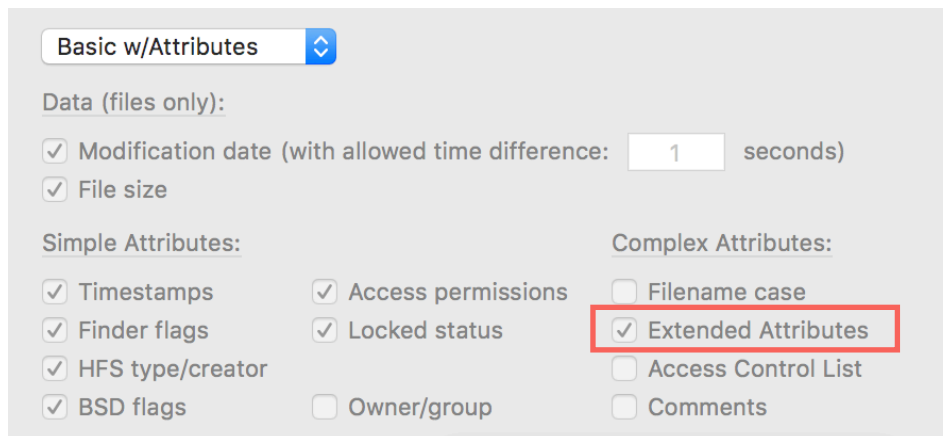


What's New in ChronoSync v4.9

ChronoSync v4.9 introduces many significant new behaviors and features. This document provides an overview of what is important to know along with what is neat, new and different.

Important Note #1: Default Trigger Behavior

Because of the increased use of Extended Attributes by many application programs*, the default “Basic w/Attributes” trigger mode now has the “Extended Attributes” option enabled.

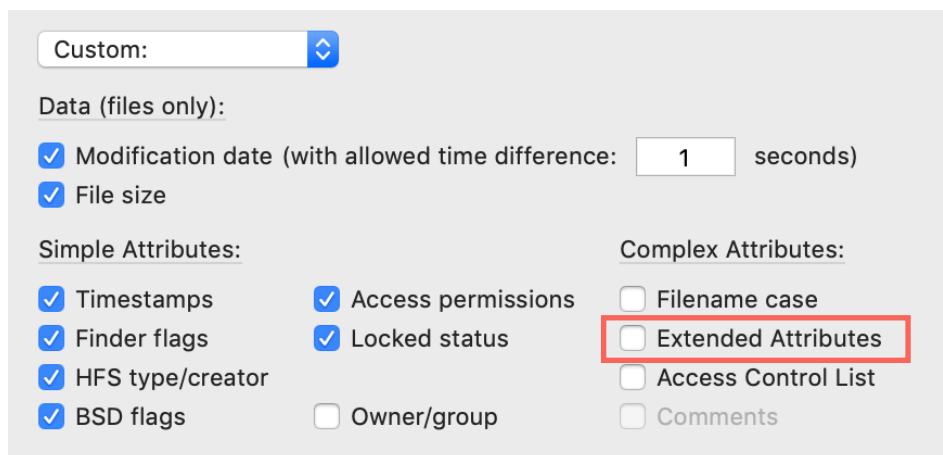


The screenshot shows the ChronoSync settings window for the "Basic w/Attributes" trigger mode. The "Data (files only)" section has "Modification date" (with a 1-second allowed time difference) and "File size" checked. Under "Simple Attributes", "Timestamps", "Finder flags", "HFS type/creator", and "BSD flags" are checked, while "Access permissions", "Locked status", and "Owner/group" are unchecked. Under "Complex Attributes", "Extended Attributes" is checked and highlighted with a red box, while "Filename case", "Access Control List", and "Comments" are unchecked.

As a result of this change, the first run of your existing sync and backup tasks may include more files than you are expecting. This will happen if any extended attributes have changed since you first copied the file with ChronoSync. You shouldn't be alarmed by this and should just let ChronoSync apply the attribute changes.

If you are performing bidirectional synchronizations, you may encounter conflicts since ChronoSync cannot tell which extended attributes are the correct ones to use. In this case, we recommend resolving all conflicts by either specifying the “newer” file in the file-pair or choosing “use left” / “use right,” depending on which set of files you consider to be more dominant.

If for some reason you do not want extended attribute changes to be detected, you can switch to the “Custom” trigger mode and turn this setting off.




The screenshot shows the ChronoSync settings window for the "Custom" trigger mode. The "Data (files only)" section has "Modification date" (with a 1-second allowed time difference) and "File size" checked. Under "Simple Attributes", "Timestamps", "Finder flags", "HFS type/creator", and "BSD flags" are checked, while "Access permissions", "Locked status", and "Owner/group" are unchecked. Under "Complex Attributes", "Extended Attributes" is unchecked and highlighted with a red box, while "Filename case", "Access Control List", and "Comments" are unchecked.


* *Extended attributes are used to store auxiliary information about a file such as where it was downloaded from, when it was downloaded, last cursor position, last viewed page, etc. Applications use them to help manage documents but should never store critical information in an extended attribute because their preservation cannot be guaranteed by all file systems.*

Important Note #2: Mojave Security

If using ChronoSync on macOS 10.14 (aka 'Mojave'), you should be aware that Apple has decided to really crack down on Security & Privacy. This affects how ChronoSync interacts with your files and other applications. Thus when ChronoSync first launches, the "Full Disk Access Assistant" may automatically appear. You should walk through the steps presented by the assistant in order to ensure that ChronoSync has full access to your files.

Full Disk Access Assistant

 **Full Disk Access is Required to Function Properly**
As an added security measure, macOS now requires you to explicitly grant full access to the filesystem. This is necessary in order to scan and copy files. To do this, follow the steps below.




Step 1: Open Security & Privacy in System Preferences
When open, switch to the "Privacy" tab and select "Full Disk Access." You can do that automatically by clicking this button:

[Open Security & Privacy](#)

Step 2: Unlock the Preference Pane
Click the padlock icon and supply your administrator credentials. This is required to make changes.


Step 3: Add ChronoSync as an Approved Application
Drag the icon below to the list of approved applications. When asked if you'd like to quit ChronoSync, click "Later."


Drag Me

Step 4: There is no Step 4... You're Done!

[Close](#)

ChronoSync may also require the need to communicate with other applications while it is running. For example, in order to access Finder/Spotlight comments, it must communicate with Finder. When this happens, you'll be greeted with a prompt from the OS, asking if it is okay.



"ChronoSync" wants access to control "Finder". Allowing control will provide access to documents and data in "Finder", and to perform actions within that app.

ChronoSync needs to communicate with other system components in order to backup, synchronize, restore or send notifications.

