

**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: Reference software cleaning proposal

Status: Input document to JVET

Purpose: Proposal

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Source: InterDigital

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Abstract

This contribution proposes a set of cleanings on top of the VTM reference software. The main motivation for this cleaning is to ease the development and testing of new tools inside the reference software. As the proposed cleaning involves significant files refactoring, it is not compatible with a series of merge requests. A first version of cleaned software is also proposed as a basis for discussions and further improvements.

Introduction

The NextSoftware platform was the basis for the VVC standard development. As the standard evolved, incremental tools insertion sometimes became intrusive to the software structure which was initially designed. Moreover, some aspects of the software became deprecated as the draft standard has evolved.

Thanks to the software coordinators and contributors, a large number of issues were solved incrementally during the development process. However, the incremental JVET process does not allow drastic refactoring since the software is a continuous basis for all contributors, while such refactoring could be of great benefits for further development and algorithmic work.

Built from JVET-V0079-v3.docx

CARD

<http://vexpertise.stbit.ru/documents/JVET-V0079>

A screenshot of the JvET Search web application. At the top left, the text "JvET Search" is displayed in blue. Below it, there are five filter buttons: "Franck Galpin", "Tangji Porter", "Philippe de Lagran", "Fabrice Le Lannec", and "Gaëlle Martin-Coch". The main heading reads "Reference software cleaning proposal". Underneath, it says "Authors:". A section titled "ABSTRACT" contains three horizontal bars representing text. Below that, a section titled "MEETING NOTES" contains four horizontal bars. In the bottom right corner, there is a QR code.

https://jvet-experts.org/doc_end_user/documents/22_Teleconference/wg11/JVET-V0079-v3.zip

Archiva

- DOC JVET-V0079-v3.docx
- PPT JVET-V0079.pptx
- FILE nextgen_vm.tgz



https://jvet-experts.org/doc_end_user/current_document.php?id=10727

The screenshot displays the Jvett Document Management System interface. At the top, a dark blue header contains the text "JVET DOCUMENT MANAGEMENT SYSTEM" and "Jvett Admin Experts Team". Below the header, a sidebar on the left lists navigation options: "User" (highlighted), "Login", "Create new user", "Claim your password", and "Contact". The main content area is titled "Preview document JVET-V0079" and features a red "Document Information" section. This section includes details such as "Submitted by: Jvett Admin Experts Team", "Title: Reference software claiming proposal", "Authors: V. Sengul", and "Document: JVET-V0079 (original document)". To the right of the document information, there is a section for "Associated Resources". At the bottom of the main content area, there is a "Comments" section with a red header and a large empty text box for user input. A QR code is visible in the bottom right corner of the interface.

http://vexpertise.stbit.ru/meeting-notes/source/meeting_22_v

  	Joint Video Experts Team (JVET) of ITU-T SG21 WP3/21 and ISO/IEC JTC 1/SC 29 22nd Meeting: by teleconference, April 2021	Document: JVET-V0079
<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		
		

MEETING NOTES

[JVET-V0079](#) Reference software cleaning proposal [F. Galpin, T. Poirier, P. De Lagrange, F. Le Léannec, E. François (InterDigital)]

This contribution proposes a set of cleanup changes on top of the VTM reference software. The main motivation for this cleaning is to ease the development and testing of new tools inside the reference software. As the proposed cleaning involves significant files refactoring, it is not compatible with a series of merge requests (might also require a new management approach for the repository). A first version of cleaned software is also proposed as a basis for discussions and further improvements.

The HLS was not cleaned up yet.

The current version does not have speedup compared to the VTM.

Currently VTM 11 – one major change is the update of GDR in VTM12 – would that be a difficulty? Proponents believe it is not.

It is pointed out by software coordinators that various other issues would be desirable to be cleaned. It might be difficult however to get exactly same results of VTM encoder then.

Switching to another package may also be causing new bugs.

The motivation for the new software (as per proponents) is about better support for explorations. Even though, having a compatibility with VTM / conformance with VVC is highly desirable.

Would a speedup be more important for explorations?

Question: If the software is more flexible, should it not be simple to get same results as VTM encoder?

Could the current EE2 software easily be ported? This would give an evidence of advantages of the software package.

Experts are asked to study the software for possible advantages of being used in EEs. By the next meeting, it should be decided if a switch of the software has an advantage for progress in the EEs. It is also pointed out that in the past a good point of switching software is by the time when a new standardization is started.

Implementation studies (5)

Contributions in this area were discussed in session X at 1655–1800 UTC on Monday 26 April 2021 (chaired by JRO).

CITATION

F. Galpin, T. Poirier, P. De Lagrange, F. Le Léannec, G. Martin-Cocher, E. Francois, "Reference software cleaning proposal", JVET-V0079, 22nd Meeting: by teleconference, April 2021.

REFERENCES

1. [B. Bross, J. Chen, S. Liu, Y.-K. Wang, "Versatile Video Coding Editorial Refinements on Draft 10", JVET-T2001, 20th Meeting: by teleconference, October 2020.](#)
2. [A. Wieckowski, J. Brandenburg, C. Bartnik, V. George, J. Güther, G. Hege, C. Helmrich, A. Henkel, T. Hinz, C. Lehmann, C. Stoffers, I. Zupancic, B. Bross, H. Schwarz, D. Marpe, "Update on open, optimized VVC implementations VVenC and VVdeC", JVET-U0135, 21st Meeting: by teleconference, January 2021.](#)