

# Release Notes



## **CerifyLite Video Content Verification System 071-2096-00**

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# Release Notes

These release notes provide the following information:

- An overview of the CerifyLite software application.
- A summary of how CerifyLite differs from Cerify.
- Descriptions of installation and operational problems or behaviors that you might encounter while using the software and explanations of how you can minimize or eliminate the impact on operation.



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**CAUTION.** Before installing CerifyLite, you must read the Installation Requirements, page 3.

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**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 CerifyLite database. See Database Backup in section 3 of the CerifyLite User Manual (Tektronix part number 071-2094-xx) for details of how to do this.

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This release is the first production version of CerifyLite. The first two parts of the version number, 3.0, indicate that the codec support is identical to that provided in version 3.0.1 of Cerify.

## Introduction

CerifyLite is an application for testing compressed digital media before transmission or use. Through a web-based interface, you can create test ‘Jobs’ which will perform a sequence of checks on a set of media files, and view the resulting outputs.

CerifyLite is a desktop Windows PC-based product designed to be used on a single computer. It is controlled using a Web browser and can access files on the PC’s locally available drives (hard disks, external USB drives, including memory sticks, and CD/DVD drive), but not network drives. The Web interface allows you to configure and query CerifyLite in an intuitive yet flexible manner.

A wide range of audio and video codecs and associated wrapper formats are supported. For a complete description, refer to the CerifyLite User Manual. Checks that can be applied to the media content include: compliance to video and audio standards, video and audio formats, resolutions, bit rates, adherence to transmission system limits, video and audio quality (including the presence of

obvious faults, such as audio silence). The results of these tests are stored in an internal database and can be viewed using the Web interface or used to generate reports.

## Related User Documentation

The following user documentation applies to CerifyLite version 3.0.2:

- *CerifyLite Automated Video Content Verification System, User Manual* (English), Tektronix part number: 071-2094-xx (also available through the CerifyLite Web user interface).
- *CerifyLite Automated Video Content Verification System, User Manual* (Japanese), Tektronix part number: 071-2095-xx (also available through the CerifyLite Web user interface).

## Comparison with Cerify

CerifyLite is a PC Windows version of the Cerify product, also available from Tektronix. The main differences between CerifyLite and Cerify are that the fully featured Cerify allows greater automation of content verification by allowing the following:

- Process files from remote locations. While CerifyLite can only process files on local disks, Cerify can access a whole range of remote locations, including FTP servers, SMB (CIFS) file shares, and Grass Valley, Omneon, and Pinnacle video servers.
- Action Templates. In addition to the types available in CerifyLite, Cerify provides a new type of template, called an Action Template. Action Templates allow the system to perform a series of actions when certain events occur. An example is, sending an email or generating an XML report when Cerify starts processing a Job or a file, or when an error is detected in a media file.
- Process multiple files simultaneously. Cerify can process more than one file at a time, either on a single unit or in a series of them working together (with clustering).
- Drop boxes. Cerify can automatically detect and test media files from designated locations, known as “hot folders” or “drop boxes”. The system monitors these folders for changes and processes new content as it arrives.
- CeriTalk. An XML-based API that lets you control Cerify from within other applications on other machines. This makes it possible to integrate Cerify with other content management, broadcast automation, and workflow systems.

- Remote access. Access the Web interface from any computer on the network, not only from the one where the system is installed.
- Multiple Users. Cerify supports creation of multiple users with different levels of access rights.

In addition to these extra features, the Cerify hardware platform ensures the following:

- Faster processing. Custom designed to meet the demands of processor-intensive content analysis operations.
- Scalability. Multiple units can be configured to work together as a cluster, allowing for the addition of new units into the existing infrastructure as required.
- Transparent failover. The clustered setup allows the system to continue processing media files even if a member unit fails.

## Installation Requirements

Refer to Appendix C in the CerifyLite User Manual for detailed instructions on how to install CerifyLite.