[Don't Allow](#) [OK](#)

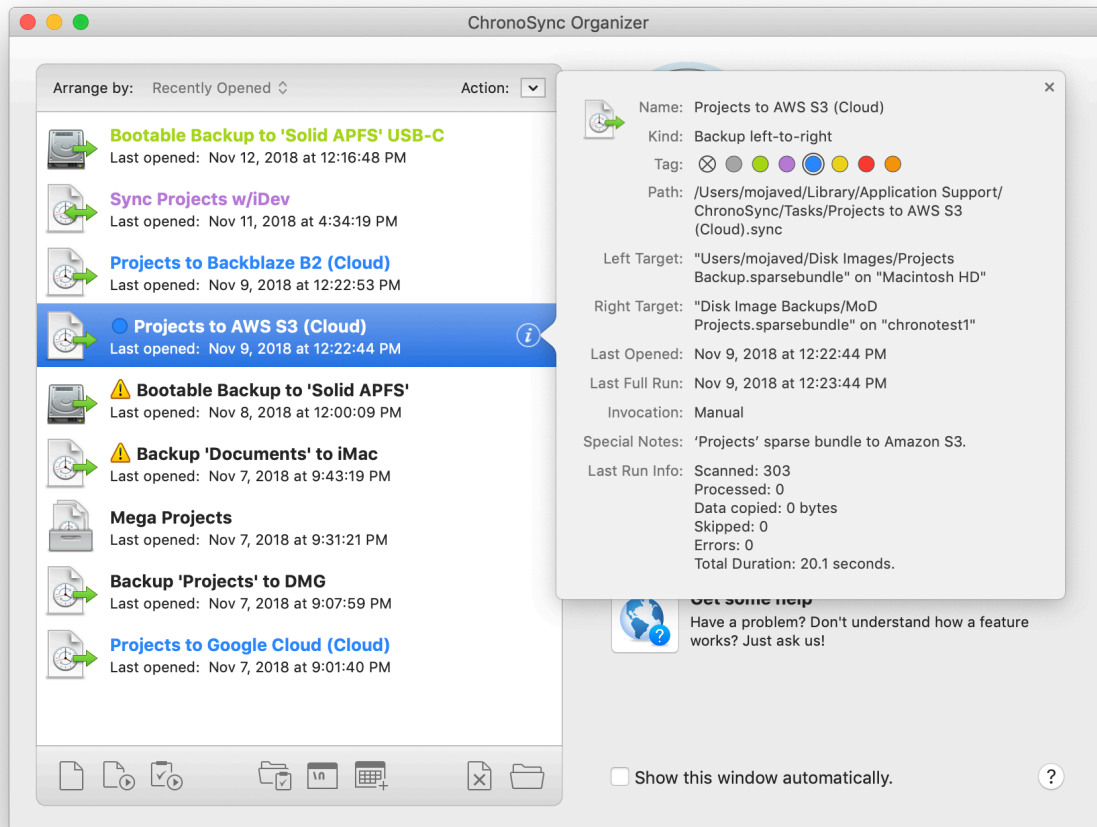
Whenever a prompt similar to this appears, you should grant access or else ChronoSync may not behave properly.

New ChronoSync Organizer

The most obvious changes in ChronoSync v4.9 will be seen when you first launch it. The ChronoSync Organizer window has received some major upgrades.

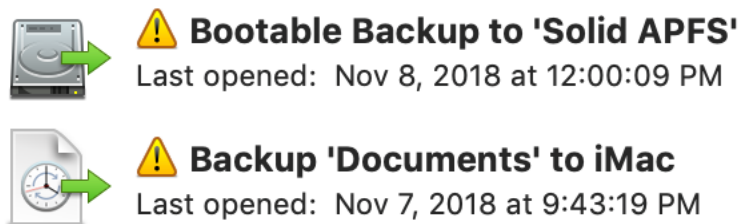
Tags

You can assign a tag color to listed tasks. This is done via the file info popup window. Tasks will then have their name displayed in the tagged color.



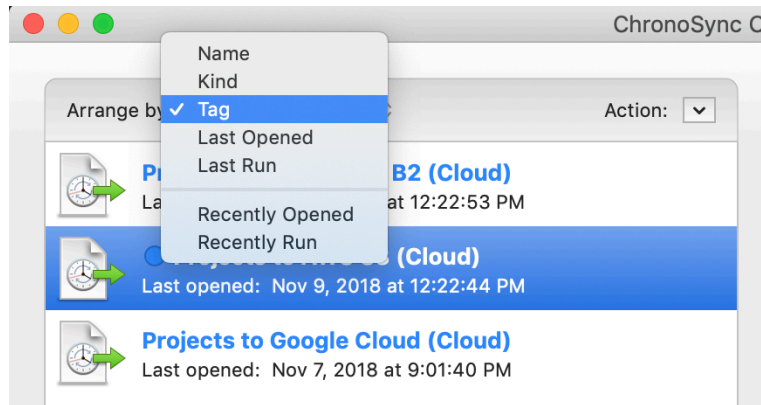
Alert Icon

If a task generated an error or was aborted on the last run, an alert icon is displayed next to its name. This calls your attention to a possible problem with the task.



Sort Order

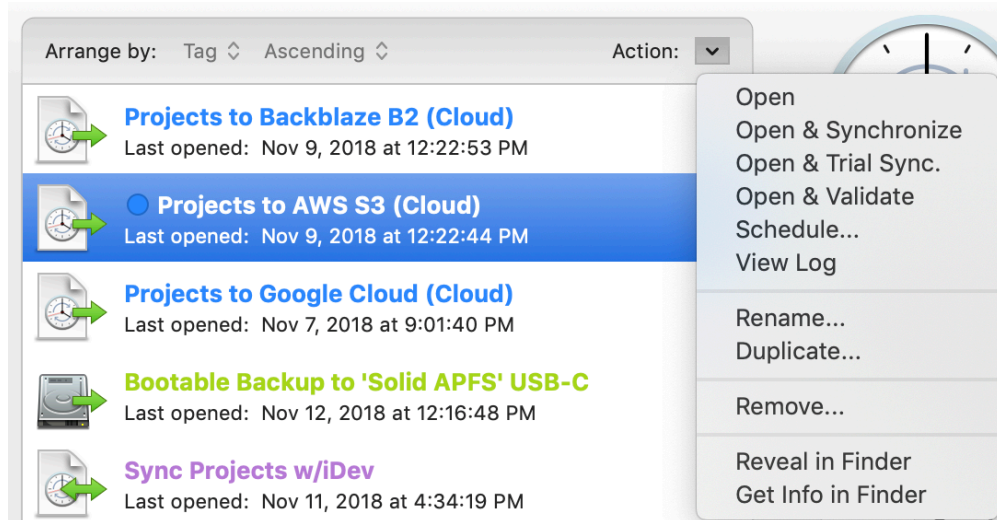
You can now sort ascending/descending by Name, Kind, Tag, Last Opened and Last Run dates. Shortcuts for Recently Run and Recently Opened tasks are also provided.



When arranging tasks by run date, the second line of the task entry displays the run date. When arranging by last opened date, it shows the last opened date. If you want to arrange by other criteria but show the run date, choose "Recently Run" then switch to the other criteria e.g. tag/ascending.

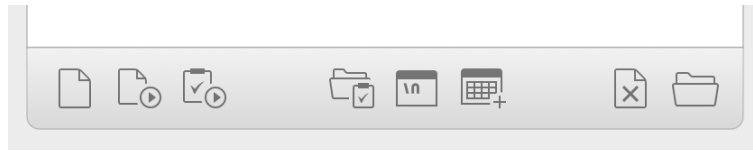
Actions Popup Menu

This is displayed in the upper right corner of the task list. It matches the options in the contextual menu. This is for cases where you prefer not to (or can't) use the contextual menu.



