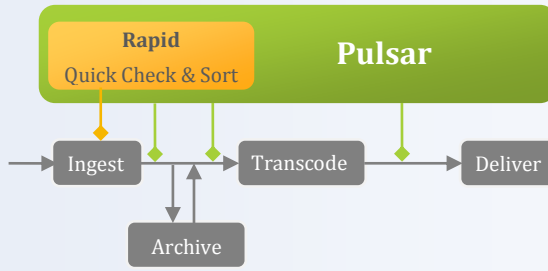


Content quality verification need not give you headaches any more

# Pulsar makes it incredibly simple.



Broadcast  
Post Production  
Archiving  
IPTV/Cable



Quick verification of large content volumes

Achieve more with same resources

Automate detection of issues like blockiness and loudness

Industry's fastest & most flexible Automated QC for Rapid checking, sorting and in-depth

Industry is fast migrating to file based content workflows. Early identification of content issues, related to its structure (like profile/level, aspect ratio, bit-rate etc.) or quality (like blockiness, freeze frames, loudness etc.) results in fast turnaround and increased business capacity.

Pulsar helps you ensure consistent content quality and simplifies technological and operational challenges associated with file based QC. You can now perform integrated QC across content types and stages in your workflow, reducing dependency on specialized skills and using existing resources more efficiently.

**Multi-User** – Ability to create multiple users in the system along with configurable privileges allow you to tailor Pulsar to your corporate policies.

**Flexible and Scalable** - Each seat of Pulsar includes the complete analysis engine, as well as the ability to interface with other instances of Pulsar, allowing you to set-up a daisy-chain environment for as many simultaneous files as you need.

**Essence/Segment Detection** – Automated detection of beginning and end of essence; or audio-visual segments based on user-defined criteria.

**Automatic Correction** – Automatic correction of loudness levels along with a range of correction capabilities at container level.

**High Availability** – Pulsar can be installed with redundancy so that a standby Pulsar unit can automatically take over in case of hardware failure, ensuring 24x7 operations.

**Rapid** – Rule based rapid checking and sorting of content. Rapid can be used at stages that don't require in-depth QC to significantly reduce human intervention and to boost the overall throughput of your workflow.

**Adaptive Bitrate Content Analysis** – Simple, Integrated analysis & reporting for formats such as HLS and Smooth Streaming. Pulsar works directly on manifest files with user configurable adaptive streaming templates for auto template assignment.

**ABR HTTP URL** – Direct analysis of ABR assets in the CDN using HTTP URL. Allows analysis of ABR assets from anywhere.

## Pulsar now available as Pay Per Use

Affordable  
No CAPEX

Secure  
Ready made templates

Pay by content duration or choose monthly subscription

**Fastest** - Each Pulsar Professional unit can verify up to four simultaneous files and one HD file can be analyzed at an unmatched speed of 4x real-time.

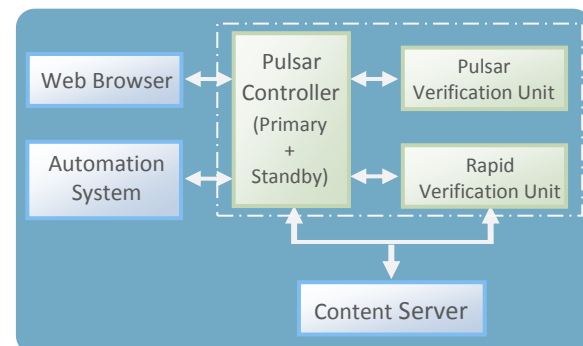
**Best ROI** - Pulsar license price includes support for all common Video/Audio codecs as well as the ability to use up to 32 cores (for Pulsar Professional). Pulsar provides more value at lower cost.

**Versatile** – With support for broadcast and streaming formats along with capability to perform Rapid checking, sorting and in-depth QC, Pulsar is the most versatile Automated QC solution.

**Ease of Use** - Pulsar's intuitive interface allows fast operations, including the ability to add, re-order streams in the queue, and review results from the analysis. Reports show stream information, as well as green, yellow or red title bar for each stream. Frame shot along with time-code is available for error locations.

- 4x real-time HD Analysis
- Browser based interface
- User-defined templates (General, Smart & Adaptive)
- Monitor, Re-prioritise, Pause, Resume and Cancel jobs

- Hot folders (General, Live, Virtual)
- XML/PDF reports with thumbnails
- Web-services APIs for integration
- Configurable parameter checks
- Email alerts



	Professional	Standard	Basic	Pay Per Use
No of Simultaneous files	4	1	1	1
Video Checks (except PSE)	All	All	All	All
Video/Audio/Container Formats	All	All	Selective **	Selective **
Audio Checks	All	All	All	All
Verification Unit cluster	✓	✓	✗	✗
Adaptive Bitrate Formats	✓	✓	✗	✗
Maximum cores	32	8	4	4
Loudness Correction *	✓	✓	✓	✓
Dolby-E *	✓	✓	✓	✗
Controller Plus *	✓	✗	✗	✗
Rapid *	✓	✗	✗	✗
Harding PSE *	✓	✓	✓	✗
ABR HTTP URL *	✓	✓	✗	✗

