

# 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

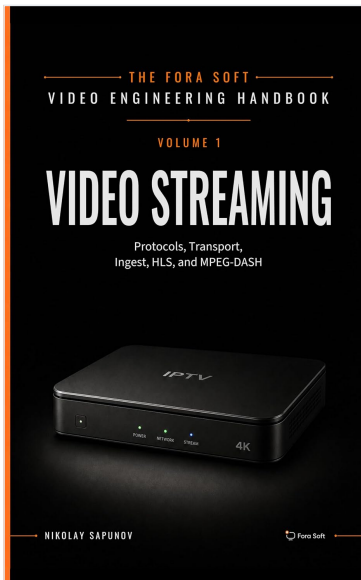
- ☐ HESP packager chosen: THEO origin / Synamedia / Gcore / MainStreaming.
- ☐ HESP-Ready or pass-through CDN chosen and bandwidth pricing modelled.
- ☐ Player chosen: THEOplayer for web/iOS/Android/TV — license terms accepted.
- ☐ DRM partner identified (EZDRM or in-house Widevine/PlayReady/FairPlay 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.



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This checklist tells you whether HESP fits your sub-second live stack before you sign for licensing and a vendor. Volume 2 explains the transport and packaging underneath it: the glass-to-glass latency budget, TCP, QUIC and HTTP/3, ingest over SRT and RTMP, and how HLS, MPEG-DASH and CMAF chunking reach low latency.

### WHAT YOU WILL FIND INSIDE

- Glass-to-glass latency budgets for live
- TCP, QUIC and HTTP/3 behaviour under loss
- CMAF chunked transfer and LL-HLS internals
- Ingest with SRT, RIST and RTMP

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## Weighing HESP against LL-HLS or WebRTC for sub-second live?

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