

CAMIO Filesync User Guide

V5.6.0

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OVERVIEW

This Document

This document applies to the FileSync component of CAMIO.

Note - some screenshots in the document still show the previous HubDrive product name. These will be replaced over time and have no material impact on the functionality described.

What is CAMIO FileSync?

CAMIO FileSync is a Dropbox-style folder synchronization system. It is based on folder contents being pushed to and pulled from a central server by subscribed client devices. The client devices run a tray application that manages the file updates.

There are two components to CAMIO FileSync, a server which stores the assets and manages access to them, and the clients which are installed on all devices that need access to those assets.

CAMIO FileSync Server (FSS) is a component of the CAMIO Core server which is installed during a CAMIO install.

CAMIO FileSync Clients (FSC) are installed on playout devices, External Renderers, Media Engines, art department PCs with offline graphics tools. Clients are required to login to access the system. Only users who are logged into the system with Read/Write or Admin privileges are allowed to write to the server. Read-only clients can only download files from the server. Fonts are automatically installed by the client when they are synchronized between devices.

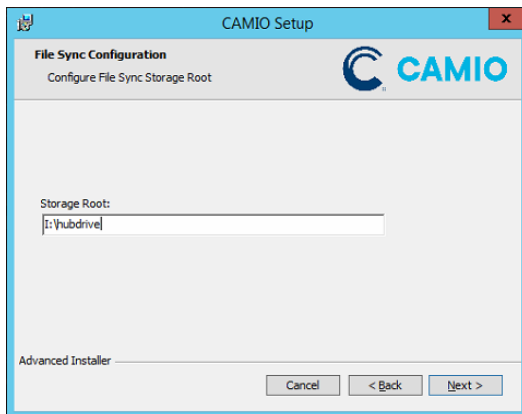
CAMIO FILESYNC SERVER

Installation

CAMIO FileSync Server (FSS) is installed as part of the CAMIO Core server installation . It uses the CAMIO license and does not require an additional license.

IMPORTANT NOTE: If the CAMIO Core Server has a previous installation of FileSync Server it is very important to uninstall that version before installing the next version of FileSync.

The only additional setting on installation is the FSS Storage Root folder location, the repository of all synchronized assets. This setting defaults to i:\hubdrive but can be changed during installation.



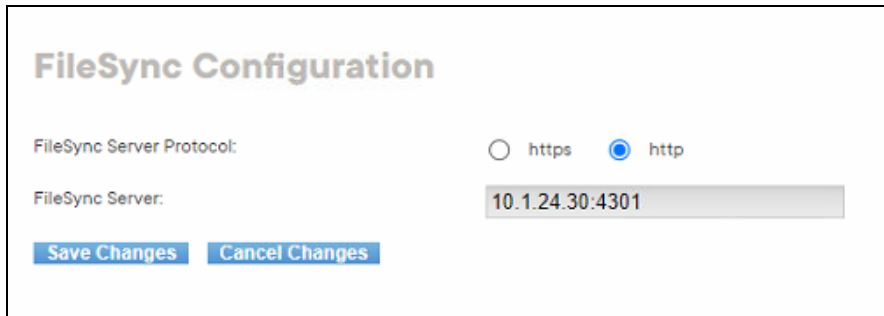
If the CAMIO Core Server had a previous HubDrive or FileSync Server installation, the location of the **existing** root folder should be used otherwise all the existing assets will be lost.

If the CAMIO Core Server has a large J Drive it is recommended to put the root folder on the J drive.

Multiple versions of files may be saved, therefore it is recommended that the CAMIO FileSync storage is allocated at two to three times the expected storage requirements. Please check the available space on the selected drive and reallocate partitions if required. Contact Chyron Support if you have any questions.

Connect to CAMIO

FileSync Server is connected to CAMIO by filling out the form in CAMIO Admin Tools > FileSync Configuration as shown below.



