

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

Document: JVET-AM0188

MPEG: m73102

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

Title: **AHG18: An introduction to the next generation media transport protocol—
Media over QUIC(MoQ)**

Status: Input document to JVET

Purpose: Proposal

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Abstract

In this contribution, the progresses of the next generation media transport protocol, i.e., Media over QUIC(MoQ), are introduced. MoQ is designed by IETF to support a wide range of latency requirements ranging from seconds to tens of milliseconds. Its flexible priority mechanism, inherited from QUIC, ensures that critical information is transmitted preferentially, while less-critical data is dropped first during congestion—an attribute particularly advantageous for supporting Real-time Communication (RTC), especially for the ultra-low latency (ULL) application scenarios. Moreover, MoQ inherits from QUIC the capability to transmit both reliable streams and unreliable datagrams over a single connection. The abovementioned capability and MoQ's unique hierarchical object data model bring new transmission features, and there is a new possibility to enable ULL applications if the video codec can better fit the new transmission features.

Introduction

In recent years, QUIC [1] has emerged as a prominent media transport protocol, offering features like connection migration, encryption, and multiplexed connections. In addition, its unreliable extension enables reliable streams and unreliable datagram flows to share the same QUIC connection [2]. With these characters, QUIC has the potential to support ULL communication. Despite this recognition, a gap persists between QUIC and practical ULL applications. A key reason is that media transport seldom leverages QUIC's full capabilities. For instance, QUIC's parallel streams mitigate head-of-line blocking and support content prioritization, but the number of streams is typically limited. Most applications split media into only two streams: audio and video.

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As an essence of the presentation, priority of certain parts of the stream would be matching with QUIC concepts, which is able to drop low-priority parts of the stream. Multiple levels of priority are possible, multiple streams.

CITATION

W. Ding, X. Ma, S. Ikonin, E. Alshina, "AHG18: An introduction to the next generation media transport protocol—Media over QUIC(MoQ)", JVET-AM0188, 39th Meeting: Daejeon, KR, June 2025.