Release Notes

Tektronix

Cerify CYS100/CYS200, CYM100/CYM200,
and CYC100/CYC200
Automated Video Content Verification System

071-2247-01

This document supports software version 4.0.2.

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Release Notes

These release notes provide the following information:

- The new Cerify features available in software version 4.0.2.

- Installation and operational problems or behaviors that you might encounter while using the instrument and ways to minimize or eliminate the impact on instrument operation.

> **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 *(Tektronix part number 071-2241-xx) for details of how to do this.*

> **NOTE**. *These instructions are for personnel who are familiar with servicing the product. If you need further details for disassembling or reassembling the product, refer to the appropriate product manual. Contact your nearest Tektronix Service Center or Tektronix Factory Service for installation assistance.*

Related User Documentation

The following user documentation applies to Cerify version 4.0:

- *Cerify CYS100/CYS200, CYM100/CYM200, and CYC100/CYC200, Automated Video Content Verification System, User Manual (English)* Tektronix part number: 071-2241-01.

- *Cerify CYS100/CYS200, CYM100/CYM200, and CYC100/CYC200, Automated Video Content Verification System, User Manual (English)* Tektronix part number: 071-2097-01. The Japanese version of the user manual was provided for the Cerify 3.0 software release, and is largely applicable to version 4.0.2.

Both manuals are available via the Cerify Web user interface.

Enhancements

Software Version 4.0.2 The following features have been added since version 3.4 of Cerify:

- Support for syntax and quality checks on DV 25 video format.

- Support for Cerify CYx100 family of hardware.
  Version 4.0 of Cerify can run on both the older CYx100 hardware and on the latest CYx200 hardware, which provides considerable performance improvements.

- Introduction of the CeriTalk2 API.
  CeriTalk2 is a SOAP API that lets Cerify users fully integrate automated video content verification into their workflow by making available a standards based interface for remote programmatic access. A software development kit (SDK) for use with the API is also available in this release. Refer to the *CeriTalk SOAP API* in the user manual for more information on this feature and the SDK.

- Improvements in connectivity with video servers.
  The software has been made more resilient and configurable to provide better connectivity with Grass Valley (Profile XP and K2) video servers.

- Support for DVD LPCM audio.
  The PCM audio templates now provide the option to set the PCM type as DVD LPCM. All existing tests for syntax, standards and quality can be performed on DVD LPCM streams of variable bit rates and depths.

- Addition of a new test to detect freeze frames in video.

- MPEG-2 transport streams can now be checked to make sure that decoded video and/or audio streams were found on specific PIDs (or within a given PID range).

- Results from parameter template checks are now reported back to the user in real time. As a result, you do not need to wait until the whole file is processed to detect failures resulting from template parameter checks.

- Provides better controls for alert limiting and suppression.
  You can now limit the number of container alerts, in addition to the existing limits that could be applied to video and audio alerts.

- The term *System* has been replaced with the term *Container* throughout the Web user interface where *System* has been used to refer to standards for carrying elementary streams (such as MPEG-2 Transport Stream, MPEG-2 Program Stream, and MXF). This change applies to areas of the Web user interface such as Templates pages, Alert pages (alert type), Reports (Web, e−mail, and XML), and the online help pages.

- *Pause* and *Terminate* actions, previously available in the Archive/Restore control on the Jobs Monitor page, have been replaced with a new action: *Stop*. As with the earlier options, the *Stop* action has two variants: Stop - finish current files and Stop - immediately. The first option allows media files that are currently being processed to run to completion. The second option will immediately terminate all processing related to the Job(s) selected to be stopped.

- Jobs can now be deleted.
  The *Delete* option is available in the Archive/Restore control on the Jobs Monitor page and can be applied to one or more selected Jobs from the same page. Deleting a Job also removes all its associated result data (such as stream information, alert, and thumbnail information) for MediaFiles processed as part of the Job. Use this option to reduce the amount of data that needs to be exported before taking a database backup in Cerify.

- Each alert reported by Cerify now has a unique alert ID associated with it. This new *Alert ID* field is visible on the Web user interface, as well as in all types of Cerify Reports (Web, email, and XML). Other improvements to alert reporting include a clean up of alert titles and types.

