QUIC addendums

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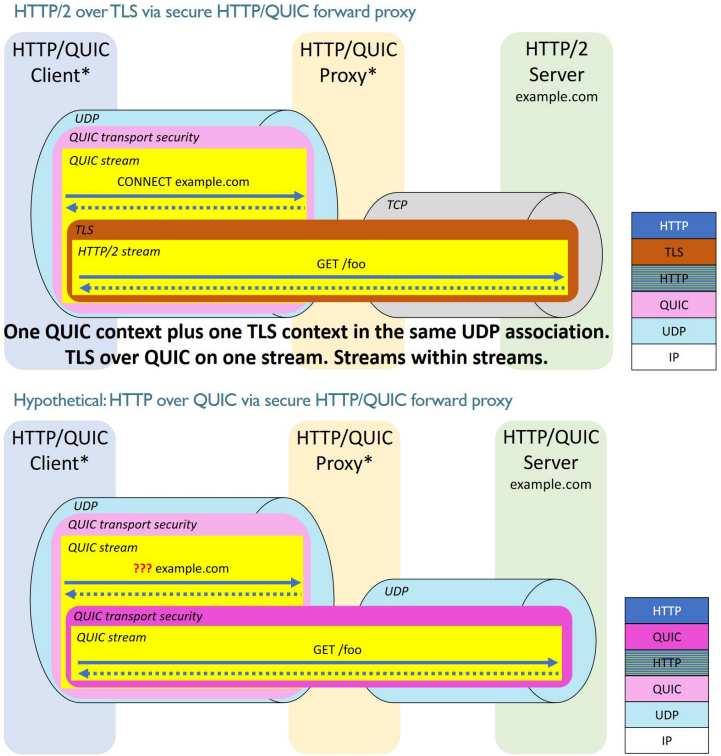
IETF 102 recap



- HiNT - HTTP-initiated Network Tunnelling
  - draft-pardue-httpbis-http-network-tunnelling
- IETF 102 presentation to HTTPbis
  - https://datatracker.ietf.org/meeting/102/materials/slides-102-httpbis-hint-and-helium-for-udp-and-ip-tunnelling-00

Distilling the capability of HTTP CONNECT

A signal that changes the meaning of the client-to-server hop. Currently this means:

- HTTP/1.1 - the entire TCP connection
  - Also available via HTTP Upgrade (RFC 7230)
- HTTP/2 - one specific stream
- HTTP/QUIC - one specific stream
  - Presently for onward TCP use only

Typically used for proxying but extended for WebSockets in HTTP/2 (RFC 8441).

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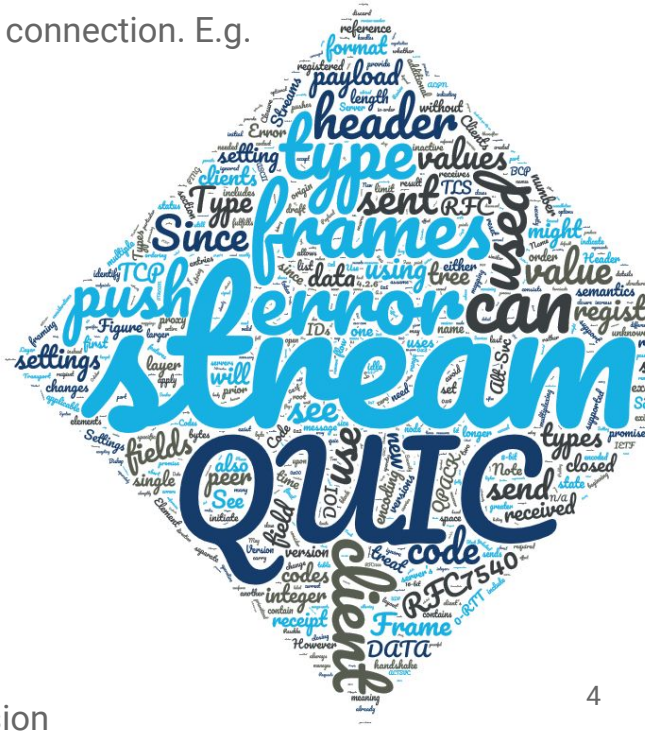
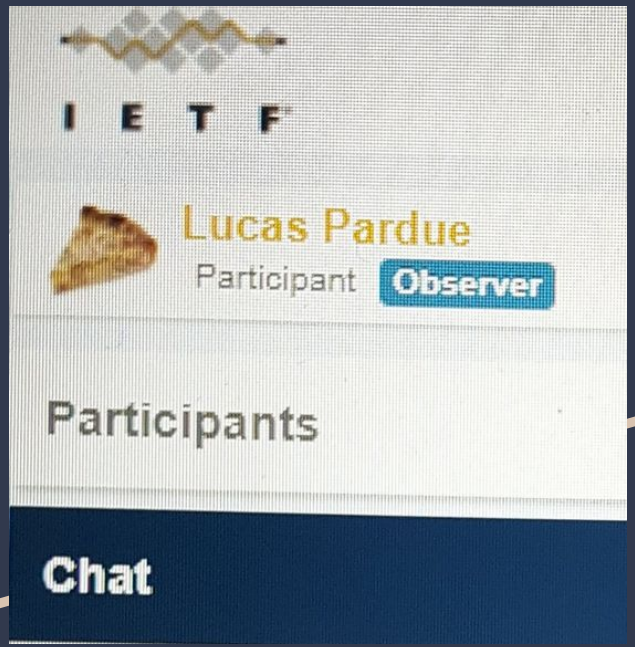
Stuff I've seen or heard since IETF 102

- Novel uses of streams may suffer from the characteristics of the whole connection. E.g.
  - Competing congestion control
  - Flow control where it is not need or is impractical
  - Unreliable delivery has use cases
- Ian Swett - MESSAGE frame extension for **QUIC** v1
  - Thread, Design Doc (including API as relevant for WebRTC).
- Eric Kinnear and Tommy Pauly (and David Schinazi)
  - I-D - HTTP/2 as a Transport for Arbitrary Bytestreams
  - I-D - An Unreliable Datagram Extension to QUIC
    - Presentation at IETF 103 QUIC session
- Tor Project - The case for Tor-over-QUIC
  - A call for a solution that provides end-to-end QUIC congestion control
- Colin Perkins and Jörg Ott
  - Real-time media paper to appear at EPIQ Workshop in ACM CoNEXT 2018.
- Multiplexing different application protocols in a single connection
  - How to advertise and negotiate this
- WebRTC, QUIC and TAPS - API Mappings discussion at IETF **TAPS** session



Round up



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I-Ds presented at IETF 102 have not changed

Some related work going on

Can we distill down the common desirable feature set? Do these ring true?

- Multiplexed flows with a la carte congestion and flow control within an always-secure connection.
- Simple and performant flow initiation that delivers wins over extant solutions.
- Under the umbrella of a connection: the ability to clearly relate associated flows and manage their shared fate cleanly.

Questions / Discussion