

**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:** **JVET AHG report: Ultra-low latency and packet loss resilience (AHG18)**

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**Purpose:** Proposal

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Abstract

This document summarizes the activities of AHG18 on ultra-low latency and packet loss resilience between the 38th meeting (Teleconference, 26 March – 04 April 2025) and 39th meeting (Daejeon, KR, 26 June – and 04 July 2025).

Mandates

The AHG was established in the 37th meeting with the following mandates:

Investigate and identify test conditions, evaluation criteria and evaluation methodology, supporting a set of end-to-end latency targets in a range of 25-100 ms.

Investigate creation of practical simulation software based on VTM, including network transmission aspects, and conduct performance evaluation.

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LINKS

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JVET-AM0018

<http://vexpertise.stbit.ru/documents/JVET-AM0018>

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JVET AHG report: Ultra-low latency and packet loss resilience (AHG18)

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ABSTRACT

MEETING NOTES

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Joint Video Experts Team (JVET)  
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39th Meeting: Daejeon, KR, June 2025

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

Report document from the chair of JVET

Report

1 Summary

## MEETING NOTES

[JVET-AM0018](#) JVET AHG report: Ultra-low latency and packet loss resilience (AHG18) [S. Ikonin, S. Wenger, V. Zakharchenko (co-chairs), S. Deshpande, S. Fösel, C. Kim, X. Ma, S. Puri, J. Ström (vice-chairs)]

### *Simulation software*

Adoptions of the last JVET meeting (JVET-AL0201) were merged to the ‘ull-master’ branch:  
[https://vcgit.hhi.fraunhofer.de/jvet-ahg-ull/VVCSoftware\\_VTM/-/tree/ull-master](https://vcgit.hhi.fraunhofer.de/jvet-ahg-ull/VVCSoftware_VTM/-/tree/ull-master).

### *Teleconferences*

Two teleconferences were held on May 20<sup>th</sup> and June 11<sup>h</sup>, with 24 and 17 participants correspondingly.

The following topics were discussed:

- GDR and Temporal scalability transmission simulations.
- Comments and suggestions on ULL test conditions
- Dry-run of visual tests discussion
- Software modifications of JVET-AL0201 adopted last JVET meeting

The meeting minutes, presented materials and video demonstrations are available in [JVET-AM0046](#) and [JVET-AM0051](#).

### **Related contributions**

A total of 16 contributions were identified relating to the mandates of AHG18. They are listed below. Some contributions also relate to the work of AHG9.

| Report                      |                                                                       |                                                                                                                                                             |
|-----------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">JVET-AM0018</a> | JVET AHG report: Ultra-low latency and packet loss resilience (AHG18) | S. Ikonin, S. Wenger, V. Zakharchenko (co-chairs), S. Deshpande, S. Fösel, C. Kim, X. Ma, S. Puri, J. Ström (vice-chairs)                                   |
| <a href="#">JVET-AM0046</a> | AHG18: Teleconference on ultra-low latency and packet loss resilience | <a href="#">S. Ikonin</a> , <a href="#">S. Wenger</a> , V. Zakharchenko (co-chairs), S. Deshpande, J. Ström, X. Ma, C. Kim, S. Puri, S. Fösel (vice-chairs) |

