

Cerify-Release-Notes-V7.7

Cerify Automated Video Content Verification System
Release Notes for Software Version 7.7
077075202

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Contents:

- Product documentation
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These release notes provide the following information for the Cerify Automated Video Content Verification System:

- A list of the new Cerify features available in software version 7.7.1
- A list of important defects that have been fixed in software version 7.7.1
- A list of known Cerify installation and operational issues relating to software version 7.7.1

CAUTION. To prevent loss of data in the unlikely event of the database becoming corrupted, it is strongly recommended that you regularly back up the Cerify database. See the Database Backup section of the Cerify User Manual for instructions on how to perform this task.

Product documentation

Cerify user documents that support software version 7.7.1 are

Document: Cerify Quick Start User Manual (English)

Tektronix part number: 071-2680-07

Description: Provides installation instructions, system requirements, concepts of how to operate the software, and basic procedures for common tasks. This is a printed manual and is also available on the product DVD and on the web at www.tektronix.com/downloads.

Document: Cerify User Manual (English)

Tektronix part number: 077-0352-10

Description: Provides in-depth descriptions of how to operate the software. This is a manual version of the product online help. This PDF-only manual is available on the product DVD and on the web at www.tektronix.com/downloads.

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Document: Cerify Software License Notices (English)

Tektronix part number: 001-1513-01

Description: Provides the Cerify Software License Agreement and also the licenses of various third party software used in Cerify. This PDF-only manual is available only on the product DVD.

General notes

New features

This software release includes the following major features:

- Audio Loudness Correction support for AIFF, AES3 and 8-ch AES3 formats and rewrapping back into MXF container format.
- QuickTime rewrapping support for RIFF, AIFF and Dolby E formats after audio loudness correction.
- Audio phase mismatch test.
- Support for Partial checks using time code.
- Closed caption checks for MXF container format.
- Audio Loudness Correction support for PCM tracks containing more than 6 channels.
- Support for logging Audio Loudness Correction details in log files.
- Support for PDF report generation for PSE test.

Dongle reprogramming

All software versions after v7.2 require an update of the license dongle prior to being able to use the new version. Please make sure to update your Cerify license dongle before installing v7.7 as your Cerify system will cease to operate on v7.7 with the older license dongle until you get the license dongle updated to v7.7. Also note, all users with a valid Cerify Annual Software Maintenance contract are eligible to receive the base features included in this version without any additional cost. Licensing for the optional HA (Supervisor high availability functionality) is an additional cost that is not covered by the Cerify Annual Software Maintenance. Please call your Tektronix Sales representative if you wish to add HA feature to your existing Cerify system.

To obtain the license updates needed by your Cerify system to use this new version, send the c2v file of your Cerify dongle to the following address: cerify-asm@tek.com.

Cerify demo dongles need to be updated to version 7.7 in order to use the new features.

Users upgrading from older versions do not need to export and re-import the Cerify database. The upgrade of the database is performed as part of the upgrade install with the exception of a case where an existing non-HA version of Cerify is upgraded to an HA Enterprise cluster option, where an in-place upgrade is not available.

Product enhancements

- Automated Audio Loudness Correction Enhancements

Automated Audio Loudness Correction (ALC) was added to Cerify in v7.5

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and it was enhanced with cross-track ALC in v7.6. In v7.7, the following enhancements have significantly increased the scope of the product and as such have increased the target customer segments that we can now approach with it:

- ALC support for AIFF format: with this enhancement, Cerify will be capable of automatically correcting audio tracks of AIFF format.
- ALC support for AES3 and 8-ch AES3 formats: with this enhancement, Cerify will be capable of automatically correcting audio tracks of AES3 and 8-ch AES3 formats.
- ALC support for PCM/AES3 tracks with more than 6 channels: In v7.6, for PCM format, maximum number of channels supported for ALC was 6. In v7.7, ALC of PCM format is supported to up to 16 channels.

PLEASE NOTE: Automated Loudness Correction is an optional feature in Cerify that needs to be purchased additionally and is not included with the base Cerify product.

- Rewrapping of QuickTime files

Cerify v7.7 now enables the rewrapping of corrected audio tracks within QuickTime files in addition to MXF and Transport Stream files (that were supported in v7.6). This functionality will support Loudness correction of RIFF, AIFF, and Dolby E streams and rewrapping them into QuickTime files.

PLEASE NOTE: For QuickTime rewrapping functionality, installation of QuickTime player is required.

- Partial Checks Support

Support added to perform time code based partial checks on audio and video streams. When partial checks is enabled in container template, specified time code ranges will be excluded/included in the selected audio and video quality tests. Also, CeriTalk support for partial checks is added.

