Karczewicz (Qualcomm), P. Bordes (InterDigital)]

This contribution proposes slice level enabling condition check for adaptive DMVR and BM AMVP-merge mode. When the enabling condition is not fulfilled, the flag of adaptive DMVR and/or BM AMVP-merge mode is implicitly determined to be 0. The proposed method solves software issues with non-CTC configuration (e.g., RPR enabling). This contribution also proposes fixes for LIC and TM to enable RPR in ECM-3.1.

The proposed methods were implemented on top of ECM3.1 with merge request 47 (MR47). The simulation is conducted with RPR enabled. The test results confirm the software works properly.

It is suggested that LIC is not used and LIC block-level flag is not sent when the ref pic has a different size from the current picture. This allows usage of RPR, avoiding a mismatch..

This is not an encoder-only change and does not affect CTC. It seems to be straightforward fix to allow enabling RPR.

Decision (BF): Adopt JVET-Y0128.

CITATION

Z. Zhang, H. Huang, C.-C. Chen, V. Seregin, M. Karczewicz, P.Bordes, "Non-EE2: Fixing issues for RPR enabling and non-CTC configuration in ECM", JVET-Y0128, 25th Meeting: by teleconference, January 2022.

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2. [M. Karczewicz, Y. Ye, "Common Test Conditions and evaluation procedures for enhanced compression tool testing", JVET-V2017, 22nd Meeting: by teleconference, April 2021.](#)
3. [H. Huang, Z. Zhang, V. Seregin, W.-J. Chien, C.-C. Chen, M. Karczewicz, "EE2: Adaptive decoder side motion vector refinement \(test 3.4\)", JVET-X0049, 25th Meeting: by teleconference, October 2021.](#)
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