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|--------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">JVET-AM0051</a>                      | AHG18: 2nd teleconference on ultra-low latency and packet loss resilience               | <a href="#">S. Ikonin</a> , <a href="#">S. Wenger</a> , V. Zakharchenko (co-chairs), S. Deshpande, J. Ström, X. Ma, C. Kim, S. Puri, S. Fößel (vice-chairs) |
| <b>Test condition and evaluation methodology</b> |                                                                                         |                                                                                                                                                             |
| <a href="#">JVET-AM0109</a>                      | AHG18: On Test Conditions for Ultra-Low Latency and Error Resilience                    | <a href="#">S. Deshpande (Sharp)</a>                                                                                                                        |
| <a href="#">JVET-AM0204</a>                      | AhG18: Multilayer coding with spatial scalability under ultra low latency test scenario | <a href="#">V. Zakharchenko (Nokia)</a>                                                                                                                     |
| <a href="#">JVET-AM0222</a>                      | AHG18: On test conditions for ultra-low latency and packet loss resilience              | <a href="#">S. Ikonin</a> , <a href="#">I. Gribushin</a> , <a href="#">M. Sychev</a> , <a href="#">E. Alshina (Huawei)</a>                                  |
| <b>Proposals</b>                                 |                                                                                         |                                                                                                                                                             |
| <a href="#">JVET-AM0153</a>                      | AHG9: Loss recovery information SEI message                                             | <a href="#">C. Kim</a> , <a href="#">H. Tan</a> , <a href="#">J. Nam</a> , <a href="#">J. Lee</a> , <a href="#">J. Lim</a> , <a href="#">S. Kim (LGE)</a>   |
| <a href="#">JVET-AM0184</a>                      | AHG9: Picture Reference Degree SEI Message                                              | <a href="#">S. Zhao</a> , <a href="#">Y. He</a> , <a href="#">L. Kerofsky</a> , <a href="#">M. Karczewicz (Qualcomm)</a>                                    |
| <a href="#">JVET-AM0195</a>                      | AhG18: Gradual Decoding Refresh (GDR) under ultra low latency test scenario             | <a href="#">M. Sychev</a> , <a href="#">A. Dzugaev</a> , <a href="#">S. Ikonin (Huawei)</a> , <a href="#">E. Alshina (Huawei)</a>                           |
| <a href="#">JVET-AM0198</a>                      | AhG18: Temporal Scalability under ultra low latency test scenario                       | <a href="#">M. Sychev</a> , <a href="#">K. Malyshev</a> , <a href="#">S. Ikonin</a> , <a href="#">E. Alshina (Huawei)</a>                                   |
| <a href="#">JVET-AM0202</a>                      | AhG18: On ultra low latency and packet loss resilience coding tools integration         | <a href="#">V. Zakharchenko (Nokia)</a>                                                                                                                     |
| <a href="#">JVET-AM0203</a>                      | AHG18: Full VTM tool set in ultra-low latency test scenario                             | <a href="#">V. Khamidullin</a> , <a href="#">I. Gribushin</a> , <a href="#">S. Ikonin</a> , <a href="#">E. Alshina (Huawei)</a>                             |
| <a href="#">JVET-AM0235</a>                      | Implementation of error resilient transmission system for scalable services             | <a href="#">S. Iwamura</a> , S. Nemoto, Y. Kondo, A. Ichigaya (NHK)                                                                                         |
| <b>Informational</b>                             |                                                                                         |                                                                                                                                                             |

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|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="#">JVET-AM0188</a> | AHG18: An introduction to the next generation media transport protocol—Media over QUIC(MoQ)                                                                             | <a href="#">W. Ding</a> , <a href="#">X. Ma</a> , <a href="#">S. Ikonin</a> , <a href="#">E. Alshina (Huawei)</a>                                                                   |
| <a href="#">JVET-AM0201</a> | AHG18: Overview of 3GPP features for Extended Reality (XR) and related high quality conversational services and related implications for ultra-low latency (ULL) coding | <a href="#">R. Mekuria</a> , <a href="#">Q. Pan</a> , <a href="#">X. Ma</a> , <a href="#">S. Ikonin</a> , <a href="#">E. Alshina (Huawei)</a>                                       |
| <a href="#">JVET-AM0218</a> | AHG18: Solution beyond scalable coding for ultra-low latency and packet loss resilience                                                                                 | <a href="#">S. Ikonin</a> , <a href="#">V. Khamidullin</a> , <a href="#">I. Gribushin</a> , <a href="#">M. Sychev</a> , <a href="#">X. Ma</a> , <a href="#">E. Alshina (Huawei)</a> |

## Recommendations

The AHG recommended:

- Review all input contributions.
- Discuss test conditions and evaluation methodology.
- Consider bypassing key important information over transmission channel as reasonable setup for dry-run subjective evaluation to avoid too much video stall
- Collect test cases and specific requirements.
- Continue development of simulation software.
- Continue the study of ultra-low latency and packet loss resilience technologies in JVET.

# Project development (34)

## AHG1: Development, deployment and advertisement of standards (0)

This section is kept as a template for future use.

## AHG2: Text development and errata reporting (0)

This section is kept as a template for future use.

See also sections 6.1 and 6.2.1.

## AHG3: Software development (1+1)

Contributions in this area were discussed during 1200–1205 on Thursday 3 July 2025 (chaired by JRO).

#### CITATION

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S. Ikonin, S. Wenger, V. Zakharchenko, S. Deshpande, S. Fössel, C. Kim, X. Ma, S. Puri, J. Ström, "JVET AHG report: Ultra-low latency and packet loss resilience (AHG18)", JVET-AM0018, 39th Meeting: Daejeon, KR, June 2025.