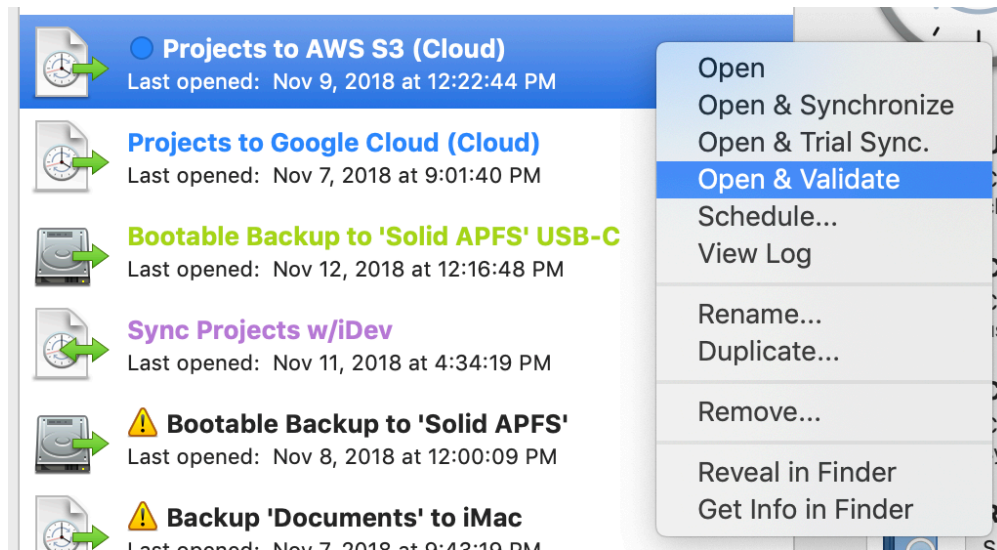
Action Icons

These are displayed along the bottom of the task list. They (more or less) match the contextual menu and actions pop-up menu.



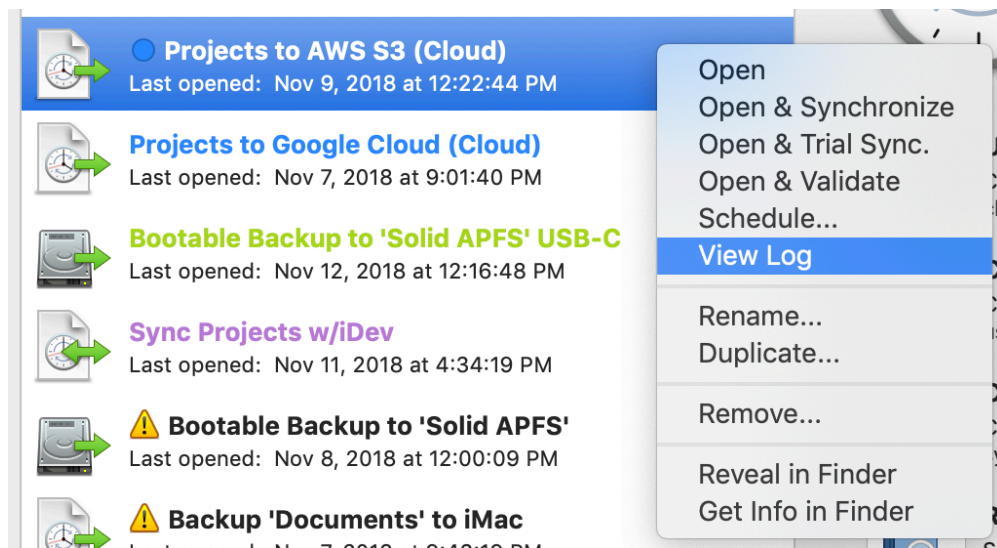
“Open & Validate” Action

Opens the selected task and immediately invokes the Validator. Only works for sync tasks. It can be invoked from the Actions menu, contextual menu or from the Action Icons.



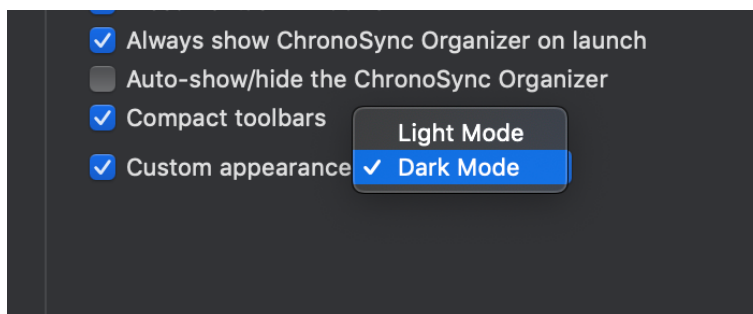
“View Log” Action

This is one of the most handy features of ChronoSync 4.9. Opens the log for the selected task in a stand-alone window. You no longer need to first load a task document to view its log! This feature has been implemented in a few places throughout the program.



Mojave Dark Mode

When using ChronoSync v4.9, all windows and user interfaces should appear in Dark Mode if that setting is enabled in System Preferences. If you prefer ChronoSync to run in a specific appearance mode independent of your system settings (e.g. Dark Mode even though your System Preferences are set to Light Mode), you can use the following setting in ChronoSync's General Preferences:



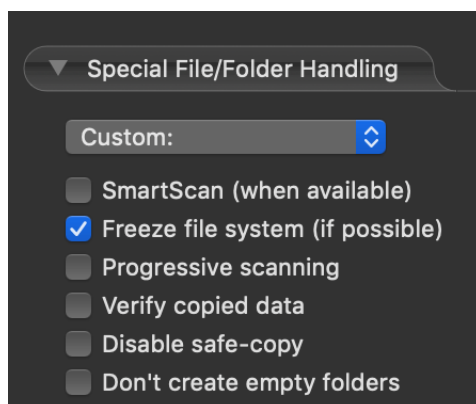
File System Freezing

The “Freeze File System” feature, when enabled, takes a snapshot of your file system before backing up files from it. This only works if your file system and OS support this. APFS file systems on macOS 10.13 (High Sierra) onward qualify. This setting is ON by default and it has no effect if the underlying file system does not support it.

The advantage of taking a snapshot is that it freezes all your files in place at the moment the sync/backup task is initiated. There is no chance of files changing or being added/removed during the course of the sync/backup operation. Your backup becomes “atomic” since it fully encapsulates your data as it existed at a specific point in time. This is important because files are constantly changing on macOS. If you are backing up your home folder (and certainly if you’re doing a bootable backup), there can be hundreds of files that change between when the backup operation is started and when it completes.

Other types of data may change without you realizing it. For example, the Photos library can be modified even when you are not using the Photos application. Since this can contain tens of thousands of files, taking a snapshot is the only way to guarantee the integrity of your library.