- User configurable limit for individual alerts.
  You can set the limit for the number of alerts of a particular type that may be raised by the system against a given MediaFile. Alerts are identified using their unique Alert ID.

- Supports CYS100 and CYM200 clusters.
  However, note that CYx100 and CYx200 hardware cannot be used together in a cluster in any configuration, other than with the CYS100 acting as the supervisor for CYM200 Media Test Units (MTU).

- Intel RMM boards are replaced by Intel RMM2 boards.
  RMM2 boards are an upgraded version of the earlier RMM boards. They have additional remote management functions like SNMP traps, which enable a greater level of system monitoring and control.

- Parameter mismatch alerts are now raised at start of stream processing.
  Also, if the codec in the template does not match the codec in the media file, processing is immediately terminated.

- Available stream information is reported immediately at the start of stream processing.

- New alerts have been added and some existing alerts have been reclassified. Refer to the section *List of Alerts* in the user manual for a complete list of alerts and their details.

- The software has been optimized to reduce memory consumption, and thereby improve system performance under load.

Installation Issues

The following installation issues should be considered:

- Insert the software key (dongle) and all network cables according to the user manual instructions before turning on the Cerify unit or reinstalling the software.

- Power on the unit by pressing the power button on the top right of the unit (behind the front panel, and not to be confused with the ID button). For complete instructions on powering the Cerify system on and off, refer to the user manual.

- Take care when powering off one or more Media Test Units in a cluster. If jobs are being processed and there are other Media Test Units still running, the cluster's behavior is undefined. In this situation, you should restart all units in the cluster, including the Supervisor, as described in the user manual.

- If the license dongle is removed from the unit and reinserted, you must restart Cerify for the dongle to be redetected.

- The only mixed cluster (one that uses both CYx100 and 200 hardware) supported by Cerify 4.0 software is a CYS100 Supervisor with CYM200 MTUs.

- When booting up clusters or introducing additional MTUs to a running cluster, occasionally an MTU does not correctly join the cluster; this can be identified by the MTU not being listed in the *Edit Media Test Unit Config* page. If you encounter this problem, restart the whole cluster.

- When setting up the private network for a Cerify cluster, the switch being used should be configured to allow uninterrupted multicast traffic. Some of the CISCO and Pro-Curve switches are known to disallow multicast traffic, either after a period of time or by totally blocking such traffic. This would result in the Cerify clusters not being able to be set up or clusters becoming unstable and inoperative after an interval.

- MTUs in a Cerify cluster will synchronize their clocks with the Supervisor unit using NTP (Network Time Protocol). However, this can take many hours to occur when there are substantial initial differences in system time. Set the MTU system clocks in the BIOS to closely match the Supervisor's time settings before the MTU is booted into the cluster. This is done in the factory, but the time may become incorrect if the unit has been without power for a long period of time.

User Manual

The user manual for Cerify version 4.0 includes new sections on the following topics:

- Hardware Maintenance. This section provides details on the Intel Remove Management Module (RMM), RAID alarms that can be raised by the unit, details of the control panel on Cerify units.

- CeriTalk SOAP API.

- Configuring and using the Intel Remote Management Module.

- Configuring the network configuration of Media Test Units via the Web user interface.

- End user license agreement.

The following information has been updated:

- The List of Alerts.

- The System Specifications, Component Specifications, and Networking sections have been updated to include both CYx100 and CYx200 information.

- Updating Cerify software from DVD media.

- Network topology in the System Components section.

- How to configure the network settings in the Configuration section.

- The Accessories and Options sections have been updated with Cerify 200 nomenclature and part numbers.

- The hardware specification in Appendix E.

- Glossary.

Operational Issues

The following operational issues should be considered:

Network Connectivity

- Due to variability in the response format of FTP servers, Cerify can only be guaranteed to work correctly with FTP servers with which Cerify has been previously integrated. A list of compatible servers is given in the *Media Location Management* section of the user manual.

