

HESP evaluation checklist

Use before committing to HESP for a sub-second live delivery stack. Tick what applies to your project.

1. Latency & QoE requirements

- Glass-to-glass latency target is strictly under 1 second (ideally 400–700 ms).
- Use case rewards channel-change speed (under 100 ms) — sports betting, live shopping, multi-camera sports.
- Have measured the actual current latency floor on the candidate stack via live A/B test.
- Acceptable degradation behaviour on lossy networks is documented (HESP degrades like chunked CMAF, not WebRTC).

2. Audience & device coverage

- Concurrent audience per stream sits between 5k and 1M — large enough to exclude WebRTC on cost, small enough to justify the dedicated stack.
- Endpoint set is modern: Chrome/Edge/Firefox/Safari, iOS 17.1+, Android Chrome, recent smart TVs.
- An HLS fallback exists for the long tail (Compatibility profile if HESP is the primary).
- iOS 16 and earlier viewers are explicitly handled (HLS-only — HESP has no path).

3. Licensing & governance

- Commercial royalty model selected: usage volume, per-subscriber, or per-device — modelled at expected traffic.
- Per-year royalty budget approved by finance; reviewed against LL-HLS / WHEP / LL-DASH zero-royalty alternatives.
- Aware draft-theo-hesp-06 is an expired IETF informational draft (not Standards Track, not a WG document).
- Procurement signs off that vendor-stack dependency on THEO is acceptable.
- Patent licensing terms reviewed by legal; FRAND framing understood.

4. Vendor stack

- HESP packager chosen: THEO origin / Synamedia / Gcore / MainStreaming.
- HESP-Ready or pass-through CDN chosen and bandwidth pricing modelled.
- Player chosen: THEOplayer for web/iOS/Android/TV — license terms accepted.
- DRM partner identified (EZDRM or in-house Widevine/PlayReady/FairPlay via CENC).
- Analytics provider supports HESP playback events (Conviva, Mux Data, NPAW, or in-house).

5. Profile decision (Max-Gain vs Compatibility)

- Profile chosen: Max-Gain (one sample per chunk, lowest latency, HESP-only output).
- Profile chosen: Compatibility (1–30 s CMAF segments, dual-serve as HLS, higher latency floor ~600–900 ms).
- Packager output validated against both HESP player and HLS fallback player (if using Compatibility profile).
- Bitrate ladder verified — same content, three to five variants, ABR switching tested end-to-end.

6. Pre-launch operational

- Live A/B test on production-equivalent network completed; glass-to-glass under target.
- Channel-change time measured under 100 ms on warm CDN.
- Rollback plan: HLS fallback path tested if HESP path degrades.
- Monitoring alerts configured on the four HESP-specific failure modes: init-packet 5xx; continuation Range 416; manifest validation; player decode-init fail.