WEBTRANS WG
Virtual Interim

Tuesday, January 12, 2021

8:00 AM - 9:30 AM Pacific Time

Mailing list: webtransport@ietf.org
Jabber Room: webtrans@jabber.ietf.org
Meeting agenda:
https://datatracker.ietf.org/meeting/interim-2021-webtrans-01/session/webtrans
Meeting minutes and virtual bluesheets:
CodiMD - Collaborative markdown notes (ietf.org)

Note Well

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Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- https://www.ietf.org/privacy-policy/(Privacy Policy)

About this meeting

- Jabber Room: webtrans@jabber.ietf.org
- Secretariat: mtd@jabber.ietf.org
- WG Chairs: Bernard Aboba & David Schinazi
- Meeting URL: https://meet.google.com/yux-tvmm-jpj
- Meeting agenda: https://datatracker.ietf.org/meeting/interim-2021-webtrans-01/session/webtrans
- Etherpad (and virtual bluesheets): CodiMD - Collaborative markdown notes (ietf.org)
- Jabber Scribe:
- Note takers:

Virtual Interim Meeting Tips

https://datatracker.ietf.org/meeting/interim-2021-webtrans-01/session/webtrans

This session is being recorded

- **No registration required to attend.**
- **Fill out the virtual bluesheets here (Datatracker login required)**
- **Join the session Jabber room by clicking on the Jabber room icon: Upcoming Meetings (ietf.org)**
- **Please use headphones when speaking to avoid echo.**
- **Please state your full name before speaking.**
- **Poll mechanism will be used for hums.**
- **Type +q and -q in the chat room to get into and out of the speaker queue.**

Agenda

- 08:00 – 08:10 Preliminaries, Chairs (10 minutes)
  - Note Well, Virtual Bluesheets
  - Jabber Scribe, Etherpad Note Takers
  - Speaking Queue Manager (David Schinazi)
  - Agenda Bash
  - W3C update
- 8:10 - 9:15 AM The Great Transport Zoo (final episode, 65 minutes)
  - https://tools.ietf.org/html/draft-ietf-webtrans-overview
  - https://tools.ietf.org/html/draft-kinnear-webtransport-http2
  - https://tools.ietf.org/html/draft-vvv-webtransport-quic
  - https://tools.ietf.org/html/draft-vvv-webtransport-http3
- 9:15 - 9:30 AM Hums, Wrap up and Summary, Chairs & ADs (15 minutes)

Update from W3C

Summary of W3C WG meeting:

- All transports should provide datagrams, either real or simulation
- Selected option MUST NOT use HTTP state mechanisms (cookies, authentication)
- Have a way to integrate with CSP and other Web security mechanisms

The Great Transport Zoo
The Finale

Session End: 09:15

Transports proposed so far

- QuicTransport
  A QUIC connection with minimal additions required to make it work with Web security model.
- Http2Transport
  Transport based on HTTP/2. Can be multiplexed.
- Http3Transport
  Transport based on HTTP/3. Can be multiplexed.
- FallbackTransport (no draft currently)
  Simulation of multiplexed streams on top of WebSocket protocol

Which ones do we actually need?

Let's forget TCP for a minute

Focus on our solution that is over QUIC/UDP

Decide TCP fallback separately

Why is choosing a UDP-based option difficult?

The existing individual drafts are really similar!

Both have same fundamental technical capabilities (as QUIC-based protocols).

Drafts got more similar with each revision (e.g., QuicTransport has headers).

Do we need both?

How many protocols do we need to specify?

- Pick one (either over HTTP/3 or over QUIC)
  - Less duplicate work
- Do both
  - Are there use cases not covered by either?
  - Can we cover the needs with just one?

Why two drafts in the first place?

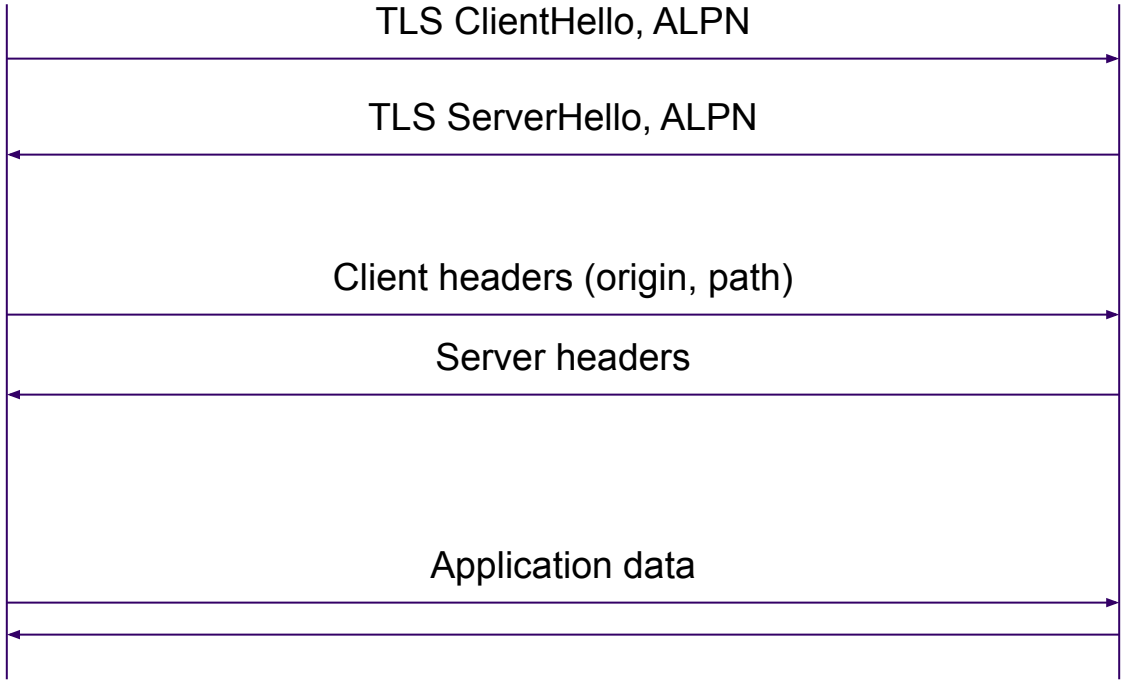
- Initially, QUIC-based and HTTP/3-based options were very different.
- Over time, QUIC-based option caught up in terms of features to HTTP/3-based one (with a notable caveat of pooling).
- At this point, the two drafts are so similar that having both is redundant.