- Cerify v4.0 does not support the Omneon MediaGrid File System due to non-availability of the latest OMFS driver. This driver is expected to become available in the near future and can be added on to the Cerify unit manually, thereby reinstating interoperability with Omneon MediaGrid File System. Connectivity to a MediaGrid via a ContentBridge is still supported.

- Use of more than one DNS server is not supported.

- Net BIOS is not supported.

- For greater consistency, the use of NIC 2 and NIC 3 has been reversed when connecting to a Grass Valley server. Connect NIC 3 to the AMP service on the control network, and connect NIC 2 to the video server network as described on page 1-5 of the user manual.

- Direct fiber channel connectivity is not supported.

Licensing

- Dongles created for Cerify version 3.4 are compatible with Cerify version 4.0. However, Cerify version 4.0 cannot be used with dongles created for Cerify versions 3.0, 2.0, or 1.0. It is possible for dongles to be securely and remotely upgraded to support the latest version of Cerify.

- Occasionally license failures will be reported by the unit when the license dongle is inserted. This occurs rarely, and can be addressed by restarting the unit (if the Web UI is inaccessible due to a license failure) or by rerunning a job (if an individual file has indicated a license failure).

Database

- It is possible (but unlikely) that a power failure could lead to database corruption. Back up the Cerify database regularly (build the backup operation into your operating procedures).

- When creating a backup of a database using the Cerify 2.0 Web user interface, ensure that you click the backup button only once. By clicking the button twice (extremely rapidly), it is occasionally possible to create an incomplete backup file, making it impossible to restore the database. This issue has been fixed in Cerify 3.0 and later, but may still affect customers upgrading from Cerify 2.0.

- When upgrading from Cerify 2.0, you will need to redefine the gamut and luma limit checks (if any) in your video templates. These checks have been enhanced in Cerify 3.0 and later; the way the parameters were defined in version 2.0 is not compatible with version 3.0.

Web User Interface

- Altering the URL or user credentials of a MediaLocation that is being used by one or more MediaSets may cause inconsistent behavior in the Web user interface. If this occurs, create a new MediaLocation and recreate the MediaSets that were using the old MediaLocation. Changing the properties of a MediaLocation that is not yet being used by any MediaSets does not cause any problems.

- When setting up Grass Valley MediaLocations, you must specify the username and password to use to access the Grass Valley server. The system no longer assumes the username *movie* when these fields are left blank.

- When jobs are restored from the archive, they will always have a stopped status. This avoids having the restored job cause unexpected processing if the relevant MediaSet has had MediaFiles added since the job was archived; this would cause a previously complete job to resume processing. You can restart stopped jobs using the Resume action in the drop-down menu at the bottom of the Jobs Monitor page.

- The use of the "&" and "+" characters within media file names causes problems within the Web user interface that prevent the media file from being added to a MediaSet. If this occurs, rename the file and avoid the use of these characters.

- 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 and 2.0 have a known defect, which can sometimes result in incorrect layout of template pages. This does not affect the behavior of Cerify.

- When creating a MediaSet, the Web user interface file browser will respond slowly if the directory being listed contains many subdirectories. This situation is typical when using Pinnacle servers. During this period, the Web browser will show the message *Please Wait*. However, in some situations the Web browser will also display a warning message indicating that the page's Javascript is responding slowly. The message can be safely ignored and the script should be allowed to continue to completion.

- You can use action templates to copy and delete single media files after they have completed processing. For video servers that store assets using directories (for example, Pinnacle servers), or referenced formats (for example, Omneon Quick Time® files), it is not possible to copy or delete the entire media clip asset with this method. Use another method to copy and delete this type of asset after processing.

- Not all files that Cerify is able to process can be played back in VLC. More details can be found in *Appendix C* of the user manual.

- When VLC is being used to play back media files, the client PC (the PC being used to view the Web user interface and play back the files) accesses the media files using the same media file URL that Cerify uses. VLC access of the video server is through FTP and SMB/CIFS. This has the following implications:

  - For SMB/CIFS access, the shared folder must previously have been mapped on the client PC. This is a Windows limitation.

  - Only standard FTP servers can be accessed. This excludes some video servers, such as Omneon. This is a limitation of the FTP client within VLC.

