

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

Document: JVET-AL0200

MPEG: m72013

39th Meeting, Daejeon, KR, 26 June - 4 July 2025

Title: AHG18: Simulation software description

Status: Input document to JVET

Purpose: Proposal

**Author(s) or
Contact(s):** [Sergey Ikonin](#) | sergey.ikonin@huawei.com | submitter (Huawei)
[Viacheslav Khamidullin](#) | vyacheslav.khamidullin1@huawei.com (Huawei)
[R. Shabaev](#) | shabaev.roman@h-partners.com (Huawei)
[I. Gribushin](#) | gribushin.ivan@huawei.com (Huawei)
[M. Sychev](#) | sychev.maxim@huawei.com (Huawei)
[Elena Alshina](#) | elena.alshina@huawei.com (Huawei)

Source: Huawei

HEADER EXCERPT FROM SOURCE DOCUMENT

Abstract

This contribution describes the simulation software submitted for AGH18 on ultra-low latency and packet loss resilience based on contribution JVET-AK0193. The purpose of this document is to give an introduction and help to be familiar with software. The document describes main modifications of encoder and decoder applications of VTM, entry point for network transmission emulation, and basic logic of main modules. Content of this document was mainly presented during AHG18 teleconference call on 2025-02-19. The software is available in https://vcgit.hhi.fraunhofer.de/jvet-ahg-ull/VVCSSoftware_VTM/

Introduction

To simulate video communication under ultra-low latency restriction in practical communication channel a following test environment based on VTM v23.5 has been constructed:

The test environments includes VTM Encoder, Network model, and Jitter buffer model combined in Encoder App. Depending on transmission status frame maybe available for decoding or not. The receiving status is identified by Jitter buffer and feedback to Encoder in order to adjust the reference picture to be used instead of missed one. The NAL units received in time are stored to the disk and can be decoder by Decoder App in a usual way. Decoder application has just one modification allowing to identify missed frames and repeat the last successfully decoded frame instead of missed one. The more detailed description can be found in JVET-AK0193.

Built from JVET-AL0200-v1.docx

LINKS

CARD

JVET-AL0200

<http://vexpertise.stbit.ru/documents/JVET-AL0200>

JVET Search

Sergey Korotkiy

Vladimir Khamidov

R. Shabaev

I. Gribushin

M. Sychev

Elena Alshina

AHG18: Simulation software description

Authors:

ABSTRACT

MEETING NOTES

SOURCE

external source

https://jvet-experts.org/doc_end_user/current_document.php?id=15525

JVET

Document Information

Submitted by: Jorma Paavola Olli

Title: AHG18: Simulation software description

Authors: V. Sengul

Document: JVET-AL0200
original document

Comments

ARCHIVE

archive

https://jvet-experts.org/doc_end_user/documents/38_Teleconference/wg11/JVET-AL0200-v1.zip

Archive

DOC JVET-AL0200-v1.docx

MEETING NOTES

external meeting notes

http://vexpertise.stbit.ru/meeting-notes/source/meeting_38_al

Joint Video Experts Team (JVET)
of ITU-T SG21 WP3/21 and ISO/IEC JTC 1/SC 29
39th Meeting: Daejeon, KR, March 2025

Document: JVET-AL0200

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

Status: Report document from the chair of JVET

Purpose: Report

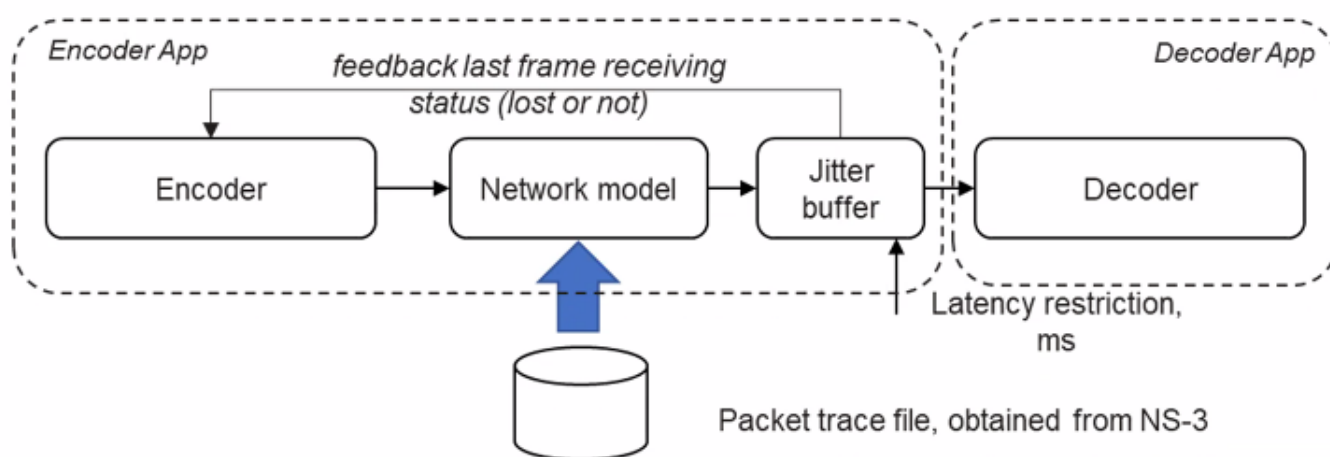
1 Summary

MEETING NOTES

[JVET-AL0200](#) AHG18: Simulation software description [S. Ikonin, V. Khamidullin, R. Shabaev, I. Gribushin, M. Sychev, E. Alshina (Huawei)]

This contribution describes the simulation software submitted for AGH18 on ultra-low latency and packet loss resilience based on contribution [JVET-AK0193](#). The purpose of this document is to give an introduction and help to be familiar with software. The document describes main modifications of encoder and decoder applications of VTM, entry point for network transmission emulation, and basic logic of main modules. Content of this document was mainly presented during AHG18 teleconference call on 2025-02-19. The software is available in https://vcgit.hhi.fraunhofer.de/jvet-ahg-ull/VVCSoftware_VTM/

It was commented that the software provided in the link requires an update.



It was explained that the software is running encoder and decoder separately. The encoder app has a “jitter buffer” which gets input from the network simulator and simulates the feedback to be sent from the decoder if a packet loss would occur. The decoder gets the bitstream which comes with the packet losses and subsequent repair packets.

It was commented that trace files should not be used in optimizing concealment and packetization strategies.

CITATION

S. Ikonin, V. Khamidullin, R. Shabaev, I. Gribushin, M. Sychev, E. Alshina, "AHG18: Simulation software description", JVET-AL0200, 39th Meeting: Daejeon, KR, March 2025.