CMAF Packaging Decision Worksheet

Fora Soft Learn

Lock your packaging before you ask a vendor for a quote: choose the container, set the segment duration, pick static vs just-in-time, set one cbcs encryption, then run the one-copy-vs-two sanity check. Engineering guidance — confirm vendor numbers live, they change.

1 · CHOOSE YOUR CONTAINER (one box both formats read)

- ☐ **Default to CMAF (fMP4).** One set of .m4s segments serves both HLS and DASH — RFC 8216 §3.3 accepts CMAF segments, and DASH already uses fMP4. Package once, not twice.
- ☐ **Keep a narrow legacy fallback only if you must.** A few old devices still need MPEG-TS HLS. Ship .ts only for that tail; make CMAF the default everything else shares.
- ☐ **Write your container:** _____ (CMAF fMP4 · + TS fallback for: _____)

2 · SET YOUR SEGMENT DURATION (latency vs cache)

- ☐ **6 s is the sensible VOD default** (Apple HLS authoring). Longer = better compression and cache, fewer requests; shorter = lower live latency and finer ABR switching.
- ☐ **For low-latency live, don't shrink segments.** Keep them efficient and add sub-second chunks (200–500 ms) so latency drops without paying the keyframe tax over and over.
- ☐ **Write your segment duration:** _____ s · chunks for live? _____

3 · STATIC vs JUST-IN-TIME PACKAGING (catalog shape)

- ☐ **Static (pre-packaged).** Write all segments and both manifests ahead of time. Simple and fast to serve; stores the finished package for every title, watched or not.
- ☐ **Just-in-time (dynamic).** Store only the mezzanine renditions; generate segments and the requested manifest on demand, cached at the CDN. Smallest storage for a long-tail catalog.
- ☐ **Rule of thumb:** long-tail catalog → just-in-time; small, heavily-watched catalog → static. Your model: _____

4 · ENCRYPT ONCE (cbcs for every DRM)

- ☐ **Encrypt the CMAF set once** with the cbcs scheme of Common Encryption (ISO/IEC 23001-7). One encryption issues licenses for FairPlay, Widevine, and PlayReady.
- ☐ **Never cenc-only.** FairPlay requires cbcs, so a cenc-only package silently locks out every iPhone and Apple TV — no error, just no Apple playback.
- ☐ **Confirm your DRM service issues all three from one cbcs package:** _____

THE ONE SANITY CHECK BEFORE YOU LOCK PACKAGING

Count copies, not features. Storage of one packaged copy = (sum of all rung bitrates) × hours ÷ 8. Two stacks (TS for HLS + fMP4 for DASH) cost about 2× that, and the CDN caches both — splitting your hit-ratio. Worked: a 7-rung ladder summing 17.5 Mbps stores one 2-hour film in ~15.75 GB; a 1,000-film catalog is ~15.75 TB packaged once, or ~31.5 TB packaged twice. One CMAF set roughly halves storage and can about double the cache hit-ratio for shared segments — and because delivery is the dominant recurring cost, the cache win usually beats the storage win. If you are still packaging two stacks in 2026, that is the first cost to cut.



GO DEEPER · THE 7-VOLUME HANDBOOK

Fora Soft Video Engineering Handbook

Seven volumes, 9,000+ pages: encoding, streaming, audio and AI for video products — from the pixel to production.

By Nikolay Sapunov, CEO at Fora Soft · Kindle & paperback on Amazon

Browse the handbook on Amazon →

This worksheet locks the container, segment duration, static or just-in-time packaging and cbcs encryption before you ask a vendor for a quote. Our seven-volume handbook covers the delivery stack in depth; start with Volume 2 for HLS, DASH and CMAF, then Volume 3 for CDNs and DRM, and Volume 1 for encoding ladders.

WHAT YOU WILL FIND INSIDE

- HLS, DASH and CMAF segments (Vol. 2)
- DRM and cbcs encryption (Vol. 3)
- CDN caching and delivery cost (Vol. 3)
- Encoding ladders (Vol. 1)

THE FULL HANDBOOK · 7 VOLUMES · 9,000+ PAGES · ALL ON AMAZON

Vol. 1 · Video Encoding — pixels and color to H.264, HEVC, AV1, quality metrics and AI
Vol. 2 · Video Streaming I — network transport, contribution and ingest, HLS, MPEG-DASH, CMAF
Vol. 3 · Video Streaming II — ABR, CDNs, players, WebRTC, DRM and the economics of delivery
Vol. 4 · Audio for Video I — PCM, codecs, loudness, accessibility, real-time voice processing
Vol. 5 · Audio for Video II — jitter buffers, lip sync, Atmos, quality metrics, neural codecs
Vol. 6 · AI for Video I — models and inference, computer vision, speech, search, generative video
Vol. 7 · AI for Video II — real-time pipelines, agents, serving, cost, compliance, verticals

Choosing static or just-in-time packaging for your OTT catalog?

We will model storage and CDN cost for your catalog and pick a packaging setup that serves every device from one copy. 250+ video products shipped since 2005.

Book a 30-min call → **WhatsApp →** **Email us →**