

Renditions-per-Device Planning Worksheet

Set the rendition subset for each device class before you commit a transcode pipeline.

1 · Screen ceiling

The pixels the panel can show. Above it you pay for invisible detail (a 4K rung on a phone).

2 · Decoder ceiling

The codec, profile, and level the chip decodes. Above it playback fails, not just softens.

3 · License ceiling

The max resolution the DRM license releases (e.g. Widevine L3 capped to SD). Can be the lowest.

Top rung you ship = the LOWEST of the three ceilings. Floor rung = set by the worst network you serve.

Set the three ceilings per device class → take the minimum as the top rung

Device class	Screen ceiling	Decoder ceiling (codec / level)	DRM license ceiling	Top rung = min
Phone	~1080p	H.264 always; HEVC/AV1 HW on recent flagships	L1 → HD/UHD; L3 → SD	_____
Tablet	~1080-1440p	HEVC/AV1 hardware common	L1 → HD; L3 → SD	_____
Web (browser)	window-size; no default cap	H.264 universal; AV1/HEVC vary	software path often L3 → SD	_____
Smart TV	1080p-4K	HEVC near-universal; AV1 2022+	L1 → HD/UHD typical	_____
Stick / set-top	1080p-4K	varies sharply by model/year	L1 → HD/UHD on certified	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Pre-flight checklist before you ship the ladder

- Floor rung present. A sub-192 kbps variant exists for cellular (mandatory for Apple HLS) so weak networks start instead of stalling.
- No oversized rungs per class. Phones and tablets cap near 1080p; no 4K rung is encoded or served to a phone-only audience segment.
- Web player capped. hls.js / Shaka are configured with a max height (or restrict-to-element-size) — they do NOT cap by screen by default.
- Native players trusted. ExoPlayer / AVPlayer left to restrict to display size; overrides only where intentional.
- DRM ceiling respected. The player detects the device security level (EME) and the license server enforces per-resolution keys.
- Per-device manifest filtering. For premium / high-volume catalogs, the edge returns a manifest listing only that device's rungs.
- Every rung earns its place. Each rendition is requested by some device class; none is encoded and stored to be served zero times.