The screenshot shows a web form titled "FileSync Configuration". It contains two main sections. The first section is "FileSync Server Protocol:" with two radio buttons: "https" (unselected) and "http" (selected). The second section is "FileSync Server:" with a text input field containing the value "10.1.24.30:4301". At the bottom of the form are two buttons: "Save Changes" and "Cancel Changes".

- FileSync Server Protocol - HTTPS or HTTP
- FileSync Server - [camioip]:4301

Note

- 4301 - is the port for the FileSync Server Admin page
- 4302 - is the port for FileSync Clients to connect to. See [FileSync Client Settings Configuration](#)

IP Address Usage

- CAMIO IP used must be the public IP of the CAMIO server. Do not use 127.0.0.1.
- On CAMIO Clusters or DR systems use the virtual IP
- On AWS systems use the public IP not the private IP

HTTPS Certificate warnings

In order to use the FileSync Server web page when using HTTPS, the certificate must be trusted.

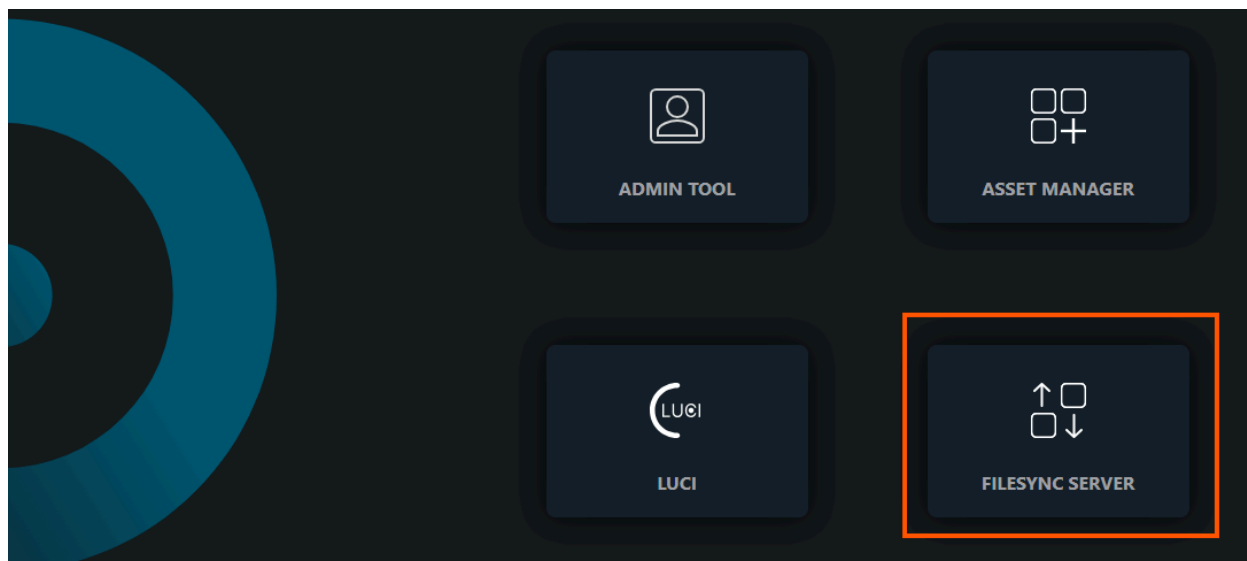
If an untrusted certificate is used then opening the FileSync Server page via HTTPS from the CAMIO Dashboard, the browser reports a certificate warning because these default certificates are not trusted.

To allow secure HTTPS access without browser warnings, the placeholder certificate and key must be replaced with a valid trusted certificate and private key issued by the customer's internal Certificate Authority or another trusted CA.

