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Abstract

This document summarizes the activity of AHG11: Screen Content Coding between the 17th Meeting in Brussels, BE (7–17 January 2020) and the 18th meeting by teleconference (16–24 April 2020).

Introduction

The AHG was established at Brussels, BE with the following mandates:

Investigate coding tools targeted at screen content in terms of compression benefit and implementation complexity.

Identify test materials, discuss testing conditions for screen content coding, and propose associated updated common test conditions.

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<http://vexpertise.stbit.ru/documents/JVET-R0011>

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ABSTRACT

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ARCHIVE

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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-R0011

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-R0011](#) JVET AHG report: Screen content coding (AHG11) [S. Liu, J. Boyce, A. Filippov, Y.-C. Sun, J. Xu]

This document summarizes the activity of AHG11: Screen Content Coding between the 17th Meeting in Brussels, BE (7–17 January 2020) and the 18th meeting by teleconference (15–24 April 2020).

The AHG used the main JVET reflector, jvet@lists.rwth-aachen.de, with [AHG11] in message headers. There were a few emails exchanged through jvet reflector, mainly for discussion of screen content test conditions in non-4:2:0 formats (as in JVET-Q2013) and the corresponding VTM software configuration setup.

In total there were noted to be 26 SCC related technical contributions identified so far, among which there were 3 IBC related technical contributions, 10 palette related technical contributions, 7 transform skip related technical contributions and 5 BDPCM related technical contributions identified for this meeting.

Input documents related to AHG11 are summarized as follows. Some of these contributions may be discussed in the context of other AHGs.

- IBC related contributions (3)
 1. JVET-R0175, AhG9: An SPS Flag for IBC-AMVR [K. Naser, M. Kerdranvat, T. Poirier, A. Robert (InterDigital)]
 2. JVET-R0311, [AHG2] Fix cu_skip_flag signalling for IBC [H. Jang, J. Nam, N. Park, S. Kim, J. Lim (LGE)]
 3. JVET-R0403 On the boundary strength derivation of IBC coded blocks [B. Ray, G. Van der Auwera, M. Karczewicz (Qualcomm)]
- Palette related contributions (11)
 1. JVET-R0145, AHG 11/15: On the use of limited EGk signalling [J. Gan, C. Rosewarne (Canon)]
 2. JVET-R0146, AHG11: Context coded bin limits for palette coding [J. Gan, C. Rosewarne (Canon)]
 3. JVET-R0229, AHG11: Fixed number of reuse flags for palette mode [R.-L. Liao, Y. Ye, M. G. Sarwer (Alibaba)]
 4. JVET-R0240, AHG11: On maximum palette size and palette predictor size [Y.-H. Chao, T. Hsieh, W.-J. Chien, V. Seregin, M. Karczewicz (Qualcomm)]
 5. JVET-R0309, [AHG16] Clean-up on palette predictor update for local dual tree [H. Jang, J. Nam, S. Yoo, N. Park, S. Kim, J. Lim (LGE)]
 6. JVET-R0310, [AHG16] Clean-up by removing parsing dependency for palette [H. Jang, J. Nam, S. Yoo, N. Park, S. Kim, J. Lim (LGE)]
 7. JVET-R0320, AHG11: Maximum QP for escape value in palette coding [J. Xu, L. Zhang, W. Zhu, K. Zhang (Bytedance)]
 8. JVET-R0333, AHG11: Mismatches related to palette prediction [H.-J. Jhu, X. Xiu, Y.-W. Chen, T.-C. Ma, X. Wang (Kwai Inc.)]
 9. JVET-R0334, AHG11: Simplification of palette mode for local dual tree cases [H.-J. Jhu, X. Xiu, Y.-W. Chen, T.-C. Ma, X. Wang (Kwai Inc.)]