What about pooling?

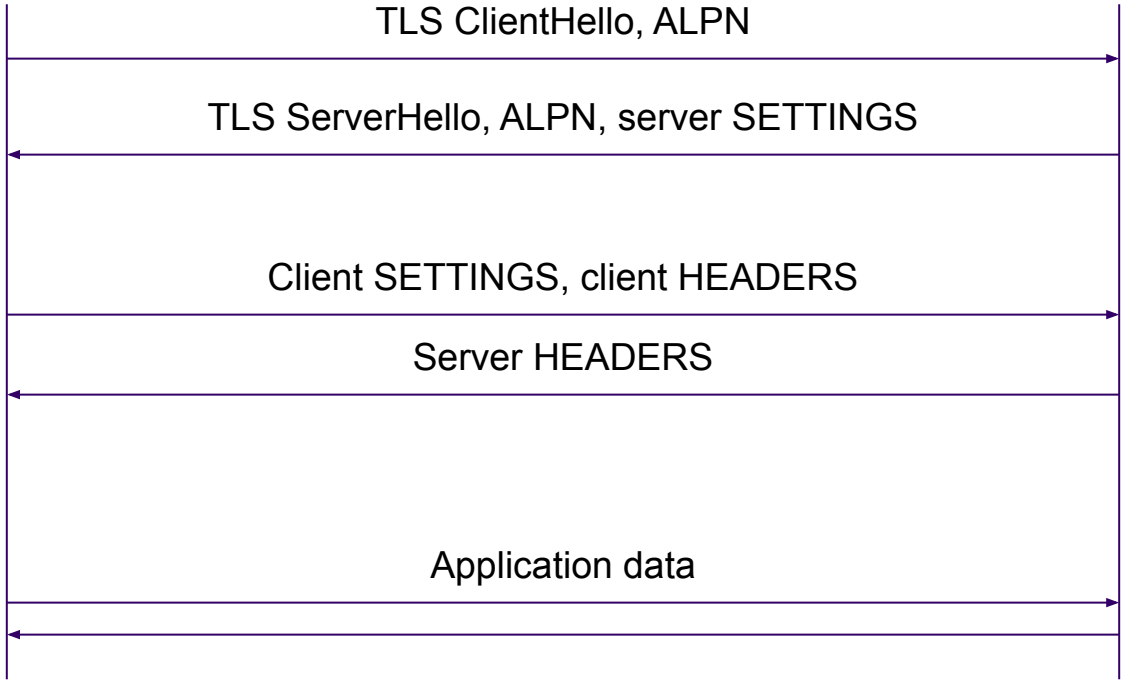
Using HTTP does not require pooling,
and pooling can be added into QuicTransport.

Let's forget about pooling while we decide which protocol to build.

QUIC Transport handshake



HTTP/3 Transport handshake



Differences

- QuicTransport is a bespoke encoding of the handshake. It does not exchange SETTINGS, does not use header compression, but still conveys headers.
- HTTP/3 has all the features we need (header format, extensibility) without needing to reinvent those from scratch. HTTP/3 could allow pooling with other HTTP traffic. There's a draft extension to HTTP/3 that disables header compression.

Discussion and Hums

Question 1: number of protocols

Should the working group adopt only one UDP-based transport?

- 1A: only one transport (QUIC or HTTP/3)
- 1B: multiple transports (QUIC and HTTP/3)

(note: this does not preclude future adoptions of new drafts based on new information, etc)

Question 2: UDP-based protocols

Which UDP-based option should we adopt as a starting point for WebTransport protocol?

- 2A: WebTransport over HTTP/3
- 2B: WebTransport over QUIC directly (separate ALPN)

Wrap-up and Summary (15 minutes)

Session End: 09:30

Bernard Aboba

David Schinazi

Thank you

Special thanks to:

The Secretariat, WG Participants & ADs