

**Joint Video Experts Team (JVET)
of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC
29/WG 11**

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Title: On mvd_l1_zero_flag and NoBackwadPredFlag

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Purpose: Proposal

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Source: Sharp

HEADER EXCERPT FROM SOURCE DOCUMENT

Abstract

In this contribution, some solutions for two problems of current VVC Draft 8 have been proposed. One problem is that there is no specification of the variables ColPic and NoBackwardPredFlag and the other problem is that mvd_l1_zero_flag is specified in only picture header even if reference picture list structure can be changed on slice header. The solution for the first problem is that the variable ColPic is almost the same as that of HEVC and a new variable IdenticalDirectionalFlag which is replaced to previous NoBackwadPredFlag is specified by using the decoding process for symmetric motion vector difference reference indices. Two solutions for the second problem have been shown. 1 is that the change of enabling condition of symmetric motion vector difference and mvd_l1_zero_flag by the variable IdenticalDirectionalFlag and 2 is that mvd_l1_zero_flag is specified in the picture header or in the slice header by the syntax element rpl_info_in_ph_flag exclusively. Neither proposal changes the results of the CTC.

Problem Statement

Problem 1

One problem of current VVC Draft 8 [1] is that there is no definition of the variables ColPic and NoBackwardPredFlag. Those variables have been already used for temporal motion vector prediction and BCW.

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LINKS

CARD

JVET-R0137

<http://vexpertise.stbit.ru/documents/JVET-R0137>

JVET Search

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On mvd_l1_zero_flag and NoBackwardPredFlag

Authors:

ABSTRACT

MEETING NOTES

SOURCE

external source

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Document Information

Submitted by: Jorma Paavola Olli

Title: On mvd_l1_zero_flag and NoBackwardPredFlag

Authors: V. Sengul

Document: JVET-R0137 updated document

Associated Resources

Comments

ARCHIVE

archive v4

https://jvet-experts.org/doc_end_user/documents/18_Alpbach/wg11/JVET-R0137-v4.zip

DOC JVET-R0137-spec_option1.1.docx

DOC JVET-R0137-spec_option1.2-v2.docx

DOC JVET-R0137-spec_option2.1.docx

DOC JVET-R0137-spec_option2.2.docx

DOC JVET-R0137-v4.docx

MEETING NOTES

external meeting notes

https://www.itu.int/wftp3/av-arch/jvet-site/2020_04_R_Alpbach/JVET-R_Notes_dH.docx

Joint Video Experts Team (JVET) of ITU-T SG21 WP3/21 and ISO/IEC JTC 1/SC 29 18th Meeting: Teleconference, April 2020

Document: JVET-R0137

Title: Meeting Report of the 41st Meeting of the Joint Video Experts Team

Status: Report document from the chair of JVET

Purpose: Report

1 Summary

MEETING NOTES

[JVET-R0137](#) On mvd_l1_zero_flag and NoBackwardPredFlag [T. Chujoh, E. Sasaki, T. Ikai (Sharp)]

Only first aspect (problem 1) on NoBackwardPredFlag and ColPic

In this contribution, some solutions for two problems of current VVC Draft 8 have been proposed. One problem is that there is no specification of the variables ColPic and NoBackwardPredFlag and the other problem is that mvd_l1_zero_flag is specified in only picture header even if reference picture list structure can be changed on slice header. Two solutions for the first problem have been shown Option 1 is that the variable ColPic as the almost same as that of HEVC is defined and a new variable IdenticalDirectionalFlag which is replaced to previous NoBackwardPredFlag is specified by using the decoding process for symmetric motion vector difference reference indices. Option 2 is that the variables ColPic and NoBackwardPredFlag as the almost same as that of HEVC are defined. Also, two solutions for the second problem have been shown. Option 1 is that the change of enabling condition of symmetric motion vector difference and mvd_l1_zero_flag by the variable IdenticalDirectionalFlag and option 2 is that mvd_l1_zero_flag is specified in the picture header or in the slice header by the syntax element rpl_info_in_ph_flag exclusively. Neither proposal changes the results of the CTC.

The proposal is filling an existing hole regarding the definition of collocated picture and NoBackwardPredFlag.

The definition proposed for collocated picture seems appropriate (just transferring the HEVC method which is also matching with software). In terms of the NoBackwardPredFlag, the proposed option 1.1 seems to deviate from the SW implementation, option 1.2 also but with less change.

It is recommended to fill the gap in the spec by transferring the corresponding text from HEVC as much as possible, while matching with the decoding process as implemented in SW. The difference compared to HEVC is e.g. related to processing of long term pictures. It was asked to be further discussed with HLS experts what the issues are – was again discussed Monday Apr. 20 1635

The following is suggested:

- definition of collocated picture could be transferred from HEVC “as is”
- for aspect of backward pred flag, “each picture aPic” should be changed to “each active picture aPic”, otherwise the text could be transferred
- deviations in terms of different definition of long term reference picture have not been verified.

Decision: The missing definitions in the decoding process need to be included in the text. The concepts proposed in JVET-R0137 option 1.2 to be used as a basis for that – left to the discretion of editor to resolve potential additional issues, and align with the exact behaviour in reference SW.

[JVET-R0137](#) On mvd_l1_zero_flag and NoBackwardPredFlag [T. Chujoh, E. Sasaki, T. Ikai (Sharp)]

Item 2 of this contribution belongs to this category.

In this contribution, some solutions for two problems of current VVC Draft 8 have been proposed. One problem is that there is no specification of the variables ColPic and NoBackwardPredFlag and the other problem is that mvd_l1_zero_flag is specified in only picture header even if reference picture list structure can be changed on slice header. Two solutions for the first problem have been shown Option 1 is that the variable ColPic as the almost same as that of HEVC is defined and a new variable IdenticalDirectionalFlag which is replaced to previous NoBackwadPredFlag is specified by using the decoding process for symmetric motion vector difference reference indices. Option 2 is that the variables ColPic and NoBackwadPredFlag as the same as that of HEVC are defined. Also, two solutions for the second problem have been shown. Option 1 is that the change of enabling condition of symmetric motion vector difference and mvd_l1_zero_flag by the variable IdenticalDirectionalFlag and option 2 is that mvd_l1_zero_flag is specified in the picture header or in the slice header by the syntax element rpl_info_in_ph_flag exclusively. Neither proposal changes the results of the CTC.

See notes under JVET-R0252. No action necessary as the move of the mvd_l1_zero_flag to SH is not desirable.

CITATION

T. Chujoh, E. Sasaki, T. Ikai, "On mvd_l1_zero_flag and NoBackwadPredFlag", JVET-R0137, 18th Meeting: Teleconference, April 2020.

REFERENCES

1. [B. Bross, J. Chen, S. Liu, Y.-K. Wang, "Versatile Video Coding \(Draft 8\)", JVET-Q2001, 17th Meeting: Brussels, January 2020.](#)