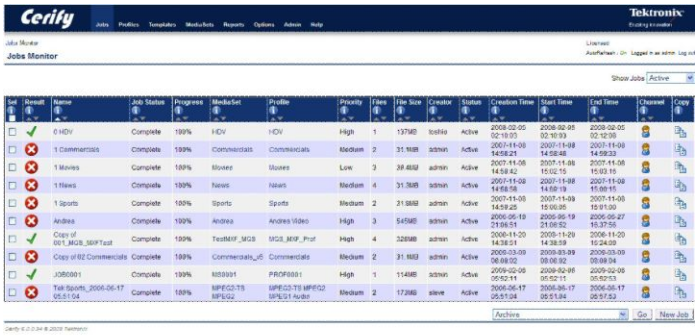
Automated Quality Control of File-based Content

Cerify® Datasheet



Cerify® is an automated file-based QC software product, which integrates into file-based workflows that are processing a large volume of content. The software is scalable from a single instance to a multiple instance cluster for enterprise worklfows requiring higher throughput. Cerify reduces the "human QC" efforts, qualifies the media to pass or fail, and aids operational decisions. This product provides both broadcast and production operations with a fast, cost effective QC solution.

Key features

- Provides exception-based technical compliance to enable QC teams to focus on problem content and subjective requirements
- Performs consistent and thorough checks of incoming video files against user-defined templates
- Ensures compliance to regulatory requirements such as U.S. CALM Act, EBU R128, Canadian Closed Caption mandates, U.K. Ofcom & Japan NAB Photo-Sensitive Epilepsy (PSE)
- Provides HEVC support to address 4K content testing needs
- Ensures quality of all audio tracks contained in the file simultaneously
- Automatically corrects the audio loudness and levels to the desired target levels in a single pass to the original container, increasing workflow efficiency and reducing CapEx/OpEx
- Detects the Photo-Sensitive Epileptic (PSE) seizure-inducing flash/pop pattern in video sequences
- Logs errors, informs automation systems, plus programmable actions such as e-mail user alert, quarantine and move files
- XML-based templates to reduce ingest rejection due to errors
- Integrates with video servers, automation and MAM/DAM systems using SOAP API
- Web-based multiuser interface plus Web-services API
- Flexible Windows software-only solution capable of running on standalone hardware or on virtual machine environments
- Unlimited scalability from Stand-alone (single server) to Enterprise (clustered for higher parallel processing and high availability requirements)
- Human-readable PDF and machine-decodable XML output reports help decisions by operational staff and integrated software
- Partial checks on the file allow you to include or exclude different segments of the file
- Includes profiles for DPP, Netflix, and AS-11 delivery specifications
- Includes comprehensive bitstream, baseband/quality, and container tests
- Supports a wide range of formats and standards for video, audio, and containers

Applications

- Broadcasters and Video Service Providers – Ensuring quality, compliance, and playability of audio and video after encoding, at ingest, after editing, after transcoding, and before playout for terrestrial, satellite, cable, internet, and video-on-demand content, including 4K-HEVC
- Archiving – Ensuring quality, compliance, and playability of archive content before archiving, while in archival or before retrieval from the archive
- Content Providers – Ensuring post production and aggregated content has been correctly encoded and conforms to the required quality and format, including 4K-HEVC

With Cerify you can ensure that your content is ready for delivery

Quality control of file-based video, including 4K-HEVC, that may be ingested from different sources and encoded at different bit rates, formats, and compression standards for SD/HD, VOD, OTT, and IPTV delivery presents considerable operational challenges. Cerify checks for:

- **Correct Encoding Syntax**: At the digital level, both the audio and video must be correctly encoded without errors in accordance with the compression standard, so that it plays out correctly at the playout server and at the customer's STB/playout device
- **Correct Encoding Parameters**: The bit rates, play time, aspect ratio, GOP structure, video color-space, color depth, frame size, frame rate, aspect ratio, and quantization levels
- **Correct Baseband and Quality Levels**: The analog parameters of signal levels, luma, chroma, gamut, quality levels of black frames, freeze frames, black and color bars, field order, video quality (blockiness), loss of audio, audio clipping, verification of audio loudness and peak level
- **Correct Ancillary Data**: Closed Captions, Teletext, DVB Subtitles, and Timecode
- **Regulatory Compliance**: US CALM Act, EBU R128, Canadian CC mandates, U.K. & Japanese PSE regulations

Manual inspection can playout, watch, and listen but is subjective and cannot look inside the encoding to check that the correct syntax and parameters have been used. Moreover, manual inspection is prohibitively expensive, especially given today's increasing content growth.

