

servicEye™

IPTV Monitoring and Service Assurance Solutions

servicEye is built on award winning and industry proven IPTV quality assessment technology that provides a completely integrated IPTV monitoring solution

servicEye offers the combined benefits of both a real time passive monitor and active probe for each and every IPTV channel. The key benefits include greatly reduced customer churn and increased ARPU by truly offering service differentiation through quality.

What is required to assure a high quality IPTV service?

Delivering high quality IP based video services means zero compromise when it comes to end user Quality of Experience. The ability to act quickly and decisively in addressing any problems in the IPTV delivery chain from head end to subscriber is absolutely the key to success. Therefore, real time monitoring of every IPTV channel is required on an end-to-end basis. Service Assurance environments utilize active monitoring solutions to determine the overall health of the IPTV delivery network, but also provide a multi-dimensional insight into subscriber Quality of Experience performance issues.

Why is a passive and active approach necessary to ensure IPTV quality?

Real time, non intrusive IPTV monitoring or passive monitoring is absolutely essential in the rapid determination and resolution of IPTV delivery problems. In addition, the reactive nature of passive monitoring must be supplemented by a pro-active approach to quality assurance through regular, active quality checks. Active testing helps determine potential problems in advance. This not only involves the testing of IPTV video stream quality through full reference tests and packet level performance but additional checks such as IPTV channel change rates and the injection of emulated subscriber traffic.



Scalable Solutions

servicEye $^{\rm TM}$ is available in a number of form factors and interface types to scale to thousands of IPTV channels



What benefits does Shenick servicEye provide?

- Multiple, centrally managed, end to end passive monitoring and active probes running 24x7
- Full range of IP network, video/audio protocols supported for all IPTV technologies, encrypted or non encrypted, for both high definition and standard definition TV
- Cost effective and scalable from one IPTV channel to thousands of TV channels
- Ease of integration with existing OSS using industry standard protocols such as SNMP
- Easy to use with centralized, secure and fast access to probes
- Flexible statistics collection and wide range of reporting options
- Comprehensive support and technical services

Central Configuration and Monitoring

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servicEye offers round the clock monitoring of each IPTV channel. Probes are easy to configure via a web based GUI or through a scripting interface. Real time monitoring statistics can be easily enabled with support for SNMP (and proprietary) trap generation to higher end OSS components such as fault management systems.



Supports MPEG-4 H.264 and MPEG4 AAC codecs.

Capture video when exceeding preset threshold

Video Analysis Features

servicEye provides simultaneous RTP and MPEG2-TS Analysis. RTP Analysis can be used to measure Network Performance and the MPEG2-TS Analysis is used to measure Encoder performance. This enables Service Providers to pinpoint where the source of problems is e.g. the network or the Encoder.

servicEye supports both No Reference and Full Reference Video Quality Analysis for true quality of experience performance measurements.

 No Reference
 : Completed in Real Time, a no reference model evaluates the received data at packet level.

 Full Reference
 : Detailed analysis of the video payload which compares the source data with the received data. Usually performed at the Encoder.

Video Analysis maybe performed on both Encrypted and non-Encryted IPTV channels





Stream Performance Indicators

Monitor performance with the greatest flexibility, full range of industry standard video/audio codec's for SD/HD IPTV, statistics and reporting options.

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No Reference Video Analysis		Full Reference Video Analysis	Video Codec Support
 Streaming MOS Score (1-5) 	 Continuity count error 	 PEVQ MOS Score 	- MPEG-2
- Stream ID :	 Transport error 	- Frame Information,	- MPEG-4
MPEG2 TS PID	 PCR repetition error 	number of frames from the	- H.262
 MPEG-TS Packets : 	 PCR discontinuity error 	Reference and Degraded Streams	- H.263/H.263+
Received / Dropped / Out Of Sequence	- PTS error	 Pixelisation of Reference and 	- H.264
- MPEG-TS Packets :	- VSTQ:	Degraded Streams	- VC-1
Received but discarded from jitter buffer	VideoServiceTransmissionQuality	- Frame Freeze [%]: 0.000	
- Jitter Buffer :	- VSPQ:	- Frame Skips [%]: 0.000	Audio Codec Support
Under run / Over flow	VideoServicePictureQuality	- Brightness	- AC-3
- PCR , PCR Jitter	- MOS-V:	- Contrast,	 MPEG-1 Layer 1
- TR-101-290 metrics	VideoMOS	difference between bright and	 MPEG-1 Layer 2
 VideoPackets : 	- MOS-AV :	darkness on adjacent pixels	 MPEG-1 Layer 3
Received / Dropped / Out Of Sequence	Audio-Video MOS	- Activity	- MPEG-2 AAC
 Video Packet Discards 	- MOS-A :	- Jerkiness, Blur (Spacial) and Blockiness	- MPEG-4 AAC
 Average Packet Delay Variation 	AudioMOS	- Luminance and chrominance,	 MPEG-4 Low Delay AAC
 Maximum Packet Delay Variation 	- I-B-P Frames :	distortions are rates between 0 and 10	 MPEG-4 High Efficiency AAC
- StreamID :	Received / Impaired		
SSRC for RTP / PID for MPEG2-TS		Other Application Streams Supported	Active L2-7 Stress Tests
- TS Synchronisation Loss	NIS-IV	- VoD (RTSP)	
 Synchronisation byte error 	- A-Server Multicast Performance	- HTTP	- IVILDV1,2
· ·	- video Quality Transcoding (A-Server)	- FTP	
	- Video Quality (Customer)	- VoIP	- PPPOEV4/6

Shenick is an award winning provider of network test and performance measurement solutions since 2000. Shenick and servicEye are registered trademarks.

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