The following issues may arise when CerifyLite is installed:

- The performance (and hence the file processing time) of CerifyLite directly depends on the CPU performance of the PC. The processor should have a clock speed of at least 2 GHz; 3.6 GHz or greater is recommended. Similarly, the PC should have at least 1 GB of RAM; 2 GB is recommended. You require 800 MB of hard disk space to install CerifyLite.

Other hardware and software prerequisites are listed in Appendix C of the User Manual.

- It is recommended that CerifyLite is installed on a machine where it can be normally used as the sole running application. CerifyLite makes intensive use of both CPU and memory and will considerably degrade the performance of other applications running on the same machine. Similarly, running other applications or services simultaneously will degrade the performance of CerifyLite and increase the time taken to process a media file.
- Java 1.5 or later must be installed before CerifyLite. Instructions for obtaining the Java program and installer from Sun Microsystems are included in the CerifyLite User Manual. Administrative rights on the PC are required to be able to install the Java program.
- Administrative rights on the PC are required to be able to install the CerifyLite application.

- CerifyLite relies on a number of third party software applications that are packaged and installed with it: JBoss, MySQL and Ant. If these applications are already used on the PC it is recommended that they are removed before installing CerifyLite.
- The installation or update of Java by another application can interfere with the operation of CerifyLite. CerifyLite will always work, provided that Java 1.5 or later is available on the PC and the JAVA\_HOME environment variable is set to point to the directory of that installation, for example, “C:\Program Files\Java\jre1.5.0\_10\”.
- CerifyLite uses a number of network services that are local to the host PC. These services can sometimes be blocked by personal firewall software; an error message will be displayed when CerifyLite starts. In this case, the firewall should be configured to allow the service on the appropriate port, or the firewall should be disabled.
- The use of Google Desktop can interfere with the installation of CerifyLite.

## User Manual

The printed user manuals (English and Japanese) have the following limitations. These limitations are addressed in the English online user manual:

- The printed user manuals (English and Japanese) do not list the descriptions for syntax alerts raised by the AAC and Dolby Digital audio decoders. The missing alert descriptions are available in the English online user manual.
- The printed user manuals (English and Japanese) describe the AAC profile check incorrectly. The English online user manual describes this check correctly.
- The printed user manuals (English and Japanese) list the alert “Unique alert limit reached” as being ID41003. The level of this alert has been increased to warning and its ID changed to 31006.
- The printed user manuals (English and Japanese) do not fully describe the circumstances under which CerifyLite will limit the presentation of alerts to the user. The English online user manual has a more complete description of how alerts can be limited.

## Operational Issues

You should consider the following operational issues:

### Licensing

- License dongles are not compatible between CerifyLite and Cerify.
- If you remove the license dongle from the PC and reinsert it, you will need to restart the CerifyLite to allow the dongle to be redetected.

### Database

- It is possible (but unlikely) that a power failure could lead to database corruption. You are strongly recommended to regularly backup the CerifyLite database and to build this backup operation into your operating procedures.

### Web User Interface

- When jobs are restored from the archive, they will always have a pause status. This avoids the restored job causing unexpected processing if the relevant MediaSet has had MediaFiles added since the job was archived; previously this would have caused a complete job to resume processing. To remove the pause status, select and resume the job using the drop-down menu at the bottom of the jobs monitor page.
- The use of the “&”, “#”, “%”, and “+” characters within media file names, or in the names of directories in which media files are located, cause problems within the Web user interface that prevent the media file from being added to a MediaSet. If this occurs, the file should be renamed and the use of these characters avoided.
- Complete path names, including the path and the filename, longer than 240 characters must not be used. Files with paths that exceed this limit should be moved, or renamed to avoid this problem.
- The Web user interface has been tested using Microsoft Internet Explorer 6 and Mozilla Firefox 1.5. Although the interface should behave normally in Internet Explorer 7 and Firefox 2, this has not been fully tested.
- Firefox 1.5 has a known defect which can sometimes result in incorrect layout of template pages. This does not affect the behavior of CerifyLite in any way.
- The Web user interface and reports indicate large numbers using the prefixes “k”, “M”, and “G”. These represent multiples of 1024, 1048576, and 1073741824 respectively, as opposed to a 1000-based multiplier.

