

Pixop LIVE with TVU MediaMesh®

ML-powered real-time video enhancement — upconvert live HD sources to 4K HDR quality with under 600 ms latency, deployed as a drop-in node within TVU MediaMesh workflows.

ML-POWERED LIVE VIDEO ENHANCEMENT

Broadcasters and streaming providers who want to deliver premium 4K HDR content face a difficult choice: costly full infrastructure replacement, or accepting the quality gap between existing HD SDR equipment and what audiences increasingly expect from live sports, news, and premium channels.

Pixop LIVE with TVU MediaMesh solves this by delivering ML-powered, real-time video enhancement as a containerized module directly within MediaMesh — upconverting any live HD source to 4K HDR with sub-600 ms latency, without replacing a single piece of existing infrastructure.

SOLUTION OVERVIEW

Pixop LIVE

Real-time ML video enhancement pipeline — upconverts live video to HD or 4K HDR with under 600 ms latency. DNN super-resolution, deinterlacing, ML SDR-to-HDR, film grain synthesis, and artifact reduction. Purpose-built for live broadcast.

TVU MediaMesh®

Cloud-first live media infrastructure for contribution, production, and distribution. Pixop LIVE deploys as an enhancement node within MediaMesh — processing feeds between ingest and distribution, accessible via TVU MediaMesh.

Together, Pixop LIVE and TVU MediaMesh deliver broadcast-grade 4K HDR enhancement as a transparent drop-in to existing workflows — no infrastructure replacement, no operational complexity added, and no change to existing TVU infrastructure.

DNN Super-Resolution

ML SDR→HDR

DNN Deinterlacing

Film Grain

<600ms Latency

4K / 60fps

PQ / HLG

Rec.2020

Containerized

HOW IT WORKS

1 Deploy via MediaMesh Marketplace

Pixop LIVE runs as a containerized Docker module within TVU MediaMesh. Access it directly via TVU as a subscription add-on — no modification to existing TVU infrastructure required.

2 ML Enhancement Pipeline

Incoming HD or SDI feeds pass through Pixop LIVE's ML pipeline: DNN super-resolution upscaling (HD to 4K), DNN deinterlacing, ML SDR-to-HDR conversion (PQ/HLG), film grain synthesis, artifact reduction, and colour space conversion (Rec.709 to Rec.2020).

3 Real-Time Processing at Scale

Processing runs at under 600 ms latency at up to 60 fps utilizing NVIDIA. Temporal stability and motion coherence are maintained for demanding live sports and news workflows.

4 Distribute Enhanced Output

Enhanced HD (1080p) or UHD (4K HDR) output is delivered seamlessly downstream for OTT distribution, UHD broadcast, FAST channels, or premium linear output — fully integrated with TVU MediaMesh routing and distribution.

AT A GLANCE

- ML-powered HD to 4K HDR upconversion
- Under 600 ms end-to-end latency
- Up to 60 fps processing
- DNN super-resolution & deinterlacing
- ML SDR to HDR (PQ/HLG) conversion
- Film grain synthesis & artifact reduction
- Drop-in containerized module
- Pay-per-minute or subscription pricing

JOINT HIGHLIGHTS

Complete Enhancement Workflow

Drop-in node within TVU MediaMesh — no infrastructure change. Enhances feeds between ingest and distribution transparently.

Purpose-Built for Live

7+ years of dedicated ML R&D for live broadcast. Temporal stability and motion coherence that live sports and news demand.

Flexible Access

LIVE-FLEX (pay-as-you-go), LIVE-EVENT (annual committed hours), or LIVE-24x7 (per-channel subscription). Available via MediaMesh Marketplace.

CONTACT

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SOLUTION USE CASES

Live Sports HD to 4K HDR

Upconvert live sports broadcasts from HD SDR to 4K HDR for OTT and UHD broadcast distribution — delivering premium quality without replacing HD infrastructure.

Legacy Linear Channel Upgrade

Upgrade existing SD/HD linear and FAST channels to UHD HDR for premium distribution platforms — no rip-and-replace required, no operational disruption.

Live Event Production Enhancement

Enhance contribution feeds from HD SDR to 4K HDR before switching, mixing, or encoding — elevating production quality at source within TVU MediaMesh workflows.

Contribution Feed Upgrade

Upgrade incoming contribution feeds from HD SDR to 4K HDR before distribution — maximizing output quality at the point of origin with transparent, sub-600 ms processing.

WHY IT MATTERS

Purpose-Built for Live Broadcast

Unlike general-purpose AI tools, Pixop LIVE delivers the temporal stability and motion coherence that live broadcast demands — 7+ years of dedicated ML R&D already in commercial operation with broadcasters globally.

No Infrastructure Change Required

Deploys as a containerized node directly within TVU MediaMesh. No rip-and-replace — existing broadcast infrastructure is preserved while output quality is transformed to broadcast-grade 4K HDR.

Lowest Latency in Class

Sub-600 ms end-to-end latency validated on NVIDIA — the only ML video enhancement solution purpose-designed for live broadcast at scale with full temporal stability.

Commercial-Ready Today

Pixop LIVE is in commercial operation with broadcasters and streaming services globally. Available via TVU MediaMesh with flexible licensing: pay-per-minute, annual committed hours, or always-on per-channel subscription.

WORKFLOW OVERVIEW — PIXOP LIVE + TVU MEDIAMESH®



SRT · NDI · SDI · MXL · SHM · GV AMPP · NVIDIA RTX

Fig. 1 — Pixop LIVE runs as a containerized ML enhancement node within TVU MediaMesh. Live HD sources are ingested, enhanced to 4K HDR in under 600 ms, and distributed seamlessly to any destination — with no change to existing broadcast infrastructure.

TVU MediaMesh® - Every Feed. Everyone. Connected.

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