\* Optional

\*\* Not supported: VC-1, DD, DD+, WMA, Dolby-E, HLS, Smooth Streaming

### Formats

<b>Container</b>	MXF, GXF, LXF, MOV, MP4, 3GPP, MPEG-2 TS, MPEG-2 PS, FLV, WMV, AVI, WAV, BWF, AIFF, DPX, JP2, Smooth Streaming, HLS, Elementary
<b>Video</b>	H.264 (incl. AVC-Intra 50/100 and SONY XAVC), MPEG-2 (incl. D10, XDCAM, HDCAM, IMX-30/50), VC-1, DV (incl. DVCPro25, DVCPPro50, DVCPPro100/HD), Avid DNxHD (VC-3), Apple ProRes, JPEG-2000, Uncompressed (RGB, YUV)
<b>Audio</b>	LPCM, AES3, AC3 (DD), SMPTE 302M, E-AC3 (DD+), MPEG-1/2, AAC, HE-AAC, WMA (Standard & Professional), Dolby-E

### Verification Checks

<b>Verification</b>	Codec Specifications, Ready made templates for Netflix, DPP, iTunes and CableLabs
<b>Video Parameters</b>	Codec, Video Format, Chroma Format, Colour Matrix, Scan Mode, Duration, Frame Rate, Resolution, Display Aspect Ratio, Pixel Aspect Ratio, GOP Length, GOP Type, Field Order, Frame Sizes, Buffer Size, Bitrate (CBR/VBR), Profile/Level, Entropy Coding, Reference Pictures, MBAFF, Timecode Discontinuity
<b>Video Quality</b>	Black Frames, Blockiness, Brightness, Colour Bars, Colour Gamut, Combing, Dead Pixels, Digital Hits, Field Dominance, Freeze Frames, Luma/Chroma levels, Half/Full lines, Letter/Pillar Box, Active Picture Size, Black Bar, Coloured Frames, Photosensitive epilepsy
<b>Audio</b>	Codec, Sampling Frequency, Quantization Bits, Channels, Bitrate (CBR/VBR), Drops, Silence, Mute, Test Tones, Loudness (R128, CALM), Loudness Range, Dialnorm, Peaks (DBFS, PPM), True Peak, Clipping, Phase Mismatch, Artifact
<b>Container</b>	Conformance, Format, File Size, MD5, No of streams, Incorrect extension <b>MXF:</b> Version, Operational pattern, Timecode presence/track count/mode/start value/source, Index table presence/location/completeness/correctness, Origin parameters, KLV alignment grid/fill elements, Partitions validity/Status/Completeness/Instance count/Index table presence/Essence presence/Max length, Essence wrapping/external check/referencing/partition strategy, Audio track numbers/element size/channel count/configurations, Descriptive metadata presence/scheme, Run-in sequence, Random index pack, Segmentation track, File package count <b>Transport Streams:</b> SCTE35, Program count, PCR Jitter, Packet Length, PID Usage, PIDs, PID Bitrate, Packet Intervals, PAT checks, PMT checks, Stream checks, PES checks <b>QuickTime:</b> Checks and correction for PASP, FIEL, GAMA, CLAP, COLR. Channel Configuration, Track properties, Movie properties
<b>Cross Checks</b>	<b>Video-Container:</b> Width, Height, Frame rate, Aspect ratio, Bitrate, Profile/Level, Scan mode, Field order, Chroma format, GOP type, GOP length, B-pictures, Low delay, Duration <b>Audio-Container:</b> Sampling frequency, Bit depth, Channels, Bitrate, Duration <b>Audio-Video:</b> Duration in meta-data, Actual duration
<b>Meta-data</b>	Closed Captions (608/708) presence/conformance/format/location, AFD, Bar, V-Chip, Teletext
<b>Correction</b>	Loudness, QuickTime meta-data

### Rapid Checks

<b>File Rules</b>	Incorrect extension, File Size, Invalid file characters
<b>Video</b>	Codec, Video Format, Chroma Format, Colour Matrix, Scan Mode, Duration, Frame Rate, Resolution, Display Aspect Ratio, Pixel Aspect Ratio, Profile/Level, Bit Depth, Buffer Size, Entropy Coding, Reference Pictures, MBAFF
<b>Audio</b>	Codec, Sampling Frequency, Quantization Bits, Channels, Profile
<b>Container</b>	Format, No of Video/Audio streams, Track Duration, PASP, GAMA, CLAP, FIEL, COLR, Channel Configuration

### Venera Support

We are committed to providing superior support to all our customers. We are flexible in our approach and willing to go the extra mile to ensure customer satisfaction. Our success is in our customer's delight.

- In-depth Verification, Rapid QC and Sorting
- Loudness measurement & correction
- iTunes compliance and correction
- Netflix and DPP compliance
- Simple, Integrated Adaptive Bitrate Content Analysis
- Quarantine or pass jobs by moving, deleting or renaming files under test
- Multi-User system
- Wide conformance & quality checks
- Wide format support – Broadcast, New Media & Adaptive Bitrate
- Controller Redundancy – automatic take-over in case of hardware failure
- Run as a Windows Service