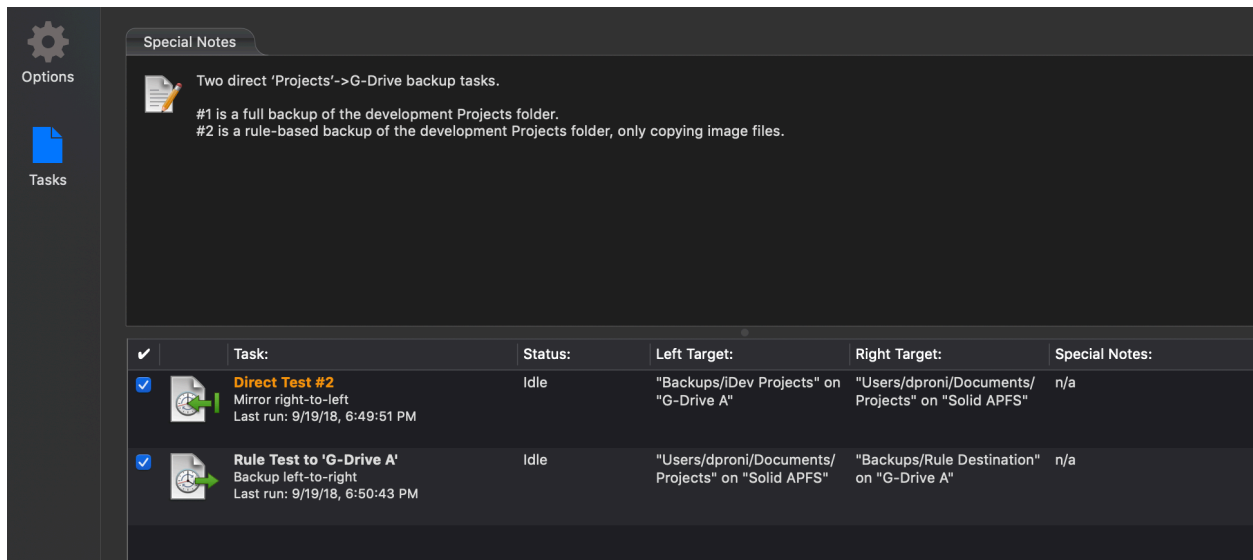
You can disable snapshots by turning OFF the “Freeze file system” setting in the Special File/Folder Handling section of the Options Panel.



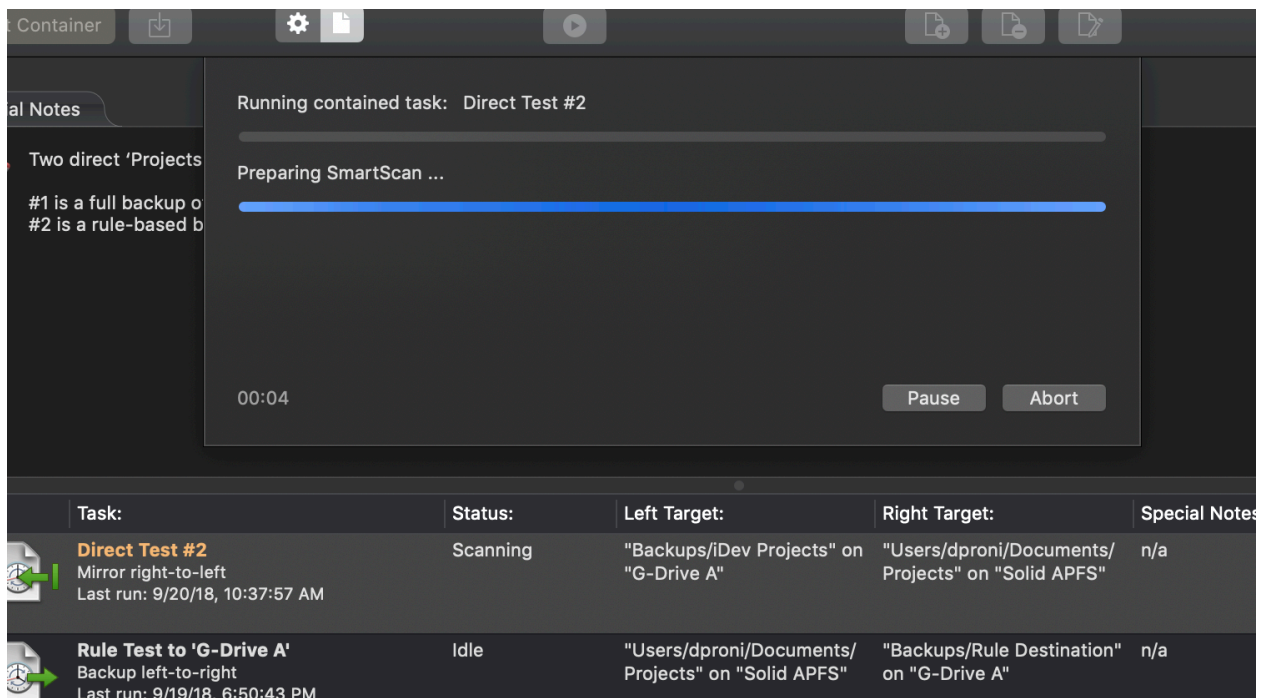
Note: Even though you may be running an older operating system version that doesn't support APFS, you can still connect to a ChronoAgent on a computer that *does* support APFS and thus the file system freezing feature will be available to you.

Container Task Editor

The editor for container tasks has also received some upgrades. The “Tasks” panel in the container task editor window now has an area for “Special Notes”.

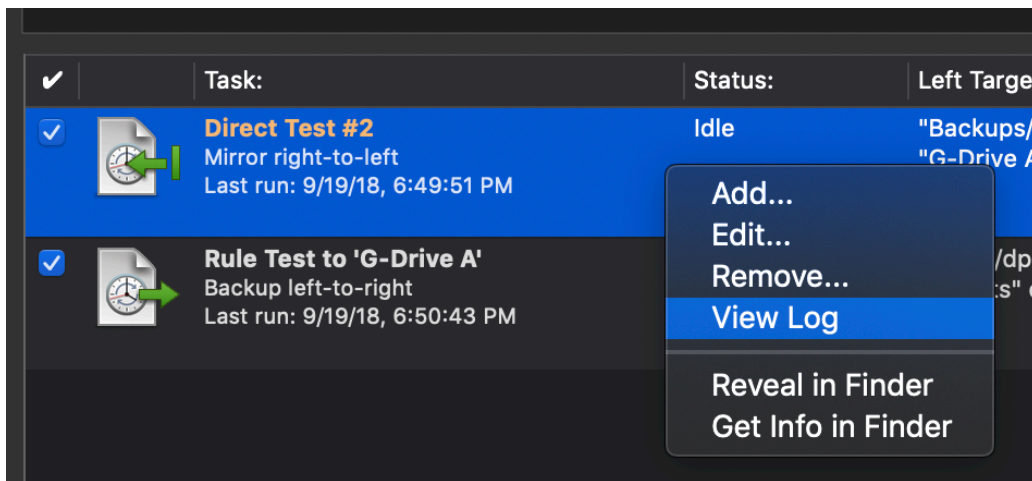


You can control the size of this area by dragging the vertical divider. You can completely collapse the notes or make them large enough so the task document list won't be obscured by the progress sheet when running the container task.