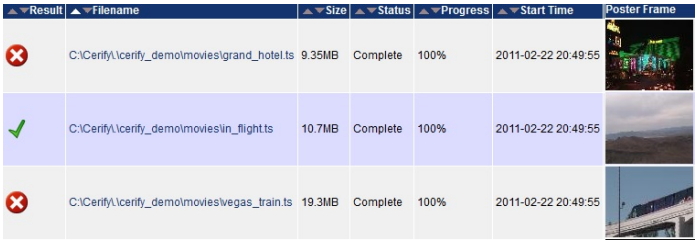
Cerify solves these problems, and can be easily integrated with Automation and Asset Management systems using the API; thus feeding them with data required to automatically decide on next workflow steps or drawing attention to the few assets that need review by experts.

The XML-based test templates can be exchanged between Cerify systems, and applied as the definition of the required test standards between suppliers and broadcasters to establish Service-level Agreements and reduce costly churn (rework of content).

The Cerify Developer Community (CDC) is an ever-growing partnership program with over 50 companies working together on integrated solutions that work straight out of the box and deliver higher values by removing interoperability hurdles (www.tek.com/products/video-test/cerify/cdc).

User interface

The easy-to-use Web browser interface shows job status results at the top level.

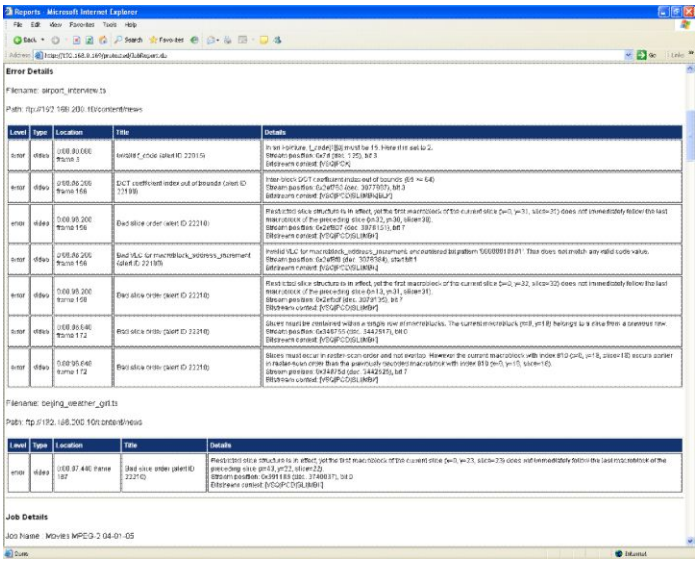


Result	Filename	Size	Status	Progress	Start Time	Poster Frame
✗	C:\Cerify\.\cerify_demo\movies\grand_hotel.ts	9.35MB	Complete	100%	2011-02-22 20:49:55	
✓	C:\Cerify\.\cerify_demo\movies\in_flight.ts	10.7MB	Complete	100%	2011-02-22 20:49:55	
✗	C:\Cerify\.\cerify_demo\movies\vegas_train.ts	19.3MB	Complete	100%	2011-02-22 20:49:55	

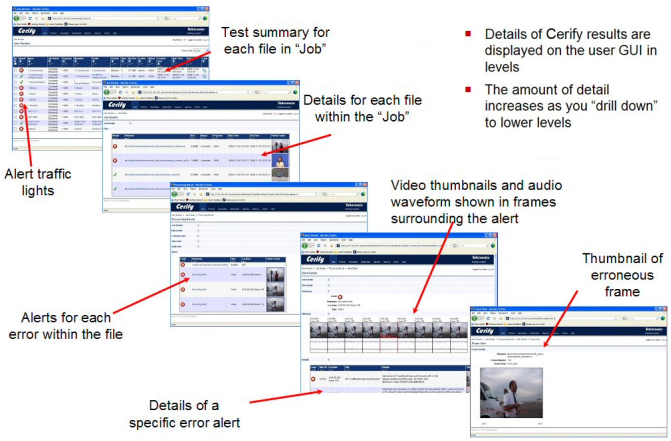
You can view a summary of each job.

You can view individual alert details.

You can view reports by job, type, date range, file name, etc.

