SSIMPLUS® LIVE MONITOR

Live video quality assurance that correlates with human vision across your entire network

SSIMPLUS® Live Monitor observes video operations from content creation to consumption and identifies issues at scale. The software solution pinpoints problems with actionable data in real-time with smart alerts, performs behavioral analysis of each service, and helps automate quick resolution of issues.

The result: have more direction in the form of actionable data and less noise – with detailed reporting; customizable or self-learned alerting for maximizing true positives; and monitoring at network, region, market, service, and even stream level. At a glance NOC staff or executives can see real-time operational status to ensure everything is working as desired.

Intelligent Automated Operations at Scale

✓ Significant reduction in mean time to resolution through isolating issues using a single pane of glass view from source all the way to playback. 'Super search' capability enables users to find anything of interest with the least number of clicks across deployments of any size.

✓ Automate video operations at scale using the viewer intelligent software solution - with smart alerts that maximize the efficiency of operational teams while making sure nothing slips through the cracks.

Real Viewer Score and Solution for Streaming Challenges

✓ Benchmark performance for various workflow stages by tracing Viewer Experience from content creation to consumption using the most accurate metric—SSIMPLUS®.

✓ Industry—first metrics to fix difficult issues that impact customers the most, such as audio-to-video sync loss, high latency, content mismatch, and macroblocking due to content using fool-proof Deep Learning based approaches.

✓ Source quality assurance using the most accurate no-reference perceptual quality metric, plus reference based encoding and transcoding performance analysis in real-time at scale.

Actionable Data Driven Insights and Compliance Reporting

✓ Real-time comprehensive ad monitoring enables users to pinpoint issues with Digital Program Insertion Cueing Messaging.

✓ User friendly and customizable business intelligence dashboards and actionable reporting that provide powerful insights for business planning.

- o Content behavioural analysis of video and audio
- o Regulatory and CALM compliance monitoring
- o Ad insertion
- o Closed caption

⊚ Monitoring more than 18 million video hours of live content per month

👥 Measuring the Viewer Experience for more than 150M subscribers worldwide

🕐 Decreased MTTR from 25+ minutes to just 3-4 minutes for a Tier 1 North American TV service provider

🧰 Significant reduction of defects (85%) and increase in operators engagement for one of the largest pay TV operators in the world/North America

---

A Standard for what 'Good' looks like

Previously, comparing output from different parts of the video workflow was an apples-to-oranges comparison, because different vendors or internal departments used different measurement metrics. With SSIMPLUS, you use the same scoring metric for content anywhere in a live workflow.

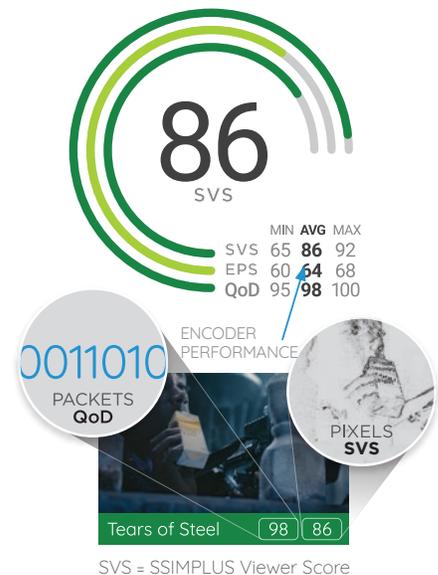| 0-19	20-39	40-59	60-79	80-100
BAD	POOR	FAIR	GOOD	EXCELLENT

EXCELLENT 83 · GOOD 78 · FAIR 58

Real viewers vs. packets based QoE

SSIMPLUS Live Monitor provides complete monitoring of Viewer Experience as perceived by the human visual system and impacted by content delivery, processing, compression, or playback. Our competitors look at packets, and extrapolate those for quality of experience, but we think the most accurate measurement is actually what the viewer sees.

Since most NOCs don't have enough people to watch every live stream on every device, our two-time Emmy Award-winning SSIMPLUS algorithm mimics the accuracy of millions of human eyes to accurately determine the target level of quality for the viewers.

Another benefit is that detailed analytical knowledge is captured and can be used for evaluating business choices. These choices might include: comparing multiple workflow outputs to determine which is performing better; or ensuring higher quality encodes are used for premium content and lower quality ones are selected for news or long tail content.

86 SVS

	MIN	AVG	MAX
SVS	65	**86**	92
EPS	60	**64**	68
QoD	95	**98**	100

ENCODER PERFORMANCE

0011010 PACKETS QoD · PIXELS SVS

Tears of Steel 98 86

SVS = SSIMPLUS Viewer Score

SSIMPLUS Live Monitor is a software-based solution that deploys on commercial off-the-shelf hardware. Run a single instance on a single server or scale to multiple instances on a cluster:

- Bare-metal
  - Redhat, CentOS
- Virtual machines (VirtualBox and VMWare)
- Containerized deployment
- Centralized data platform
- Database redundancy
- Geo-diverse deployment
- Hierarchical aggregation

Video resolution	SD, HD & UHD
HDR Support	HLG & PQ for HEVC transport streams, SMPTE 2110-20
Video codecs	H.264/AVC, H.265/HEVC, MPEG-2
Audio codecs	PCM Audio (WAV/AES/BWF), AAC, HE-AAC, HE-AAC v2,Dolby Digital (AC-3), Dolby Digital, Dolby At Plus (EAC-3), Dolby Atmos, MPEG-2 (L1,2,3), MPEG- 1 and IEC61937 (AC-3)
Closed Captions	CEA-608/CEA-708 in Line 21 video

Content delivery

SDI, SDI over IP: SMPTE 2110-20*, SMPTE 2022-6 | MP2TS: IP/UDP/MCAST
ABR: HLS, DASH-IF, DASH-CIF | HDMI 1.4a: HDCP 1.4 Enabled | Zixi, SRT

*Up to 30 fps (UHD) and 60 fps (HD)

72nd Technology and Engineering Emmy® Award Winner

67th Primetime Engineering Emmy® Award Winner

streaming media 2022

SSIMWAVE®
an IMAX® company

HELLO@SSIMWAVE.com | SSIMWAVE.com