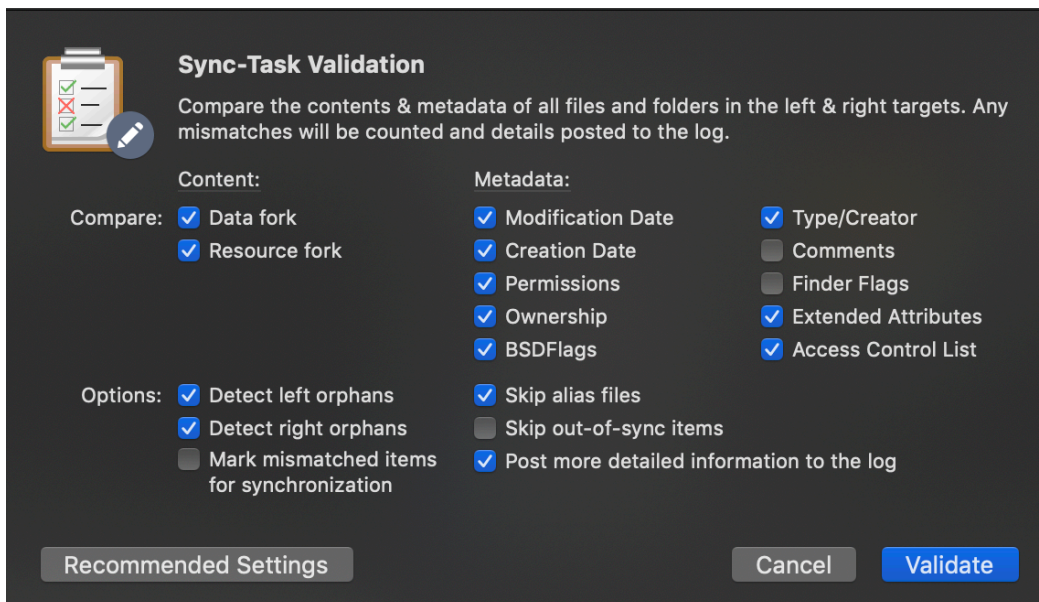
The contained task list itself now displays more information about each task document. This includes the type of task, its running/last run status, target information (if applicable) and special notes. Any tag colors assigned in the ChronoSync Organizer will affect how the task name is displayed.

You can also view the log of a contained task document in a stand-alone window by right-clicking it and selecting “View Log”.



Validator

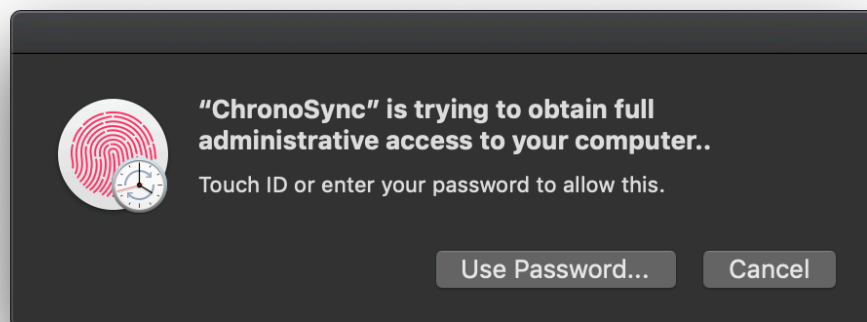
The Validator function now has a “Recommended Settings” button that appears when you have modified your validation settings from their default state:



This asserts recommended comparison settings which are based on your sync task configuration. For instance, if ChronoSync determines that you are synchronizing with a target that does not preserve file ownership (or is unlikely to), the “Ownership” and “Permissions” validation settings will be turned off.

Touch ID Authentication

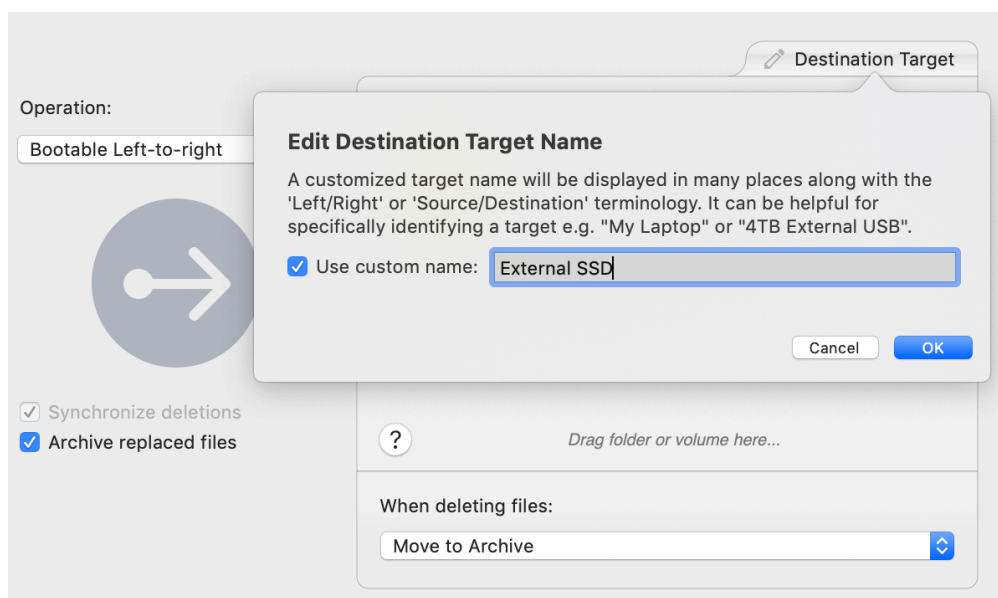
ChronoSync now provides the option to use Touch ID whenever administrator credentials are required. If you have Touch ID available on your system, you should receive a prompt on first launch. It will ask you if you would like to use Touch ID and then ask for your administrator password. At that point onward, your fingerprint should unlock administrative access whenever it is required!



You can also enable/disable Touch ID support in ChronoSync's General Preferences.

