

## 1 - DELIVERY MODEL

- Live broadcast (sport, news, events) *use HLG*
- On-demand premium VOD with budget for Dolby licensing *use HDR10 + Dolby Vision 8.1*
- On-demand VOD, no Dolby budget, large Samsung audience *use HDR10 + HDR10+*
- Single HDR master, broad reach, no premium ambition *use HDR10 only*
- Mixed audience: HDR + SDR sets, single signal required *HLG handles both*

## 2 - CONTENT TYPE

- Cinematic content with creative grading per scene *Dolby Vision shines*
- User-generated / talking heads / corporate *HDR10 is enough*
- Sport / news / live events *HLG is the only sane choice*
- iPhone-shot content distributed natively *Dolby Vision profile 8.4 by default*

## 3 - TARGET DEVICES

- Audience uses Samsung TVs >30% of installs *HDR10+ becomes important*
- Audience mostly LG / Sony / Apple *Dolby Vision covers them*
- Audience includes 2015-2018 SDR-only sets *HLG keeps SDR fallback automatic*
- Premium hardware (reference monitors, cinema) *Dolby Vision profile 5 acceptable*

## 4 - METADATA AND TAGGING

- color\_transfer = smpte2084 (PQ) or arib-std-b67 (HLG) *verify with ffprobe*
- color\_primaries = bt2020 *must match transfer function*
- color\_space = bt2020nc *bt2020 non-constant luminance*
- MaxCLL / MaxFALL set for HDR10 *tone-mapping needs these*
- Dolby Vision RPU survives transcode (profile 8.1) *RPU is the dynamic-metadata payload*
- HDR10+ ST 2094-40 metadata atoms preserved at CDN edge *common drop point*

## 5 - PIPELINE CONSISTENCY

- Bit depth 10-bit minimum (HEVC Main10 or AV1) *8-bit produces severe banding*
- 12-bit if Dolby Vision target *matches 4,096 brightness steps*
- Every transcode stage preserves color metadata *audit each stage with ffprobe*
- CDN preserves mdcv / clli atoms *edge transforms can drop them*
- Player tested on Samsung + LG + Sony + iPhone + Apple TV *fragmented HDR ecosystem*

### TOP-5 HDR DELIVERY BUGS IN PRODUCTION

- \* color\_transfer tagged bt709 on PQ data - neon, oversaturated, broken colours.
- \* color\_primaries tagged bt709 with bt2020 colours - everything shifts toward green.
- \* Dolby Vision profile 5 shipped to Samsung TV - playback fails, no fallback.
- \* 8-bit encode with PQ - severe banding in skies, walls, gradient backgrounds.
- \* MaxCLL/MaxFALL missing - TV falls back to safe defaults, highlights clip.