

# Unreliable Datagram Extension to QUIC

draft-pauly-quic-datagram-00

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# Why unreliable QUIC frames?



Several application use cases take advantage of unreliable data

QUIC can provide functionality beyond DTLS or direct UDP

We have an extension mechanism in QUIC—let's try using it!

# Advantages over other protocols



**Share a single crypto handshake** between reliable stream data and unreliable datagrams

Inherit features of the QUIC crypto handshake that may not be present in DTLS (**faster retransmission, transport parameters**)

Adds ability to **acknowledge** datagrams

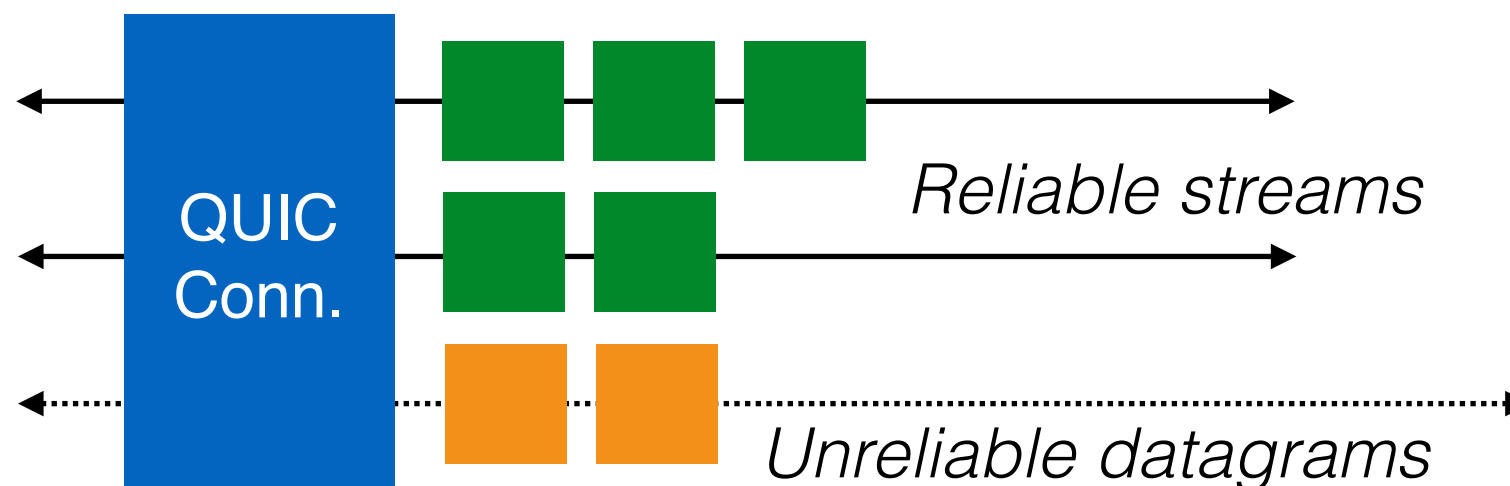


# Example use cases

Applications that need to maintain both a reliable control stream and an unreliable frame flow

Audio/Video Streaming, Gaming, etc.

VPN-style tunneling of IP packets over a QUIC connection





# Design decisions



Should DATAGRAM frames be acked?

*Yes, as this adds more potential for application feedback.*

Do DATAGRAM frames contribute to connection data limits?

*Yes; it seems to violate the limit otherwise. No stream flow-control, however.*

Can there be multiple flows (ID space) of DATAGRAM frames?

*No, as applications can add identifiers within frames themselves. IDs are more important for STREAM frames where there is per-stream flow control.*



# Next steps

Feedback welcome and encouraged!

Not intended for initial QUIC Version (don't want to disrupt the schedule)

Seems like a good test of extension mechanism for new frame types

