JOINT TECHNOLOGY DEMONSTRATION — IBC2026, AMSTERDAM

Content Adaptive Encoding, from the rack to the cloud

Benchmarked on an Intel® Xeon® 6987P-C instance on Oracle Cloud Infrastructure: lower bitrate at every rung of the ladder, and a higher VMAF score than the baseline it replaces.

−43.8%
Average H.264 bitrate reduction across the full ladder corpus

−39.2%
Average HEVC bitrate reduction, same corpus

−18.9%
Average AV1 bitrate reduction, same corpus

+6.6
VMAF points gained on AV1 — every codec gains at least 5.4

01 — MEASURED RESULTS

Benchmark results

Test system: Intel® Xeon® 6987P-C on Oracle Cloud Infrastructure — 16 cores / 32 threads, 2,200 MHz, 16,384 KB cache.

A · SINGLE STREAM, 1080P SOURCE

CODEC	BASELINE BITRATE	OPTIMIZER BITRATE	SAVING	CONCURRENT INSTANCES
H.264	4,170 kb/s	1,867 kb/s	**−55.2%**	12 vs. 11
HEVC	3,061 kb/s	1,576 kb/s	**−48.5%**	5 vs. 5
AV1	2,205 kb/s	1,265 kb/s	**−42.6%**	3 vs. 2

One 1080p source — *tears_of_steel_1080p*, 1920×800, 24 fps, 6,162 kb/s — encoded twice on the same instance: baseline FFmpeg against the Optimizer at a VMAF 96 target.

B · FULL ENCODING LADDER — SEVEN RUNGS, ALL CLIPS

CODEC	AVERAGE BITRATE	Δ BITRATE	AVERAGE VMAF	Δ VMAF
H.264	1,714 → 964 kb/s	**−43.8%**	68.2 → 73.6	**+5.4**
HEVC	1,209 → 735 kb/s	**−39.2%**	66.6 → 72.6	**+6.0**
AV1	775 → 629 kb/s	**−18.9%**	66.1 → 72.7	**+6.6**

The workbook's Overall row for each codec — every clip and every rung averaged into a single bitrate and VMAF figure

02 — WHERE THE GAIN COMES FROM

By content type

C · CONTENT TYPE — Δ BITRATE / Δ VMAF

CONTENT TYPE	H.264	HEVC	AV1
Other Business	−72.0% / +5.2	−67.6% / +5.7	−47.2% / +8.1
Synthetic	−72.7% / +5.6	−72.5% / +4.7	−39.6% / +8.1
Animation	−49.1% / +4.3	−43.5% / +5.9	−13.7% / +7.4
Movie-ish	−38.0% / +5.6	−30.8% / +6.1	−9.8% / +7.1
Sports	−15.5% / +5.8	−13.3% / +6.6	−4.4% / +3.6

