

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

13th Meeting: Marrakech, January 2019

Document: JVET-M0404-v1

MPEG: m45676

Title: CE4: History based spatial-temporal MV prediction (Test 4.2.4)

Status: Input document to JVET

Purpose: Proposal

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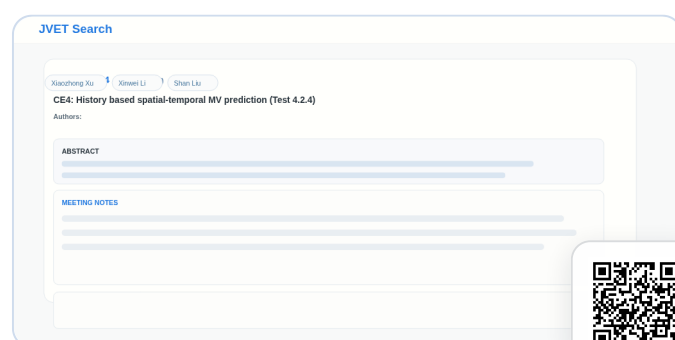
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LINKS

CARD

JVET-M0404

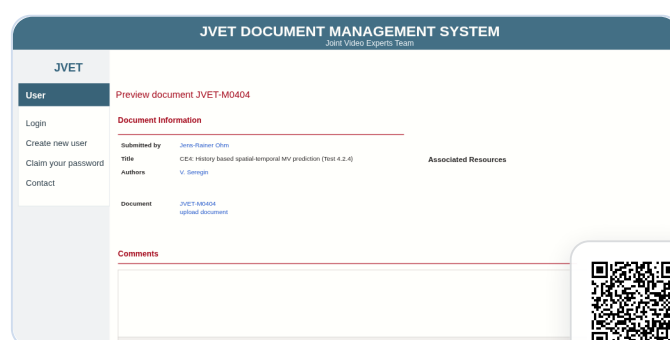
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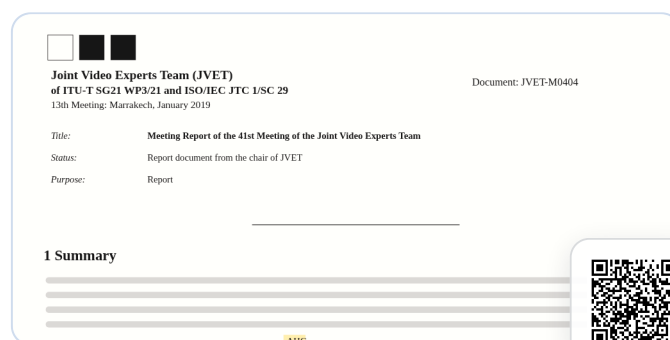
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MEETING NOTES

external meeting notes

https://www.itu.int/wftp3/av-arch/jvet-site/2019_01_M_Marrakech/JVET-M_Notes_dH.docx



MEETING NOTES

[JVET-M0404](#) CE4: History based spatial-temporal MV prediction (Test 4.2.4) [X. Xu, X. Li, S. Liu (Tencent)]

The proposed method derives a new candidate using last two history MVs and one collocated merge candidate (referred as HMVP-TMVP). The new candidate is inserted after A1, B1, B0 and A0 candidates, as follows:

```

i = 0
if( availableFlagA1 )
mergeCandList[ i++ ] = A1
if( availableFlagB1 )
mergeCandList[ i++ ] = B1
if( availableFlagB0 )
mergeCandList[ i++ ] = B0
if( availableFlagA0 )
mergeCandList[ i++ ] = A0
if( availableFlagSbCol )
mergeCandList[ i++ ] = HMVP+TMVP
if( availableFlagB2 )
mergeCandList[ i++ ] = B2
if( availableFlagCol )
mergeCandList[ i++ ] = Col

```

For the two MVs from HMVP, the last coded and second to last coded MVs in the buffer are used (referred as A and B). For the temporal candidate, the same position as VTM-3.0 collocated position (referred as C) is used.

If three candidates, of which the reference indices are equal to zero, are available, the following apply.

$$mvLX[0] = (mvLX_A[0] * 3 + mvLX_B[0] * 3 + mvLX_C[0] * 2) / 8$$

$$mvLX[1] = (mvLX_A[1] * 3 + mvLX_B[1] * 3 + mvLX_C[1] * 2) / 8$$

If two motion information, of which the reference indices are equal to zero, is available, the following apply

$$mvLX[0] = (mvLX_A[0] + mvLX_C[0]) / 2$$

$$mvLX[1] = (mvLX_A[1] + mvLX_C[1]) / 2$$

or

$$mvLX[0] = (mvLX_B[0] + mvLX_C[0]) / 2$$

$$mvLX[1] = (mvLX_B[1] + mvLX_C[1]) / 2$$

Note: If the temporal candidate is unavailable, the HMVP-TMVP mode is off.

CITATION

X. Xu, X. Li, S. Liu, "CE4: History based spatial-temporal MV prediction (Test 4.2.4)", JVET-M0404, 13th Meeting: Marrakech, January 2019.