

**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: **Modifications of motion storage in geometric partition mode**

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**Author(s) or
Contact(s):** [Ruoyang Yu](mailto:ruoy.yu@qti.qualcomm.com) | ruoy.yu@qti.qualcomm.com | submitter (Ericsson)
[Du Liu](mailto:du.liu@ericsson.com) | du.liu@ericsson.com (Ericsson)
[Christopher Hollmann](mailto:christopher.hollmann@tcl.com) | christopher.hollmann@tcl.com (Ericsson)
[J. Ström](mailto:jacob.strom@ericsson.com) | jacob.strom@ericsson.com (Ericsson)

Source: Ericsson

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Abstract

In the current VVC, for a geometric partition mode (GPM) coded block, the block is split into two partitions with a splitting line defined by an angle and a distance. Each partition is associated with a uni-motion. The prediction sample for each partition is generated using the uni-motion. For the prediction samples near the splitting line, a blending operation is carried out to reduce discontinuity.

The motion storage process for the GPM coded block stores three types of motion. The three types of motion are the two uni-motions associated with each partition and a third motion which is a combination of the two uni-motions. The third motion is also referred to as type2 motion. Each 4x4 subblock within the GPM coded block stores one of the three types of motion. The type2 motion is stored within 4x4 subblocks that are within the blending area. It is asserted that since the blending area is narrow in general the storage of the type2 motion will be unnecessary.

This contribution proposes to remove the storage of type2 motion for GPM coded blocks. In other words, only the two uni-motions are stored. It is claimed that with the modification, one absolute operation and one comparison operation for each 4x4 subblock can be saved if the motion storage map is computed on the fly. It is also claimed that the determination process for the type2 motion can also be removed. It is further claimed that the specification text for the motion storage for GPM can be significantly cleaned up. The modification was implemented in the VTM-8.0 and the BD-rate impact is reported to be -0.01% for RA and 0.01% for LDB. It is proposed to adopt the modification considering that the BD-rate impact is negligible.

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CARD

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A screenshot of a presentation slide titled "JVET Search". The slide lists authors: Runyang Yu, Du Liu, Christopher Holme, and J. Steim. The main title is "Modifications of motion storage in geometric partition mode". Below the title, there is a section for "ABSTRACT" and a section for "MEETING NOTES". A QR code is visible in the bottom right corner of the slide.

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Document Information

Submitted by

John-Patrick Chen

Title

Modifications of motion sharing in geometric partition mode

Authors

V. Sengul

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MEETING NOTES

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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-R0213
<i>Title:</i>		Meeting Report of the 41st Meeting of the Joint Video Experts Team	
<i>Status:</i>		Report document from the chair of JVET	
<i>Purpose:</i>		Report	

1 Summary

ATTN



MEETING NOTES

[JVET-R0213](#) Modifications of motion storage in geometric partition mode [R. Yu, D. Liu, C. Hollmann, J. Ström (Ericsson)]

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This contribution proposes to remove the storage of type2 motion for GPM coded blocks. In other words, only the two uni-motions are stored. It is claimed that with the modification, one absolute operation and one comparison operation for each 4x4 subblock can be saved if the motion storage map is computed on the fly. It is also claimed that the determination process for the type2 motion can also be removed. It is further claimed that the specification text for the motion storage for GPM can be significantly cleaned up. The modification was implemented in the VTM-8.0 and the BD-rate impact is reported to be -0.01% for RA and 0.01% for LDB. It is proposed to adopt the modification considering that the BD-rate impact is negligible.

There is no real problem to be solved, several experts pointed out that similar methods had been proposed earlier in the context of the triangular partitioning mode. Some concern was also expressed with regard to possible impact on subjective quality with regard to blending.

No action was taken on this.

CITATION

R. Yu, D. Liu, C. Hollmann, J. Ström, "Modifications of motion storage in geometric partition mode", JVET-R0213, 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.](#)