Joint Video Experts Team (JVET) of ITU-T SG 16 WP 3 and ISO/IEC JTC 1/SC 29/WG 11
20th Meeting, by teleconference, 7 - 16 October 2020

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Title: **AHG4: Agenda and report of the AHG meeting on the 360 Video Verification Tests on 2020-09-04**

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Author(s) or Contact(s):
M. Wien | wien@lfb.rwth-aachen.de | submitter
V. Baroncini | baroncini@gmx.com
Y. Ye | yan.ye@alibaba-inc.com

Source: M. Wien, V. Baroncini, Y. Ye

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Agenda and Notes

The meeting was held online on Friday, 2020-09-04, 16:00h UTC with the connection information provided via the JVET mailing list.

Review of contribution JVET-T0044

Discussion on following steps

It was noted that the set of sequences used in the PCMP/GCMP formats was reduced due to cubemap artifacts which were considered to be too strong for use in the subjective evaluation. It was pointed out that in the used implementation, no blending of the padded cube faces was applied during the rendering process. It was agreed that blending should be enabled here. Offline coordination of the required implementation task was recommended.

It is expected that the visual quality of the rendered sequences would thereby be improved. It is noted that in case of PERP, blending is already applied for this reason.

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JVET-T0046

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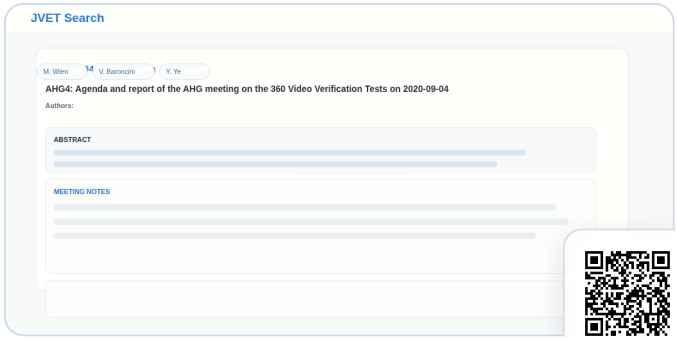

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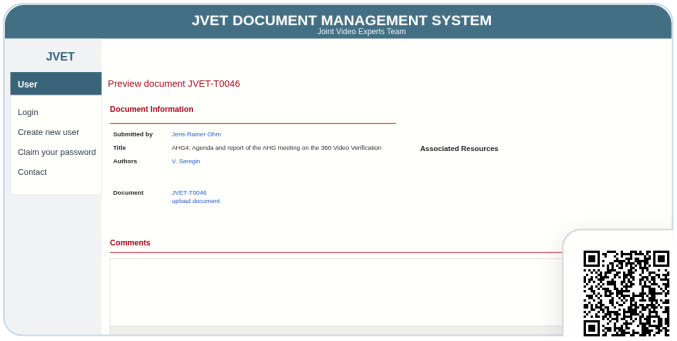


ARCHIVE

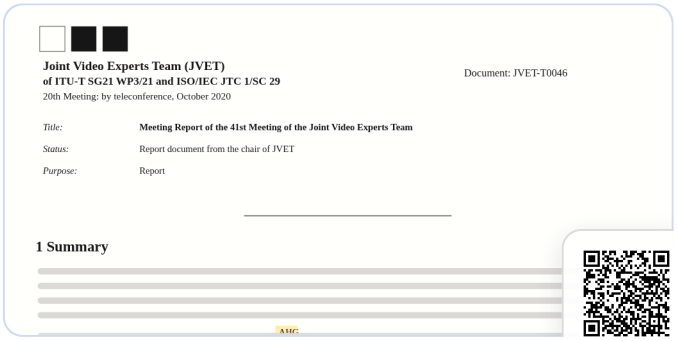
archive v1

https://jvet-experts.org/doc_end_user/documents/20_Teleconference/wg11/JVET-T0046-v1.zip

MEETING NOTES

external meeting notes

https://www.itu.int/wftp3/av-arch/jvet-site/2020_10_T_Virtual/JVET-T_Notes_dH.docx



MEETING NOTES

JVET-T0046 AHG4: Agenda and report of the AHG meeting on the 360° Video Verification Tests on 2020-09-04 [M. Wien, V. Baroncini, Y. Ye]

This was a report of an interim AHG meeting. The meeting was held online on Friday, 2020-09-04, at 1600 UTC.

> It was noted that the set of sequences used in the PCMP/GCMP formats was reduced due to cubemap artefacts which were considered to be too strong for use in the subjective evaluation. It was pointed out that in the used implementation, no blending of the padded cube faces was applied during the rendering process. It was agreed that blending should be enabled here. Offline coordination of the required implementation task was recommended.

> It is expected that the visual quality of the rendered sequences would thereby be improved. It is noted that in case of PERP, blending is already applied for this reason.

> It was noted that the quality at high QPs was too low especially for the GT_Sheriff sequence. The interpretation of the MOS data at the low end generally needs to be treated with care. It was commented that both, quality and rate-based evaluation is planned to be applied. This is the reason why five rate points have been selected. It was further commented that some narrowing of the rate and quality ranges is likely to be applied during the analysis.

It was suggested to modify the rate point selection by shifting the VTM rate points up by one step. This might allow for rate-matching in the low-bit-rate range and for quality matching in the high-bit-rate area. Thereby, both, rate savings and quality improvement could be demonstrated using the same curves.

It was suggested to use the latest version of the VTM when re-encoding the test sequences.

Next steps:

- Resolving the blending issue for the CMP-variants (implies software integration, should be doable by the October meeting)
- Perform subjective assessment of the test sequences HarbourBiking2 and KiteFliteWalking2 with the improved blending process. (Can be done with the available bitstreams)
- Encoding of the test sequences with the latest versions of the HM and VTM test models
- Complete analysis of the currently available data (with more results from visual assessments to be added)
- Updated selection of rate points based on the results of this analysis
- Run experts viewing sessions for confirmation.

It was planned to conduct expert viewing during the meeting. As a first step, some additional VTM QP points need to be encoded. Mathias will contact the usual volunteers for that.

Verification test on 360° video could likely be conducted during the upcoming meeting cycle (if the pandemic situation allows).

It was suggested that the contributors of the blending method in the 360lib software should submit an input contribution describing their approach. This was later registered as JVET-T0118.

CITATION

M. Wien, V. Baroncini, Y. Ye, "AHG4: Agenda and report of the AHG meeting on the 360 Video Verification Tests on 2020-09-04", JVET-T0046, 20th Meeting: by teleconference, October 2020.