

iOS streaming gotchas — one-page checklist

Every playback-attribute, format, DRM, and AirPlay gate that has caught at least one team off guard.

Playback attribute traps

- `<video playsinline>` — without it, the iPhone goes fullscreen on play.
- `<video muted>` — Safari refuses to autoplay any video with audio.
- `<video autoplay muted playsinline>` — the canonical iOS recipe.
- `preload="auto"` is rate-limited on cellular; test on a metered network.
- Use `<source type="application/vnd.apple.mpegurl">` for the HLS URL.

Safari native HLS gotchas

- Safari plays HLS only — `<video src="movie.mpd">` fails silently.
- FairPlay via EME `com.apple.fps` is the only DRM Safari accepts.
- LL-HLS works through native `<video src=m3u8>` — no JS path.
- Apple's HLS Authoring Spec is the conformance gate, not RFC 8216.
- Use `canPlayType('application/vnd.apple.mpegurl')` to feature-detect.

Managed Media Source gotchas

- `ManagedMediaSource` shipped in Safari 17.1 (Nov 2023) — iPhone only.
- On iPadOS Safari, MSE has been available since 2022 (Safari 16).
- `hls.js` auto-detects `window.ManagedMediaSource` and prefers it.
- Shaka Player added MMS support during 2024-2025.
- Listen for `startstreaming` / `endstreaming` to back off when locked.
- MMS does not unlock LL-HLS in JS; use native `<video>` for sub-3s.

AVPlayer (native app) checklist

- `AVPlayer(url:) + AVPlayerViewController` = full system chrome in 3 lines.
- Use `AVContentKeySession` (iOS 11+) for FairPlay, not the legacy delegate.
- `preferredPeakBitRate` and `preferredMaximumResolution` control ABR.
- PiP needs `allowsPictureInPicturePlayback + UIBackgroundModes=audio`.
- Background audio needs `AVAudioSession` category `.playback + activation`.

DRM and encryption

- FairPlay is the only DRM on every iOS surface — no Widevine, no PlayReady.
- Use CBCS CENC mode; cenc (CTR-mode) does not play on Apple devices.
- One CMAF source, three DRMs: FairPlay on Apple, Widevine + PlayReady elsewhere.
- FairPlay needs an Apple-issued application certificate per deployment.
- Offline FairPlay key persistence is supported on `AVContentKeySession` only.

Decision shortcuts

- HLS-only catalogue + simple website → `<video src=m3u8>`. Done.
- Cross-platform player that also plays DASH → `hls.js` + MMS on iPhone.
- Premium OTT with offline + FairPlay → native app + `AVPlayer`.
- Sub-3-second live on iPhone → LL-HLS through native `<video src=m3u8>`.
- Podcast-style background audio → native app; Safari pauses on lock.
- Picture-in-picture + AirPlay 2 → native app for full system integration.