- Audio Loudness Correction Log

Support added to log the details of audio loudness corrections performed by Cerify. The log name will be in the format of "alc-log-mm-dd-yyyy.csv" and will be available in a directory "ALC-Logs" in the Cerify root directory.

- PSE PDF Generation

Support added to generate PDF report for PSE test, when PSE test is enabled.

- Improved Audio/Video Tests

Cerify v7.7 has had the following improvements made to audio/video testing:

- Audio Phase mismatch test in all audio templates.
- Pixel Aspect Ratio test.
- Multiple options can be selected for PCM type test in PCM template.
- Combined test for testing frame rate and video scan type (interlaced or progressive).
- Multiple options can be selected for sample depth test in PCM template.
- GOP internal test modified to use display order

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- (instead of decode order).
 - Support added for MPEG-2 High Profile decoding.
 - Field order test modified to support duration parameter.
 - Field order change detection test and Field order stream flag check are added in video template.
 - Some AVC/H.264 standard checks updated to reflect the final standard.
 - Alert description is modified for the "Error in picture" alert from MPEG-2/AVC optimized decoders to better convey the significance of the alert.
 - Changes related to long loudness alert reporting. Only one alert will be raised if the long loudness value is outside the specified thresholds.
 - Change minimum limit for Momentary loudness to -99 LUFS so that user can use default limit of -99 LUFS, if he does not want alerts for momentary loudness.
 - For blockiness test, minimum/maximum value of blockiness score are displayed.
- New Container Tests
- Cerify v7.7 has had the following improvements made to container testing:
- Channel assignment test in QuickTime container.
 - Test to check if QuickTime file is a self-contained in a single file or reference to external essence files.
 - Test in QuickTime container to check the color space used.
 - Test for Clip start time code in QuickTime container.
 - Test to detect the presence of 608 and 708 closed captions in MXF container.
- Additional stream attributes
- Displaying channel mapping values for MOV files.
 - Addition of DialNorm value to audio stream properties for AC-3 format.
 - Addition of closed caption attribute in LXF container attributes.
 - Addition of stream attribute for PSE test pass/fail.
 - Addition of stream attribute for "display Picture Resolution" for AVC video.
- Other enhancements
- Added support for processing multiple audio tracks in AVI container.
 - If any system configurations were changed (using CerifyPropertiesUpdater utility) in 7.6 version of Cerify, these will be retained if you upgrade to 7.7.1 version.
 - Support for file: protocol media files while creating mediaset through Ceritalk clients.
 - Product version check in case of HA setup revisited. Proper error message is displayed now when there is mismatch in the product version in primary and secondary supervisor.
 - Added a check to figure out secondary machine is running or not and displaying appropriate error message.
 - Installation location screen gives available disk space in the selected drive, in addition to space required.
 - Removal of video type summary info message from PDF report.
- Performance improvements
- Performance optimizations for missing frame test.
 - Performance optimizations while processing low resolution AVC files with optimized decoder.
 - Performance Optimizations while processing MP4 Simple Studio profile files.
 - Performance optimizations while processing JPEG2k files.

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- Pre-loaded profiles and templates

Sample profiles and templates will be pre-loaded for Netflix, Fox and AS-11 work flows, during fresh Cerify 7.7 installations.

Defects fixed

The following defects have been fixed in software version 7.7:

- Cerify installation and upgrade was not working properly when installed on system where locale was set to French.
- Frame number (FF - Field) in the time code column of alert was above the maximum possible value (25 was displayed when 24 should have been the maximum value for frame number).
- Memory allocation failure observed for some streams containing LATM audio.
- No access to XML reports on failover in HA as the IP in the reports points to the failed supervisor machine.
- Incorrect Media Duration error displayed for a stream of type Microsoft Smooth Streaming.
- Ceritalk: GetMediaFileResults and GetMediaFileStatus methods were not returning the values for web UI created jobs.
- Cerify aborts the job when cross-track template is added to profile for a stream with no audio tracks.
- Cerify support monitor was exiting when database capture was enabled.
- Cerify reported missing video track, even though valid AVC video is present in the file.
- RF64 audio streams with size greater than 4 GB are getting truncated to 4GB after audio loudness correction.
- Multiple test tone start alerts.
- Cerify reports false HRD alerts for AVC/H.264 (ATEME encoder streams).
- LPCM audio was not getting detected in QuickTime file.
- Cerify was unable to detect silence in the stream when threshold is set to -50 dB, though the maximum peak level in stream is -70dB.
- VBV buffer size issue with optimized decoder.
- False positives reported for pillar/letter box tests.
- Cerify was unable to recognize file format and tracks in an AVI file, during quick check.
- Frame rate issue for the MOV file containing DNXHD video.
- AVID memory allocation error for large file.
- Closed caption was not getting detected in LXF stream.
- Cerify was not able to process v0 LXF streams.
- Hang issue when using mismatched container template (when using optimized decoder).
- LRA value reported as zero for certain streams, even though the actual LRA was non-zero.
- Cerify support monitor was exiting when database capture was enabled.
- Release notes link in online HTML page was not working.
- Cerify does not show the license expired message in web UI for an expired trial pack dongle.
- Crash issue when Tape artifact test is enabled in video template.
- Blockiness quality score issue from the v7.5 and v7.6. The fix takes care of the 0 (zero) quality score and instances of significantly different scores when compared to the v7.4 algorithm.
- With ALC licenses lesser than overall licenses, ALC license errors are displayed instead of files waiting for ALC licenses to be available.
- MXF footer partition Alert text was incomplete.
- Frame rate mismatch warning raised for the job with blank profile
- Processing was getting stuck for a MOV file with external essences where an essence file was missing.
- Cerify was not able to detect video track in MOV file with AVC-Intra

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- video with four-cc values - ai5p, ai56, ai5q, ai55.
- Cerify wasn't able to decode the Dolby E track which contained PCM data in between 24 Byte aligned Dolby E frames.
- ATSC long loudness was not measured correctly for streams where audio is silent at end and "Ignore silence, mute" is enabled in the audio template.
- Cerify was not decoding the video completely for streams with MPEG4 studio profile video which had multiple session start code.
- Cerify was not processing files after couple of days, where there were SMB drop box jobs with quick check enabled and action template associated had move action enabled.

General limitations

This software release has the following general limitations. Please check the Tektronix web site (www.tek.com/software/downloads) for any updates to the Cerify software.

Partial Checks

- Partial checks are not supported for Microsoft Smooth Streaming and AVID AMT container formats.

QuickTime rewrapping after loudness correction

- Only RIFF and AIFF audio formats are supported for rewrapping into QuickTime files with reference to external essences.

HA Cluster

- HA cluster might not work correctly if there is momentary outage of network (less than 10 seconds). In such cases, you might need to restart the cluster.
- HA cluster will not work correctly if the dongle is removed and attached back (both on primary and secondary supervisors) or if the dongle is missing in any of the supervisor systems.
- The in-place upgrade of the database will not be performed when an existing non-HA version of Cerify is upgraded to an HA Enterprise cluster option. So while upgrading your Supervisor or standalone Cerify to HA Supervisor, please perform the following steps:
 - take the backup of the database using database backup option in Admin page.
 - Perform installation upgrade by executing Cerify v7.6.3 installer.
 - Restore the previously backed up database using database restore option in Admin page.

MXF rewrapping after loudness correction (Op1A and OPAtom1A streams)

- After re-multiplexing, the following items will not be preserved in the re-multiplexed streams:
 - Package Names
 - Sub-packages
 - dark metadata
 - ULs registered for private use (private metadata)
- The re-multiplexed stream will always have the following:
 - Random Index Package
 - MXF Generic Container Version as SMPTE 385M System Metadata Pack
 - A Footer partition
- The following items will change in the re-multiplexed stream:
 - Index SID

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- Body SID
- The size of the re-multiplexed stream may be different from the original.

TS rewrapping after loudness correction:

- If the original transport stream contains TS related errors, the rewrapped stream also might contain those errors in certain conditions.
- Rewrapping of corrected AC3 streams are supported only for the transport streams with 188 byte packet size.

Cross Track Audio Loudness Correction

- Cerify supports cross track correction only for WAV format (RIFF and BWF).
- Cross track correction support is limited to tracks with single channel.
- Bitstream correction is not supported for cross track loudness correction.

Audio loudness correction

Limitations imposed by the Dolby Professional Loudness Correction engine:

- AC3:
 - Sampling rates supported: 48 kHz
 - Number of channels supported: 1 to 6
 - Audio loudness correction library fails when trying to correct a silent audio stream
- WAV(RIFF/ RF64/ BWF) limitations:
 - Sampling rates supported: 32, 44.1, or 48 kHz
 - Bit depth supported: 16, 20, or 24
- Dolby E limitations:
 - Maximum Dolby E frame rate supported: 30 fps
 - Bit depth supported: 16 or 20
 - Must contain Dolby Digital metadata for each program