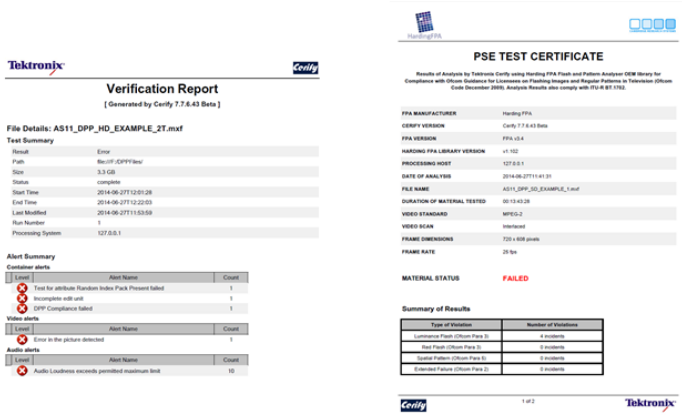


With just a few clicks, you can quickly "See and Solve" test results.



- Details of Cerify results are displayed on the user GUI in levels
- The amount of detail increases as you "drill down" to lower levels

You can view DPP reports.



Specifications

Standards supported

Format	All frame sizes, bit rates, and resolutions for SD/HD and mixed workflows
Container	MPEG TS/PS, MXF, GXF, MP4, QuickTime, ASF, 3GPP, AVI, LXF, Apple HLS, Microsoft SS
Video	MPEG-2 (IMX, XDCAM), H.264/AVC, H.265/HEVC, MPEG-4, H.263, VC-1/WMV, DV/DVCPro25/50/100/HD, Apple ProRes 422/422(HQ)/422(Proxy)/422(LT)/444, AVC-Intra (High10 Intra, High422 Intra, High444 Intra, and CAVLC Intra), JPEG-2000, DNxHD, Raw YUV and RGB
Audio	MPEG-1/2, AAC, HE AAC (LOAS/LATM), PCM (AES, BWF, AIFF, WAV, SMPTE 302M), DV, WMA, Dolby D / AC-3, Dolby E

Test templates and levels are user-controlled and include:

Container-level transport stream tests	Correct standard and integrity File size, bit rate, playtime, video and audio encoding formats Packet size, CableLabs VOD compliance Signaling and integrity of closed captioning, teletext, DVB subtitles, and XDS content advisory tests Timecode continuity, integrity, synchronization, and partial checks MXF metadata testing Apple HLS and/or Microsoft SS ABR content readiness testing for OTT services
Video tests	Correct encoding standard, profile and level, and syntax checks for encoding errors GOP structure, frame rate, bit rate, play time, AFD, frame size, picture scan type, aspect ratio, pixel aspect ratio Baseband tests including gamut levels, luma, chroma, signal levels, letterbox/pillarbox, playtime Color depth, chroma sampling, copyright Black frames (lead in, lead out, and during the video), video quality (blockiness), frozen frames, field order, missing frame, quantization, cadence, tape artifacts PSE testing per U.K. Ofcom and Japan NAB standards with ability to generate PDF reports
Audio tests (simultaneously on all audio tracks)	Correct encoding standard, profile, and syntax checks for encoding errors, Dolby-E guard band interval Sample rate, bit rate, playtime Number of channels, peak and minimum signal levels Audio silence, clipping, mute, test tones, phase mismatch PPM audio ballistics Long and short audio loudness tests for all supported audio codecs per ITU-R BS.1770-3 standard (including different audio loudness tests on different channels) True peak-level tests for all supported audio codecs Audio loudness tests across multiple tracks (i.e. situations where grouped channels are spread across tracks) Automated audio loudness correction across all audio tracks using Dolby Dialog Intelligence and rewrapping back to the original container Audio glitch test

Test templates and levels are user-controlled and include:

Action templates and reporting	Copy or move file on success or error E-mail alerts with test reports Web-based on-screen job reports and detailed drill-down Text/HTML/PDF query reports of all files in the database
Services	SOAP based Web-services *CeriTalk* Automation API
Multiple user templates and profiles	Configurable for different content types and sources
XML-based templates	Can be imported and exported
File reprocessing	Automatic reprocessing of previously tested files after rework

System requirements

For a single channel of Cerify, the minimum requirements are the following, additional memory may be required to support a greater number of channels:

Operating system	Windows 7, 64-bit Windows Server 2008, 64-bit Windows Server 2008 R2, 64-bit Windows Server 2012, 64-bit Windows Server 2012 R2, 64-bit
Processor speed	3 GHz
Memory	8 GB RAM
Ports	USB and Ethernet
Hard drive	50 GB available

Ordering information

Please contact your Tektronix Sales Representative to understand how Cerify may be customized for your specific workflow needs and content volume.

Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.

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