10. JVET-R0379, Palette mode support in VVC main profile [Y. Ye, R.-L. Liao, M. G. Sarwer (Alibaba), Y.-H. Chao, W.-J. Chien, J. Chen, M. Karczewicz (Qualcomm), P. Onno, C. Gisquet, G. Laroche (Canon), H.-J. Jhu, Y.-W. Chen, X. Xiu, X. Wang (Kwai)]
- Transform Skip related contributions (7)
 1. JVET-R0045, AHG15: cleanup for signalling of minimum QP of transform skip [J. Li, K. Abe (Panasonic)]
 2. JVET-R0049, AHG9: HLS on disabling TSRC [S.-T. Hsiang, C.-W. Hsu, Z.-Y. Lin, T.-D. Chuang, C.-Y. Chen, Y.-W. Huang, S.-M. Lei (MediaTek)]
 3. JVET-R0083, AHG14: Residual coding constraints for transform skip blocks [A. Nalci, H.E. Egilmez, M. Coban, V. Seregin, M. Karczewicz (Qualcomm), M. G. Sarwer, Y. Ye, J. Luo (Alibaba)]
 4. JVET-R0116, AHG11/AHG14: On sign data hiding of transform skip block [M. G. Sarwer, Y. Ye, J. Luo (Alibaba), A. Nalci, H. E. Egilmez, M. Coban, V. Seregin, M. Karczewicz (Qualcomm)]
 5. JVET-R0141, Disabling Dependent Quantization and Sign Data Hiding in Transform Skip blocks [T. Hashimoto, E. Sasaki, T. Aono, T. Ikai (Sharp)]
 6. JVET-R0317, AHG9: On slice transform skip residual coding method signalling [M. Coban, V. Seregin, Y. He, A. Nalci, M. Karczewicz (Qualcomm)]
 7. JVET-R0325, AHG14: Disabling dependent quantization and sign bit hiding for transform skip mode [T.-C. Ma, X. Xiu, Y.-W. Chen, H.-J. Jhu, X. Wang (Kwai Inc.)]
 - BDPCM related contributions (5)
 - JVET-R0154, AHG9/16: On sign data hiding for BDPCM blocks [S. Yoo, J. Choi, J. Lim, S. Kim (LGE)]
 - JVET-R0219, Alternative block size conditions for BDPCM [K. Unno, K. Kawamura, S. Naito (KDDI)]
 - JVET-R0319, The interaction between LFNST and BDPCM [M. Koo, M. Salehifar, J. Lim, S. Kim (LGE)]
 - JVET-R0353, AHG14: On Interaction between ACT and BDPCM [T. Tsukuba, M. Ikeda, Y. Yagasaki, T. Suzuki (Sony)]
 - JVET-R0354, AHG14: BDPCM for Inter/IBC-predicted residuals [T. Tsukuba, M. Ikeda, Y. Yagasaki, T. Suzuki (Sony)]

The AHG recommended:

- To review all related contributions.
- To continue investigating SCC coding tool performance, complexity and interactions between themselves and with other coding tools.
- To continue evaluating new test materials or variations of current test material and testing conditions.

CITATION

S. Liu, J. Boyce, A. Filippov, Y.-C. Sun, J. Xu, "JVET AHG report: Screen content coding (AHG11)", JVET-R0011, 18th Meeting: Teleconference, April 2020.

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9. [S. Yoo, J. Choi, J. Lim, S. Kim, "AHG9/16: On sign data hiding for BDPCM blocks", JVET-R0154, 18th Meeting: Teleconference, April 2020.](#)
10. [K. Naser, M. Kerdranvat, T. Poirier, A. Robert, "AhG9: An SPS Flag for IBC-AMVR", JVET-R0175, 18th Meeting: Teleconference, April 2020.](#)
11. [K. Unno, K. Kawamura, S. Naito, "Alternative block size conditions for BDPCM", JVET-R0219, 18th Meeting: Teleconference, April 2020.](#)
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16. [H. Jang, J. Nam, N. Park, S. Kim, J. Lim, "\[AHG2\] Fix cu skip flag signalling for IBC", JVET-R0311, 18th Meeting: Teleconference, April 2020.](#)
17. [M. Coban, V. Seregin, Y. He, A. Nalci, M. Karczewicz, "AHG9: On slice transform skip residual coding method signalling", JVET-R0317, 18th Meeting: Teleconference, April 2020.](#)
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