

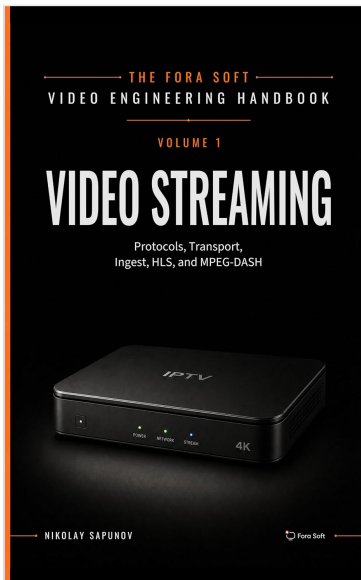
Protocol Comparison Matrix — 8 protocols × 12 criteria

Quick-reference card. Verified 2026-05-23 against IETF, ISO, W3C, Apple, and HESP/MoQ working-group drafts.

Criterion	HLS	LL-HLS	DASH	LL-DASH	WebRTC	HESP	MoQ	RTMP
Role	Delivery	Delivery	Delivery	Delivery	Real-time	Delivery	Both	Contribution
Latency	6–15 s	2–5 s	6–30 s	2–4 s	0.1–0.5 s	0.4–2 s	0.5–2 s	2–5 s
Scale/stream	Millions	Millions	Millions	Millions	10k–100k	Millions	Millions*	n/a
Browser	Safari native	Safari native	MSE only	MSE only	Native all	SDK only	Experimental	Not supported
CDN	Excellent	Excellent	Excellent	Excellent	None	Excellent	QUIC-aware	Specialised
Transport	HTTP/TCP	HTTP/2 TCP	HTTP/TCP	HTTP chunked	UDP / RTP	HTTP/TCP	QUIC / UDP	TCP
Codecs	H.264/HEVC/AV1	H.264/HEVC/AV1	Any	Any	VP8/9, H.264, AV1	Any (CMAF)	Any	H.264 / AAC
DRM	FairPlay	FairPlay	Multi (CENC)	Multi (CENC)	DTLS-SRTP only	Multi (CENC)	Pre-standard	None
Packaging	TS or fMP4	fMP4 / CMAF	fMP4 / WebM	fMP4 / CMAF	RTP packets	CMAF	QUIC objects	FLV
Spec	RFC 8216	Apple HLS Auth 2025-09	ISO 23009-1:2022	ISO 23009-1 + DASH-IF	W3C / RFC 8825-8866	draft-theo-hesp-06	draft-ietf-moq-17	Adobe 2009
Maturity	Stable since 2009	Stable since 2020	Stable since 2012	Stable since 2020	Stable since 2017	Prod since 2021	Pre-RFC pilots	Deprecated (delivery)
Cost shape	CDN-dominated	CDN-dominated	CDN-dominated	CDN-dominated	Per-session SFU	CDN + licensing	Low at scale*	n/a (contribution)

Reading the cells. Latency is a well-tuned production range, not a lab best case. Scale/stream marked * indicates pilots only — MoQ at million-viewer scale is a target, not a measured production number as of 2026. Browser support is a feature flag, not binary: Safari uses the OS media stack; other browsers play HLS/DASH through MSE-based JavaScript players. Cost shape covers operational dominance: CDN egress dominates HTTP protocols at any scale above ~1k viewers, while WebRTC's per-session SFU shape inverts the picture only at low scale or for the interactive sub-audience. MoQ marked * — designed for low cost at scale; pilot deployments are early in 2026.

Sources (Tier 1): RFC 8216 (HLS); Apple HLS Authoring Spec rev 2025-09 (LL-HLS); ISO/IEC 23009-1:2022 (DASH); ISO/IEC 23000-19:2024 (CMAF); ISO/IEC 23001-7 (CENC); RFC 9725 (WHIP); draft-ietf-wish-whep (WHEP); W3C WebRTC 1.0 + RFC 8825-8866; draft-theo-hesp-06 (HESP); draft-ietf-moq-transport-17 (MoQ); RFC 9000 (QUIC); Adobe RTMP 2009 PDF. Standards always override vendor blogs when sources disagree.



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