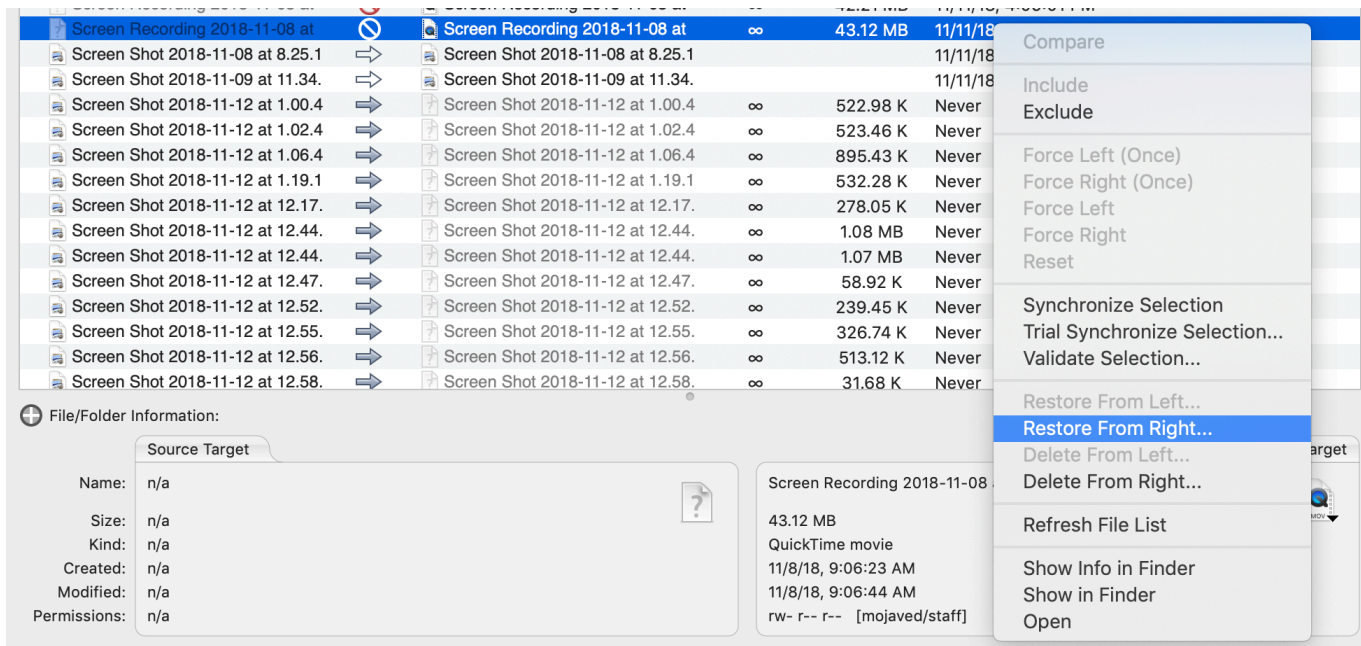
Target Naming

The ability to assign a custom name to your targets has existed for quite some time. However, the feature was obscured by the fact that you had to mouse-over the target "tabs" to have any visual indication that you could click them to rename your target. Now the edit (pencil) icon permanently appears. Clicking it invokes the Custom Target Name Editor in a popover instead of a sheet window, as was done previously.

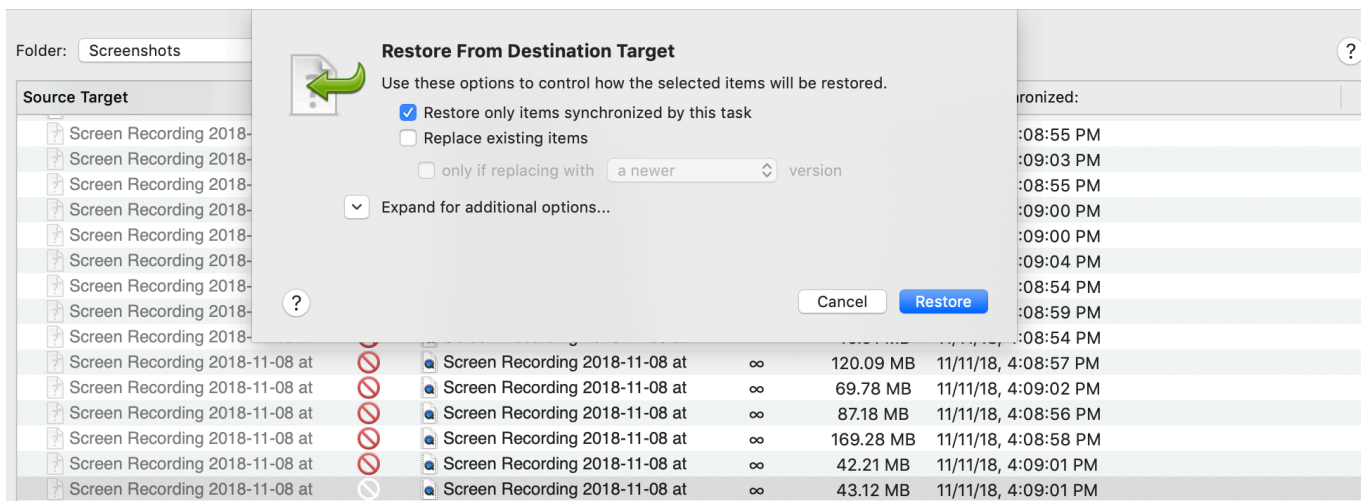


Restore Function

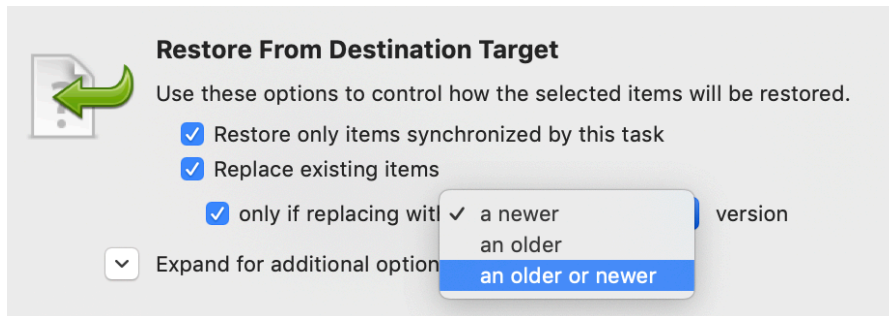
The Restore function has been nicely enhanced. To invoke this function, select one or more file-pairs in the Analyze panel and choose “Restore from ...” in the Actions menu, contextual menu or from a customized toolbar.



The Restore Options Selector will be presented:

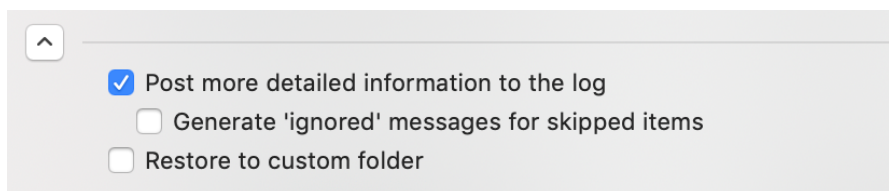


In the default mode, all files that are missing on your source target will be replaced by their backed-up counterpart from the destination target. Existing items on your source will not be touched. That can be changed, however:



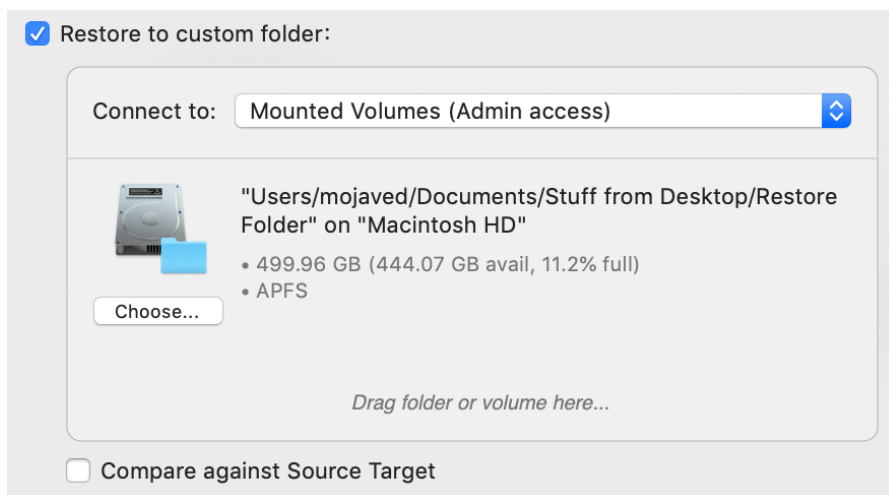
Previously, you could always replace existing items, replace with an older file or replace with a newer file. The “an older or newer” option has been added so you can specify that you want to replace existing files as long as you’re replacing them with something that is different. You don’t care if it is older or newer. If it has the same time-stamp, it will not be restored.

