Web Playback Browser-Support Cheat Sheet — One-Page Reference

The browser is the most fragmented screen your OTT service plays on. Settle these per-browser facts before you ship. Engineering guidance; browser and library behaviour changes per version — confirm against the current docs.

1 · MEDIA SOURCE EXTENSIONS (MSE)

- ☐ **MSE feeds the player** — JS appends segments to a SourceBuffer; the video element plays from it (W3C MSE, REC 2016).
- ☐ **Evict watched video** — keep a window, not the whole title, or hit QuotaExceededError on low-memory devices.
- ☐ **Check codec support first** — MediaSource.isTypeSupported() / mediaCapabilities.decodingInfo() before you pick a quality.
- ☐ **Know the newer bits** — MSE-in-Workers (off-main-thread buffering) and ManagedMediaSource (browser-managed).

2 · ENCRYPTED MEDIA EXTENSIONS (EME) + DRM

- ☐ **EME is the hook, not the DRM** — it only requires the test-only Clear Key; real DRM is the browser's CDM (W3C EME, REC 2017).
- ☐ **Map browser to DRM** — Chrome / Edge / Firefox = Widevine; Edge also PlayReady; Safari = FairPlay.
- ☐ **Encrypt once, license many** — cbcs Common Encryption (ISO/IEC 23001-7) serves all three browser DRMs.
- ☐ **Mind the HD cap** — desktop browsers expose only Widevine L3, so premium web is often capped below HD.

3 · THE APPLE PATH (most common launch bug)

- ☐ **Safari plays HLS natively** — set the video src to an .m3u8 and the OS does the adaptive streaming.
- ☐ **iPhone got MSE late** — ManagedMediaSource reached iPhone in Safari 17.1 (25 Oct 2023); earlier iPhones had no MSE.
- ☐ **The load-bearing caveat** — on iPhone, ManagedMediaSource only starts with an AirPlay source OR remote playback disabled.
- ☐ **Always test on a real iPhone** — a player that works in desktop Chrome can show a black screen on Safari.

4 · THE OPEN-SOURCE PLAYERS

- ☐ **hls.js** — HLS over MSE, hands off to native HLS on Safari; the default when you serve HLS only.
- ☐ **Shaka Player** — DASH + HLS, all three DRMs, offline, low-latency; the pick for one codebase across both.
- ☐ **dash.js** — the DASH Industry Forum reference player; throughput / BOLA / dynamic ABR + EME.
- ☐ **Video.js** — a UI framework; streaming comes from its MSE-based VHS engine underneath. Don't write your own.

THE RULE — EVERY WEB PLAYER IS A TWO-PATH PLAYER

No single playback path reaches every browser. Native HLS in the video tag covers Apple (roughly the Safari share of your web audience) and nothing else, because Chrome, Edge, and Firefox do not play HLS natively. An MSE-based JavaScript engine covers the non-Apple browsers (the large majority) but can show a black screen on an iPhone if the ManagedMediaSource condition is missed. The only design that reaches everyone runs both: an MSE engine (hls.js, Shaka, or dash.js) for Chrome / Edge / Firefox, and either native HLS or a correctly-conditioned ManagedMediaSource on Apple. For a premium catalogue, wire EME multi-DRM (Widevine / PlayReady / FairPlay over cbcs) into both paths, and expect desktop browsers to cap resolution below HD because they expose only software-level Widevine L3. The test of a finished web player: it starts your protected catalogue in Chrome, Edge, Firefox, Safari, and a real iPhone — not just the one browser you built it in. Re-verify browser and library behaviour (Safari ManagedMediaSource, Shaka / hls.js / dash.js versions) against the current docs before launch.



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This sheet settles the per-browser MSE, EME and Apple-path facts a web player has to respect. We wrote seven volumes on the video stack behind every player: Volume 3 covers players, DRM and ABR in depth, Volume 2 HLS, DASH and CMAF packaging, and Volume 1 the codecs those players decode.

WHAT YOU WILL FIND INSIDE

- Players and stall recovery
- HLS, MPEG-DASH and CMAF packaging
- DRM: Widevine, PlayReady, FairPlay
- ABR ladders and rung selection

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