- If more than 50 frames contain alerts, no more alerts for the stream will be displayed, but you will not be informed of this fact. This is rarely an issue, since the total number of video or audio alerts (set by the audio and video templates) or the individual alert limit (20) will always be reached first.

## Media Processing

- CerifyLite has been successfully tested with MPEG-2 files of 45 GB. However, there are some limitations on the size of files that can be processed. The limit cannot be exactly specified, since it depends on a number of factors. The most important factor is the wrapper file type being used (if any). In particular, using program stream or transport streams with a small PES packet size reduces the size of file that can be processed. For example, a program stream containing 2 Kb PES packets with MPEG-2 video was limited to 16 GB, while a transport stream containing 64 Kb PES packets and MPEG-2 video successfully processed a 36 GB file. This can be worked around by extracting the elementary stream from the transport stream, or by breaking the stream into multiple smaller files at suitable packet boundaries.

Beyond this, the maximum file size is also impacted, to a lesser extent, by the video and audio codec being used, the number of video frames in the file, the number of alerts raised by the file, and the resolution of each video frame.

The amount of physical RAM does not impact the size of file that can be processed, since Windows XP always supports a virtual address space of 2 GB. However, performance will be improved as the amount of memory increases, since cache misses will be reduced.

- CerifyLite will process up to the number of bytes present in the media file, only at the point that the job is created. If the file subsequently grows, the new bytes will be ignored. It is best to start jobs only after media files have been completely copied onto the hard disk.
- Some AVC streams do not indicate a video frame rate. For these streams a frame rate check, if selected in the video template, will fail. Video template tests that can be checked over a user-specified length of time (for example, black frame or blockiness checks), will calculate the length of time to check based upon the *<number of frames>* / 25; a frame rate of 25 frames per second is assumed. If this assumption is not correct, you should specify the length of the check based upon the number of frames rather than the length of time.
- CerifyLite does not support in-stream changing of frame size. CerifyLite will terminate processing of a file if the frame size changes.
- The system template “Omneon QT” can be used to process any type of file that conforms to the Apple Quick Time® format containing atoms supported



by CerifyLite (refer to the CerifyLite User Manual for more details). This includes files that have interleaved essence and those that refer to external essence files.

- VC-1 streams that do not contain a header at the start of the file will not be decoded correctly.
- When processing media files, you can limit the number of alerts so that processing will terminate after the limit is reached. In this situation, the reported length of stream - and any derived stream properties, for example, bit rate - will be calculated on the basis of the length of stream actually processed, and not the complete stream.
- The file size of referenced/non-embedded wrapper formats (such as some Quick Time<sup>®</sup> and MXF files) is reported as just the size of the wrapper file and not the sum of all the referenced files. Care should be taken when using stream properties or checks (for example, bit rate) for the system template. Stream properties and checks for referenced audio or video content can still be reliably used.
- The detection of poster frames and the execution of black frame tests are only supported for 8-bit video.
- When running black frame tests and silence tests, there may be a conflict if “test during video” and “test at end” checks are used together. For example, if “test during video” is set to check for black frames occurring during the video, and “test at end” is set to check for black frames occurring at the end of the video, an erroneous alert will be generated if both tests detect black frames at the end of the video. However, no alerts are missed, and this behavior is still failsafe.
- Detection of audio test tones during video is not supported. Detection of test tones at start and end of media playback is supported.
- Test coverage of the MPEG-4 main profile video codec is limited.
- An end\_of\_sequence code in an MPEG-2 video stream causes CerifyLite to stop processing the video without raising an alert. Associated audio streams will continue to be processed.
- The CerifyLite Dolby Digital decoder outputs six channels regardless of the number of coded channels. Dolby Digital is the only audio codec supported by CerifyLite that can be configured for any number of speakers, independent of the number of channels coded in the stream. CerifyLite has no mechanism for passing this configuration to the decoder, so it defaults to the maximum of six.

**Codec Support** The codecs supported by CerifyLite have the known limitations, and they are documented in the CerifyLite User Manual.

## Acknowledgements

The following are in addition to those already included in the user manual.

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