You can also expand for additional options:



Now you can set the logging behavior independent from the task document. You can also determine whether or not “Ignored” messages get posted. Previously, an “Ignored” message got posted for every file that did *not* get restored. If you had a set of 10,000 files and you wanted to restore 20 files you accidentally deleted, you would have to weed through 9980 “ignored” messages to see what files were restored. You don’t have to worry about that anymore.

The most significant enhancement, however, is the ability to “Restore to custom folder:”



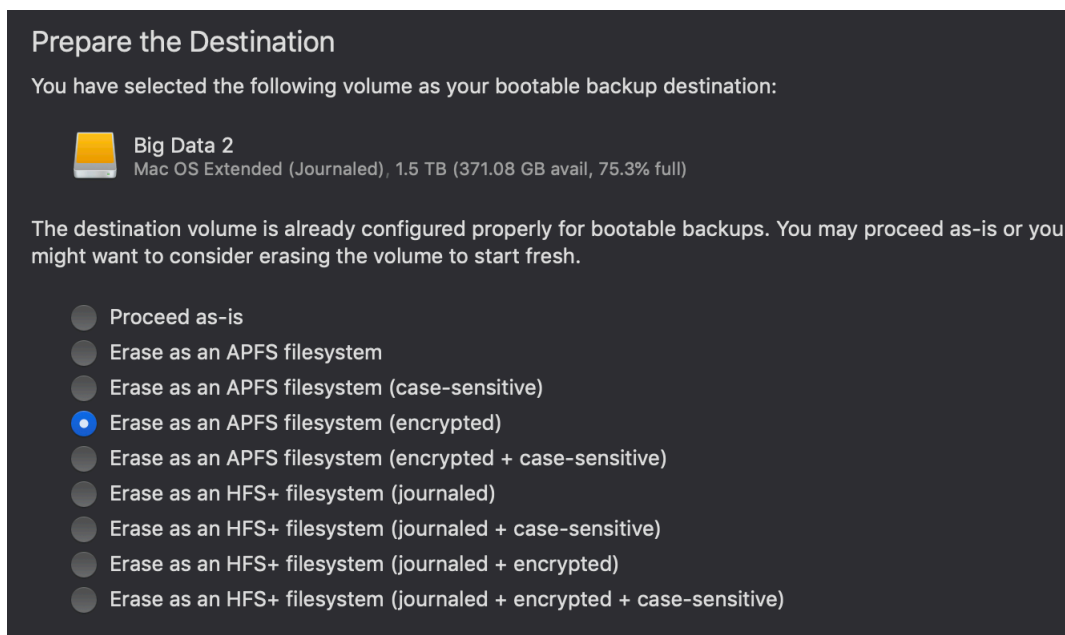
Here you can specify a folder outside of the sync tree where the restored files will be placed. In fact, you can restore using any defined connection profile and thus target remote storage/devices for the restore operation. For instance, you can Restore to a remote ChronoAgent computer or upload to the Amazon S3 cloud. This is a good way to make a quick copy of your backup data or to preview the restored files before you actually use them to replace your source files.

If you are restoring to an empty folder, *all* of your data will be restored as if you had deleted all of your source files. In the above example, where you wanted to retrieve 20 deleted files from a set of 10,000, all 10,000 files would get copied to your custom restore folder. To change this behavior, turn the “Compare against ...” option ON (“Compare against Source Target” in the screenshot but it uses the target name, so that may be different for you). With this setting ON, it compares against the files in your source target to determine what files should be recovered. In this hypothetical scenario, only the 20 deleted files would be recovered to your custom Restore folder.

Assistants

Bootable Backup Assistant

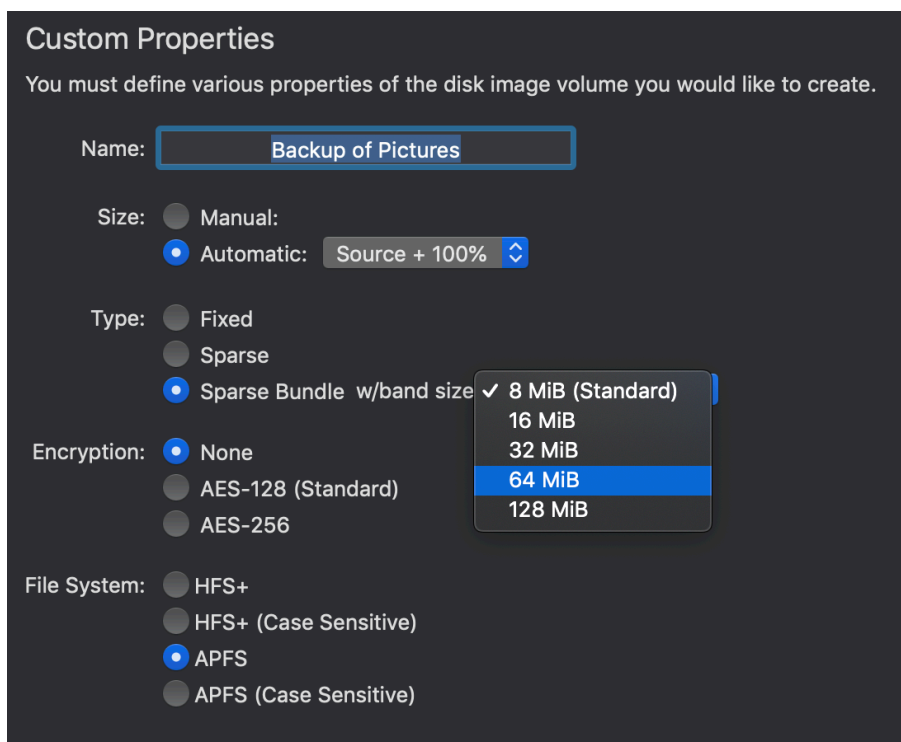
This can now format destination drives with an APFS filesystem (macOS 10.13+). Case-sensitive and Encrypted volumes are options. The assistant can now also reformat Core Storage volumes, the exception being compound volumes (e.g. Fusion Drives).



Note: If your'e using macOS 10.13 High Sierra, the APFS options should be presented second, after the HFS options. This is because APFS on external hard drives is not the preferred format on High Sierra.

