OTT Archive Upscaling Decision Worksheet

Pick the right tool, scope the GPU budget, and avoid the three failure modes that wreck first attempts.

Build vs buy vs rent — decision tree

1. Catalogue size?

- [ ] < 100 hours → Topaz Video AI on a workstation.
- [ ] 100–5,000 hours → Pixop cloud API or Topaz Pro.
- [ ] > 5,000 hours → in-house Real-ESRGAN + BasicVSR++.

2. Do you have GPU operations expertise?

- [ ] Yes → in-house open-weights wins on TCO.
- [ ] No → Pixop cloud or Topaz desktop.

3. Content type?

- [ ] Live-action → BasicVSR++ or Topaz Proteus/Iris.
- [ ] Animation → RealESRGAN-x4plus-anime-6B.
- [ ] Interlaced broadcast → Topaz Artemis.
- [ ] Heavily degraded VHS/film → SeedVR2 (check NC licence).
- [ ] Still images / key art → Real-ESRGAN per frame.

4. Licence requirements?

- [ ] Commercial OK → Real-ESRGAN (BSD), BasicVSR++ (Apache 2.0).
- [ ] NC restricted → SeedVR2 weights need legal review.

Six-stage production pipeline

Stage	Step	Tool
1. Ingest	Classify content type	ViT classifier
2. Restore	Denoise, deinterlace	Real-ESRGAN / Artemis
3. Upscale	Apply video SR	BasicVSR++ / Topaz
4. Temporal QA	Flow-warp residuals	Optical-flow check
5. Content QA	VMAF vs bicubic	VMAF + face/OCR
6. Encode	Honest 4K bitrate	x265 / SVT-AV1

Three-failure-mode audit

- [ ] Hallucination drift: faces, text, logos match source after upscale.
- [ ] Bitrate honest: 15–25 Mbps HEVC or 8–15 Mbps AV1 for 4K.
- [ ] Per-type model: classifier routes each content type to its preset.

Per-minute cost guide (all-in)

- [ ] In-house GPU fleet: $0.30–$0.60 per source minute.
- [ ] Pixop cloud: $0.50–$2.00 per source minute per filter.
- [ ] Topaz on workstation: $0 marginal after subscription.