

## Cache-A Archive Appliance Software v3.4.4 Release Notes

Version v3.4 is a software release that provides new Discovery Channel mastering capabilities, refines LTFS functionality and addresses certain issues with volumes containing a very large number of files.

This release still includes the Version 3.3 manual – all UI and operational changes to this release are only documented here in this release note and an updated manual will be forthcoming in a future release.

You can find a copy of the **Version 3.3 ARCHIVE APPLIANCE MANUAL** on your Cache-A system accessed via the “User Manual” button on the Version page of the web user interface.

The following new features since v3.3 have been included in this release:

- A Setting to turn Off automatic LTFS checking: Tapes with a very large number of files (typically 500,000 or more) can take a very long time (over an hour) to mount due to LTFS file system checks. A new configuration setting allows users to turn this checking off. When turned off, the system will attempt to mount the LTFS volume without a check, if it can't be mounted, the user will be presented with a dialog box to choose a manual Check, Eject, or Initialize:



Manual LTFS Check: ☒ On ☐ Off

- A Setting to turn Off automatic restore size checking: Cache-A systems normally calculate the total size of each restore session to ensure that it will fit on the target volume. As this can take a very long time where Catalogs or individual tapes contain a very large number of files, users can now turn this checking off to allow restores to begin much more quickly:



Disable Restore Check: ☐ On ☒ Off

- Features for conforming tapes for the Discovery Global Technical Specs - Version 4.0 and Discovery File Based Program Masters – Version 1.3.1:  
Cache-A version 3.2 provided features to enable conforming tapes to Discovery File Based Footage Policy v2.0, however the new specifications for master tapes and graphics file tape delivery requires additional functionality that have been incorporated into this release. Consult Cache-A's “Making Discovery Channel Tapes” Tech Brief for instructions on how to properly use the following new features:
  - Formatting an LTFS tape now allows the optional entry of an “LTFS Volume Name” - if not provided, it defaults to the tape's serial number (as in the past).

## Cache-A Archive Appliance Software v3.4.4 Release Notes

Users should note that they can only change the LTFS volume name at format time (a.k.a. Initialize and Erase).

- A new function has been provided, accessed via the Settings tab that creates one, two or three MD5 checksum files as mandated by the above referenced specifications:
  - A MAIN.MD5 file in the Discovery Main directory if it exists (named MAIN at the top level). This file contains each file name and path within the Main directory and its checksum.
  - A GFX.MD5 file in the Discovery Graphics directory if it exists (named GFX at the top level). This file contains each file name and path within the Graphics directory and its checksum.
  - An AUDIO.MD5 file in the Discovery Audio directory if it exists (named AUDIO at the top level). This file contains each file name and path within the Audio directory and its checksum.

The files will not be generated if no appropriate directory at the top level exists and the file will not contain checksums unless the setting “**MD5 Checksum on Archive**” was set to **On** when the files were archived. This function automatically executes prior to the LTFS unmount when the tape is ejected:



"Discovery" MD5 Checksum: ☒ On ☐ Off

- Discovery format rules have been expanded to include other capitalizations for files to be placed in the index track – all of the following will be so accommodated when the Discovery Format setting option is enabled:

metadata.xml  
Metadata.xml  
METADATA.XML

- A new command to synchronize the Cache-A catalog with the state of an LTFS volume:  
A number of situations can arise where the Cache-A catalog is incorrect (i.e. when a tape has been modified outside of the Cache-A environment). A new command has been added to the **Menu** button called **LTFS Sync** that will cause a scan the LTFS file system and recreate the Cache-A catalog record for this volume updated to the current state of tape. As this can take a long amount of time for a large number of files, the user is presented with a confirm dialog.
- A new command to synchronize the current tape with the VTAPE:  
A number of situations can arise where the Cache-A did not archive content written to the VTAPE (i.e. when content is written to an already existing nested folder). A new command has been added to the **Menu** button called **VTAPE Sync** that will cause a scan the VTAPE and comparison to the current tape contents and cause any updated or new files not on tape to be synchronized (written to tape).

## Cache-A Archive Appliance Software v3.4.4 Release Notes

- A new “export\_catalog” tool has been added: A new command line tool can be accessed to more easily create listings of tape or catalog contents. Users can log into the Cache-A system and simply type “export\_catalog” to get a menu-driven interface for this purpose. This function is provided in addition to the earlier “caq” tool, is more user friendly and provides access to MD5 checksums not available from caq.

The following significant bug fixes have been included in this release.

- Issue with LTFS tapes taking too long to unmount: This version includes a fix that presents a dialog to allow users to force eject LTFS volumes that fail to unmount normally.
- Issue with tar tapes having partition or potentially overwriting the LTFS index partition: This version presents a dialog to allow a user to repair a tape if the system detects a state where a tape is defined either by the catalog or by the medium attributes as a tar tape and the tape contains partitions.
- Issue with the system not releasing the tape drive: This version includes fixes to ensure tapes can be ejected normally.
- Issue with allocating tapes in library spanning: This version includes a fix that prevents LTFS tapes from being used in the “Available” pool. Users should note that as of this change, only “Cache-A tar” formatted tapes are available for spanning (whether the current spanned set is LTFS or tar).

The following lists include a number of items users should note:

### DOCUMENTED PROBLEMS

*Issue:* A variety of serious problems can occur if you use the Maintenance Terminal to access Linux visual tools (Nautilus) to manage files.

*Workaround:* Manage files from the Cache-A Web UI or from the client computer to which the Cache-A share is mounted.

*Issue:* LTFS Sync function does not work if any files are selected in the Tape Directory window.