Media Processing

- 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 seconds 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.

- Cerify does not support in-stream changing of frame size. Cerify will terminate processing of a file if the frame size changes.

- Audio streams with varying sample rates/SBR information are not supported.

- 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 Cerify (refer to the *Cerify 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. Also, checks that depend on the end of stream being found, such as a check for black frames at the end of the stream, will not be carried out. An alert is raised that warns the user of this fact.

- The file size of referenced/non-embedded wrapper formats (such as some Quick Time® and MXF files) is reported as just the size of the wrapper file and not the sum of all the referenced files. Take care 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 supported only 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 in combination. If the former is set to check black frames during video, and the latter test requires black frames at the end of the video, an alert will erroneously be raised during the end period due to the former check. No alerts are missed, so this does not affect the instrument behaviour.

- 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.

- When the *Loss of Chroma* or *Pillar-box* tests are set up to ignore more than two seconds at the end of the stream, it is possible for the system to raise an alert without a video/audio thumbnail associated with it. The alert itself is legitimate and should be considered valid.

- Cerify fails to process MPEG-2 video streams where the *chroma_format* parameter in a *sequence_extension* changes midstream. When such a change

is encountered, the system may report a *Processing Error*: *The media test client has encountered a fatal error* alert. Although this alert can be reported as a result of other exceptional conditions, the parameter change is one possible cause and should be investigated.

Codec Support   The codecs supported by Cerify have the known limitations, and they are documented in the Cerify user manual.

CeriTalk   The CeriTalk1 (XML reports) namespace and schema elements have changed. XML report clients that validate against the old schema should be modified to refer to the new schema. The new schema can be downloaded from the online help pages of Cerify version 4.0, from the *CeriTalk XML Reports* section.

Defect Fixes

Software Version 4.0   The following defects have been fixed since version 3.4 of Cerify:

- Cerify reporting "Unknown" as the file size and negative values as the bit rate for growing files (for example, MXF/GXF files), has now been corrected. Cerify will report the correct final size of the file and the correct bit rate.

- Multiple CeriTalk XML reports were created for the start of a single MediaFile.

- Controls on the Cerify front panel to adjust the backlight intensity on the display were reversed.

- If you typed in an invalid filename when creating a static MediaSet, the directory listing went blank.

- Failure to raise an alert when an unsupported audio format was encountered within a Microsoft ASF container.

- Credentials entered while setting up a GVG MediaLocation were ignored by the system.

- Database import from v3.0 fails when the imported database had multiple MediaSets with the same name.

- Cerify sometimes failed to process files from GVG servers due to restricted number of active FTP connections allowed. A retry mechanism has now been implemented to make sure that the system copes with temporary file-transfer issues such as this.

- Dolby digital audio is always reported to contain six channels although only two channels may be coded. The system has now been modified to report the correct number of coded channels.

- Loss of throughput on Cerify combined units and clusters due to a various defects in the area of Job processing.

- Some alerts were being reported with invalid location details on them. This happens in particular for alerts raised against the container layer. The system now reports alert locations in a consistent manner. If an alert does not pertain to a specific frame in the stream, the location field on the user interface shows the value as "N/A".

- The system could not detect an incomplete final frame on a VC−1 stream.

- Multiple users could use the UI concurrently to create duplicate entities in the Cerify system that would later cause a system failure.

- Cerify failed to cope with temporary failures while accessing a MediaFile over FTP. The system should be able to retry a file transfer when the reason for failure is deemed to be temporary in nature.

- Testing huge files (larger than 300 GB) would cause the Cerify process to crash due to memory limits being reached. The system now exits gracefully when it runs out of memory.

- Audio thumbnails produced by Cerify for long streams with multiple channels of audio, were displaying erroneous waveforms. This defect was confined to the displayed audio thumbnail image and the test results/alerts themselves were good and valid.

Software Licenses

Cerify contains additional material, which may be covered by one or more of the following licenses:

- General Public License

- Lesser General Public License

- Mozilla Public License

- Apache License

- Common Public License

- Expat

The text of these licenses can be found on the software license CD (Tektronix part number: 063-4060-xx).

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