

WebTransport vs WHIP vs MoQ — 2026 cheat sheet

The three modern low-latency contribution paths, side by side, with the spec citations and the 2026 status flag.

WebTransport

W3C WD (25 Mar 2026) ·
draft-ietf-webtrans-http3-15 (2 Mar 2026, WGLC)

Layer: transport. Bytes in, bytes out.

Runs on: HTTP/3 + QUIC + UDP.

Modes: reliable streams (in-order, retransmitted) + unreliable datagrams.

NAT traversal: none. Strict client → server.

Media built in: no — pair with WebCodecs or MoQ.

Baseline support: yes since Safari 26.4 (Mar 2026).

Use when: browser-first ingest, you control the server, sub-second target.

Risk: UDP/443 filtering; draft can still change.

WHIP (over WebRTC)

IETF RFC 9725 · Proposed Standard (Mar 2025)

Layer: contribution signalling. Wraps a WebRTC PeerConnection.

Runs on: HTTP/1.1 or HTTP/2 + ICE + DTLS-SRTP + UDP.

Modes: WebRTC's RTP for media; SCTP for data channels.

NAT traversal: yes — ICE + STUN + TURN.

Media built in: yes — full WebRTC stack with codec negotiation.

Production-ready: yes; OBS 30+, Cloudflare, AWS IVS, Mux, Millicast.

Use when: sub-second contribution today with no draft-track risk.

Risk: TURN bandwidth costs; SDP and ICE complexity.

Media over QUIC Transport

draft-ietf-moq-transport-17 (2 Mar 2026)

Layer: media transport. Pub/sub on top of QUIC or WebTransport.

Runs on: raw QUIC (native apps) or WebTransport (browser).

Modes: streams + datagrams; intermediate relays for CDN-style fan-out.

NAT traversal: not needed — client-server like WebTransport.

Media built in: yes — but you choose the container (LOC, WARP, ...).

Status: WG draft, ships in Cloudflare moq-rs, Ant Media, engelbart/moqtransport.

Use when: 12–24 month build window, willing to track drafts.

Risk: spec churn; relay ecosystem still maturing.

Which protocol wins on which criterion (2026)

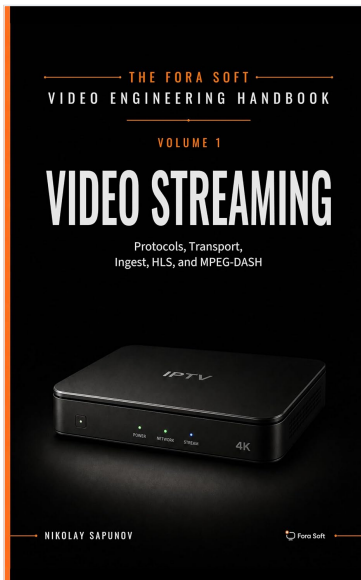
Criterion	WebTransport	WHIP / WebRTC	MoQ
Steady-state contribution latency	≈ 65 ms	≈ 95 ms	≈ 80 ms
Session setup time	1 RTT (QUIC 0-RTT possible)	1–3 RTT (ICE checks)	1 RTT
Connection migration on Wi-Fi→cellular	Yes (QUIC)	No (renegotiate)	Yes (QUIC)
Head-of-line blocking across streams	No	No	No
Reachability on networks that block UDP/443	Fails (no TCP fallback)	TURN-over-TCP fallback	Same as carrier
Browser support	Baseline since Mar 2026	Baseline since 2019	Depends on WT + WebCodecs
Standards maturity	WD + WGLC	Proposed Standard RFC	WG draft
Right answer in 2026 for...	Custom ingest you build	Production today	Aggressive 2027 bet

Decision tree (read top to bottom)

1. Do you need sub-second latency from a browser *this quarter*?
→ Yes: use **WHIP (RFC 9725)**. The ecosystem is there.
2. Are you building a *custom* browser ingest stack and OK to operate a server?
→ Yes: use **WebTransport + WebCodecs**. Skip WebRTC entirely.
3. Do you need CDN-style fan-out from a single live origin to millions?
→ Yes, with a 12+ month timeline: bet on **MoQ over WebTransport**.
4. Network filters UDP/443 (some enterprise, some carriers)?
→ Plan a **WebSockets or WHIP fallback path** in advance.

Key spec citations (read these, not blog summaries)

- **W3C WebTransport WD**, 25 Mar 2026 — www.w3.org/TR/webtransport/
- **draft-ietf-webtrans-http3-15**, 2 Mar 2026 — defines extended CONNECT, stream type 0x54, Session ID.
- **draft-ietf-webtrans-overview-12**, Jan 2026 — umbrella protocol framework.
- **RFC 9725 (WHIP)**, Mar 2025 — Proposed Standard. The contribution path that ships today.
- **draft-ietf-moq-transport-17**, 2 Mar 2026 — §1.1: "MOQT runs over QUIC and WebTransport."
- **RFC 9000 (QUIC)**, May 2021 — the transport under all of the above.
- **RFC 9114 (HTTP/3)**, Jun 2022 — the HTTP layer WebTransport is carried on.
- **RFC 9220** — Extended CONNECT and the :protocol pseudo-header.
- **RFC 9221** — QUIC datagrams; mandatory for WebTransport.



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This sheet compares WebTransport, WHIP and MoQ as contribution paths in 2026. Volume 2 covers the transport underneath in depth: TCP versus UDP, congestion control, QUIC and HTTP/3, NAT traversal, and ingest over RTMP, SRT and RIST.

WHAT YOU WILL FIND INSIDE

- QUIC and HTTP/3
- TCP vs UDP and congestion control
- NAT traversal
- Ingest: RTMP, SRT, RIST

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