*Workaround:* Shift selecting any highlighted items will toggle off any selections. Reselect LTFS Sync after deselection, a dialog should appear to confirm the action.

*Issue:* Large Simul-Copy sessions may leave the system in an unsuitable state.

*Workaround:* When a Simul-Copy session is completed, eject all tapes and select Restart under the System Tools > Utilities Tape Manager section.

*Issue:* Connecting eSATA devices does not support hot swap – new recommendations follow:

*Warning:* In order to have eSATA drives appear correctly

- Fully shut down your Cache-A system

## Cache-A Archive Appliance Software v3.4.4 Release Notes

- Connect the eSATA device, then power the device up and assure it is fully running
- Then power-on your Cache-A system

*Issue:* Systems may have booting issues when USB drives are connected.

*Workaround:* Remove any USB devices when booting

*Issue:* Files that are added to an existing subfolder on a previously written tape do not show up in the catalog.

*Note:* If your archive completes with no errors, you can be confident that your files are in fact on tape. You can verify the presence of the files and/or restore them by using the search feature, as they will show up in appropriate search results.

*Workaround:* Create a new parent folder for these additional files, i.e. Project\_001\_update (or whatever).

*Issue:* Direct attached storage devices do not appear as volumes in the LocalStorage folder of the Cache-A Share

*Workaround:* Manage content in mounted volumes from the File Manager or by attaching such volumes to a client computer

*Issue:* Writing to Direct Attached Storage volumes that have been formatted for Mac OS systems only works when formatted as Mac OS Extended, Case-Sensitive (Not Journaled)

*Workaround:* Use the Mac Disk Utility to format such volumes as Mac OS Extended, Case-Sensitive when you expect to be writing to them from a Cache-A system. Note that Cache-A systems can read-only any Mac format.

*Issue:* Direct attached HSF (Macintosh) volumes cannot reliably access data on volumes over 2TB in total capacity.

*Workaround:* Attach such large volumes to client workstations and use network sharing or create partitions on direct attached storage devices of 2TB or less. If users have substantial need for direct attaching larger HSF volumes, contact Cache-A support to request the “Paragon” solution.

*Issue:* There are issues when attempting to move individual files over 4GB across file systems when initiated from SMB (Windows) network connected clients – this can affect direct attached storage and LTFS Volumes.

*Workaround:* Use the Cache-A Web User Interface to move such files across volumes (i.e. from staged folder onto LTFS). Also, an afp connected client (Mac OS) will successfully move such files.

*Issue:* Archiving fails when volume names (Tape name) contain parentheses.

*Workaround:* Do not use parentheses when naming tapes.

*Issue:* A slow script warning occasionally appears on some browsers in some situations, usually when many small files are being archived

## Cache-A Archive Appliance Software v3.4.4 Release Notes

*Workaround:* This problem can be avoided by pointing the browser to any other page while the archive is ongoing - return to the File Manager any time you want to see how things are progressing, just don't leave it there when you don't need to watch.

*Issue:* Archiving fails when a Catalog-sharing Client loses communications with its Master.

*Workaround:* Reestablish communications, the archive should complete. If due to a power loss or permanent network failure, you may have to restart the Client Tape Manager after communications is restored and recreate the archive.

*Issue:* Bad practices in file naming can cause archiving issues and cross platform issues.

*Workaround:* We recommend that you follow standard Windows naming limitations:

- Cache-A can not handle control characters within file names – this especially includes carriage return (CR), NULL, and Linefeed (LF)
- Avoid using the following special characters in file names: < > : " / \ | ? \* %
- Don't use a space or period as the first or last character and ideally, don't use spaces at all

### LTFS Issues

*Issue:* Using the Mac Finder in OSX 10.7, 8 or 10.9 (and to some extent with earlier Mac OSX versions) to display the LTFS Volume within the mounted Cache-A Share will trigger unnecessary archive sessions as the Mac OS places invisible files in every directory it sees.

*Workaround:* Avoid opening the LTFS volume when mounting the Cache-A share to late version Mac OSX clients.

*Issue:* The Recover-All function has not been implemented for LTFS.

*Workaround:* Use File Manager to select-all and drag-and-drop the contents of an LTFS volume to the Cache-A share or other desired destination.

*Issue:* In the event of some kinds LTFS errors, it is possible for the Catalog to not match the LTFS file system.

*Workaround:* Use a terminal session to remove the “.tapetoc.xml.gz” file from the LTFS Volume, eject, delete the entry from the Catalog, and reinsert the tape – the TOC will be rebuilt.

*Issue:* Using the Mac Finder or Windows Explorer to display the LTFS Volume within the mounted Cache-A Share, to use the Icon or other graphical views from Mac OS or from Windows Explorer, or to attempt to restore any more than a few files on an LTFS volume from Mac OS or from Windows Explorer will cause significant delays while the tape tries to act like a disk.

*Workaround:* Always use the Cache-A File Manager to manage LTFS files.

*Issue:* Mac OS Finder may report an “Error -50” upon dropping content onto the LTFS Volume – if you are using SMB mounting this is an issue Apple refers to as “named streams”: eliminate this error by following the steps in the Apple Knowledge Base report covering this topic, <http://support.apple.com/kb/HT4017>

## Cache-A Archive Appliance Software v3.4.4 Release Notes

– if you are using afp mounting, this may be due to illegal characters: check your file names for unusual characters

### Point Release Details:

- v3.4.1 First v3.4 internal release
- v3.4.2 Added Discovery formatting and export\_catalog functions
- v3.4.3 Settings and dialog minor improvements, refinement of Discovery MD5 function
- v3.4.4 Added Discovery Master format capability, bug fix for tar-to-LTFS formatting