Prioritization Results

IETF 117 – Media over QUIC (MOQ)

Ali C. Begen
https://ali.begen.net
When you came up with the idea

When you wrote the standard

If/when the standard is deployed
Simple Topology
Implicit Prioritization (First Encode, First Send)

*Using single-stream QUIC (or TCP) works well when there is no congestion*
Implicit Prioritization (First Encode, First Send)

*Important stuff gets delayed when $hit happens*

![Diagram showing implicit prioritization process](image-url)
Newton’s Third Law

Only way delivering important stuff during congestion is to leave unimportant stuff behind

Encoding
Packaging

QUIC stream for I-frames

QUIC stream for P-frames

QUIC stream for B-frames

Link
Newton’s Third Law

*Only way delivering important stuff during congestion is to leave unimportant stuff behind*
Latency When Link Bandwidth Equals Encoding Bitrate

Latency (ms)

Frame #

I-Frame
P-Frame
B-Frame
On-Time-Display-Ratio (OTDR) for Various Link Bandwidths

*FT:* frame type, *FEFS:* first encode, first send

![Graph showing OTDR for various latency budgets and bandwidths. The x-axis represents latency budget in milliseconds, and the y-axis represents OTDR in percentage. Different line styles and colors represent different rates and encoding methods.]
Data Waiting to be Sent

25 fps and two-second GoPs

Data Waiting (MB)

Time (ms)

I-Frame  P-Frame  B-Frame
Questions, comments?