The same ladder averaged by the workbook's content classes

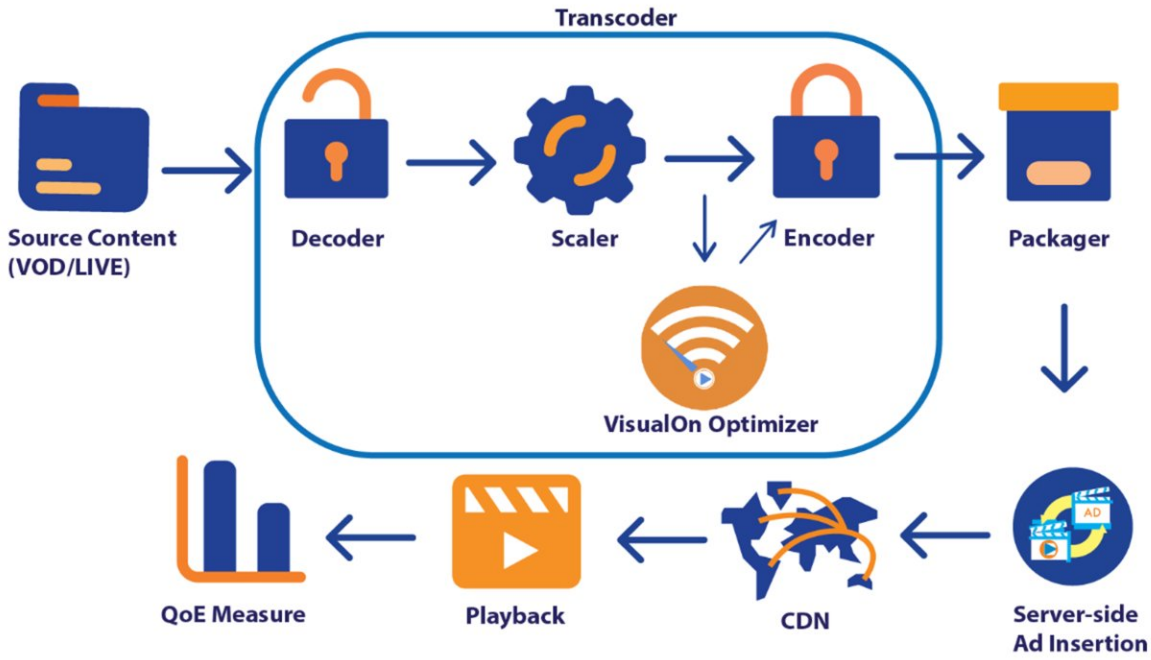
03 — WHERE THE GAIN COMES FROM

By ladder rung

D · LADDER RUNG — Δ BITRATE / Δ VMAF

RUNG	H.264	HEVC	AV1
1080p	−41.8% / +2.0	−40.5% / +1.6	−20.3% / +1.2
720p	−48.2% / +3.4	−43.4% / +3.5	−21.1% / +4.3
540p	−47.3% / +4.1	−41.4% / +4.6	−19.0% / +5.7
480p	−40.2% / +5.9	−32.7% / +6.8	−13.5% / +6.6
360p	−44.5% / +4.2	−35.9% / +5.4	−18.3% / +7.3
270p	−38.3% / +7.6	−28.1% / +8.9	−13.0% / +9.6
180p	−32.5% / +10.6	−22.9% / +11.2	−10.5% / +11.6

The same ladder averaged by rung



VisualOn Optimizer Workflow

05 — SPECIFICATION

Codecs, formats and compute

Codecs demonstrated	AVC / H.264, HEVC / H.265, AV1
Encoder integration	Encoder-agnostic — sits in front of existing software encoders; no encoder replacement
Method	One-pass, machine-learning-based content adaptive encoding
Quality metric	VMAF, reported in real time alongside bitrate
Processor	Intel® Xeon® 6 with built-in Intel Media Transcode Accelerator and Intel® AVX-512
Benchmark system	Xeon 6987P-C on OCI — 16 cores / 32 threads, 2,200 MHz, 16,384 KB cache
Benchmark corpus	Five content classes — Animation, Movie-ish, Synthetic, Other Business, Sports; seven rungs, 1080p to 180p
Accelerator hardware	None required — no GPUs or specialised transcode cards

06 — DEPLOYMENT

Running on Oracle Cloud Infrastructure

The demonstration is the first look at the Optimizer workflow running natively on OCI, on Intel Xeon 6 shapes — the results above were measured on a 16-core / 32-thread 6987P-C instance. The same workflow runs on-premises.

07 — THE COLLABORATION

VisualOn

Optimizer — the encoder-agnostic, one-pass content adaptive encoding engine that delivers the bitrate reduction and the VMAF gain measured above.

Intel

Xeon 6 processors with the built-in Media Transcode Accelerator and AVX-512 — transcode density without GPUs or specialised hardware.

Oracle

Oracle Cloud Infrastructure — the cloud the workflow runs on, with predictable global pricing and secure, high-performance media capacity.

SEE IT AT IBC2026

VisualOn

Hall 5, Stand A.55

Oracle

Hall 5, Stand A.21 — live demo on the stand

Intel

Meeting Room, Hall 8, MS1