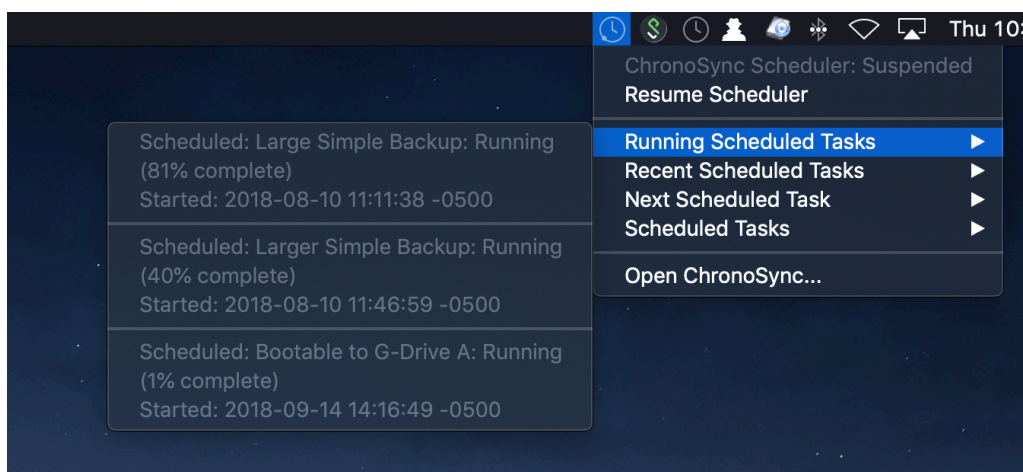
Backup to Disk Image

This assistant can now format the disk images using APFS (macOS 10.13+). It also provides control over the size of band files in a sparse bundle disk image. Larger bands are better if storing large files on the disk image. They can also make for more efficient cloud-based backups.



ChronoSync Scheduler

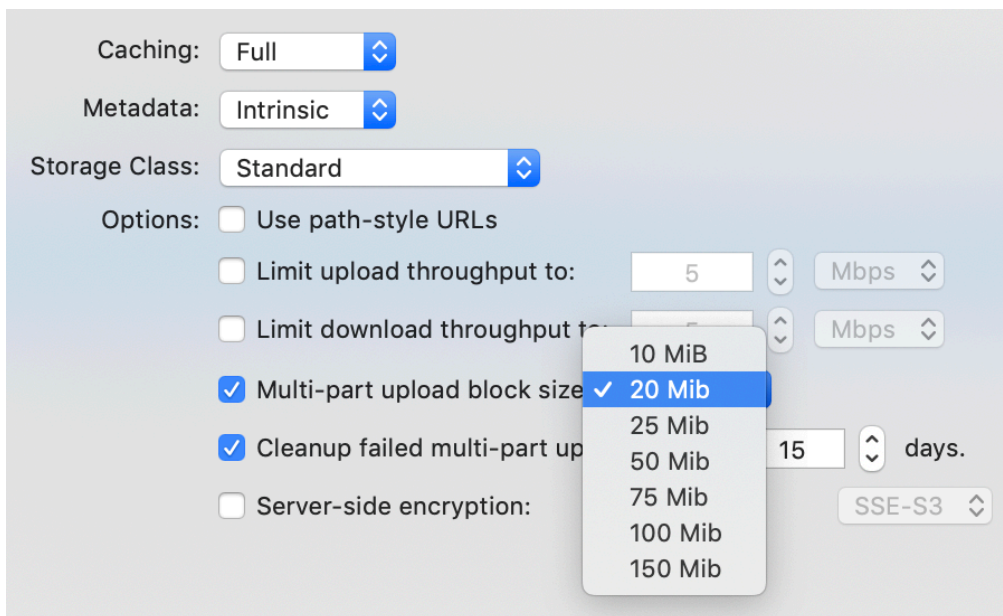
In the ChronoSync System Menu, a "Running Scheduled Tasks" sub-menu now appears if any scheduled tasks are currently running. It can be invoked when using any other application. It will show the tasks that are running and their current progress.



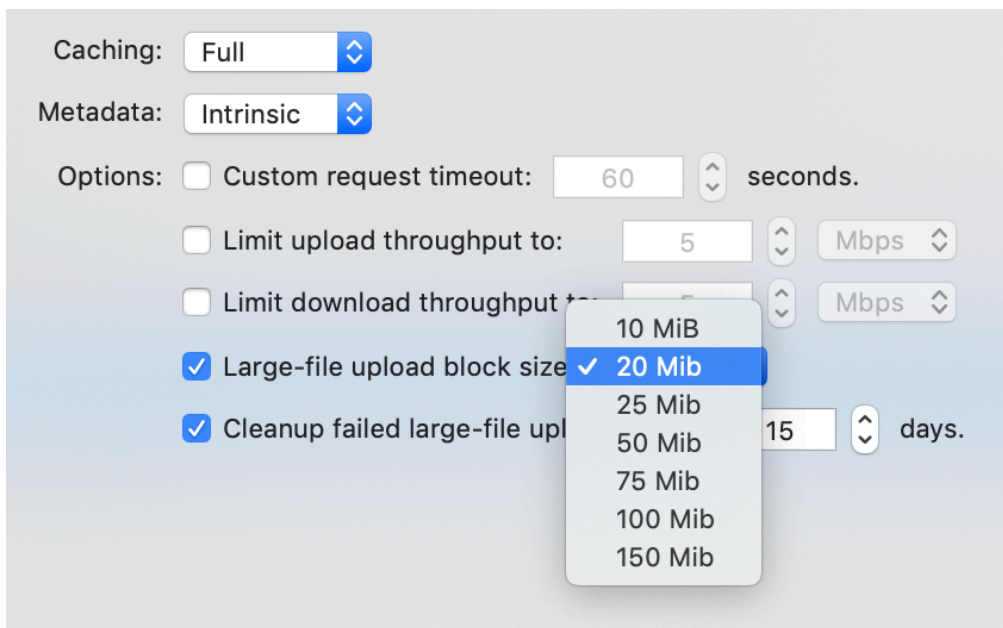
Cloud Storage Providers

Multi-part/Large File Block Size in S3 and B2

Amazon S3: can now specify “Multi-part upload block size” in the Connection Profile Editor:



Backblaze B2: can now specify “Large-file upload block size” in the Connection Profile Editor:



Larger sizes are better for faster internet connections and/or larger upload files. For instance, if you typically backup large video files that may be several GB in size, using a part-size of 100 MiB might yield much better performance. If backing up a sparse bundle disk image, make sure to choose a part size that is larger than your band file size so that each band file gets uploaded in a single operation.

We're Here to Help

This concludes the summary of changes, features and enhancements made in ChronoSync v4.9. As you can tell, it is quite an extensive update. In addition to what has been documented here, there are quite a number of minor tweaks and enhancements spread throughout the program. Not to mention the significantly re-written file I/O routines to further optimize performance with APFS file systems! If you find all the changes a bit daunting or would like to inquire about how a specific change may affect your current setup, please contact us using the support form at [our website](#).