The relevant files are located here:

- C:\Program Files\Chyron\CAMIO FileSync Server\cert\host.key
- C:\Program Files\Chyron\CAMIO FileSync Server\cert\host.cert

Login to Server Admin Pages



CAMIO FileSync Server administration pages are accessible through a link on the CAMIO Home Page (CAMIO Central). It can also be accessed directly via browser on port 4301 using [http://\[camiohost\]:4301](http://[camiohost]:4301)

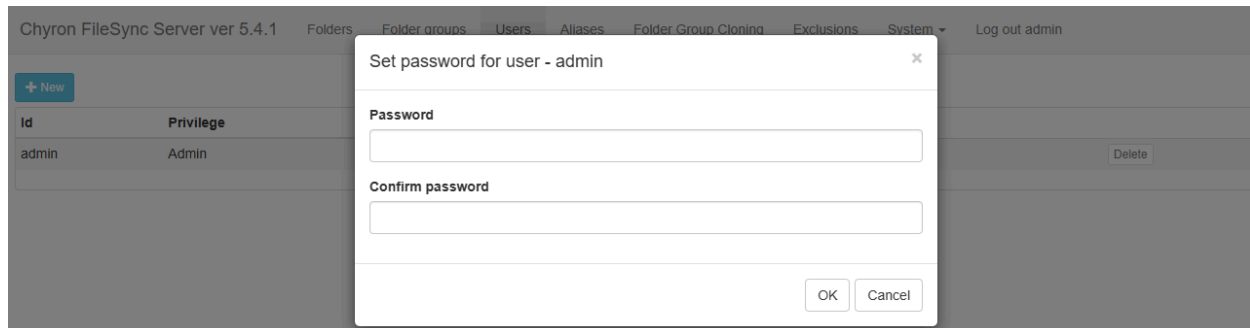
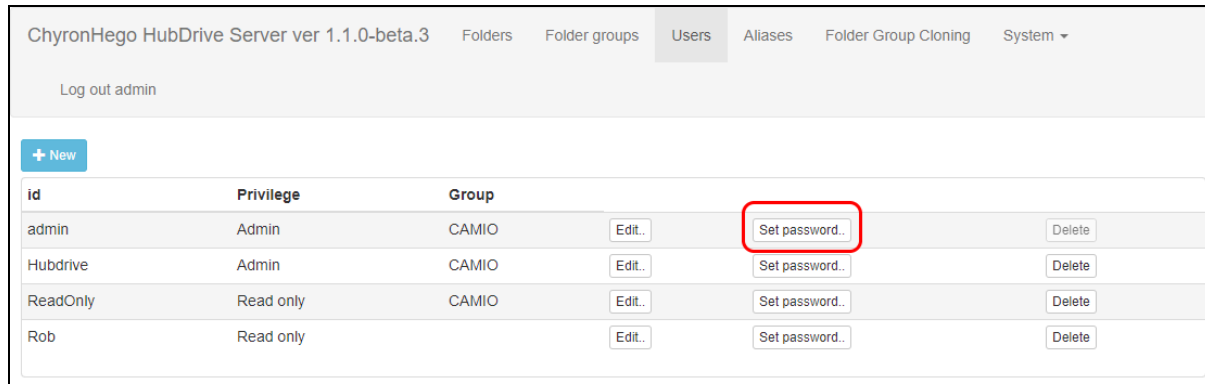
Chyron FileSync Server ver 5.4.1 Folders Folder groups Users Aliases Folder Group Cloning Exclusions System ▾ Log in

The default admin username/password on a fresh install is admin/admin. This will bring you to the Administration page. Tabs across the top give you access to all the administration functions.

Chyron File Sync Server ver 5.1.2 Folders Folder groups Users Aliases Folder Group Cloning System ▾ Log out adminjm									
+ New									
Folder name	Description	Size	Purgeable size	Version	Alias	Cloned from Host	Retain days		
News Look 1	This is the News Look 1 Graphics	0 B	0 B	0	Lyric	No	Forever	Edit	Delete
JimTest3		477 MB	0 B	2		No	Forever	Edit	Delete
News Prime Look	Prime News Look 1 Graphics	0 B	0 B	2	Prime	No	Forever	Edit	Delete
KHOU	KHOU Graphics	141 MB	25 KB	118	Prime	No	Forever	Edit	Delete
Prime Demo News		2 GB	894 KB	601	All Prime Projects	No	Forever	Edit	Delete
Scripps Test		2 GB	0 B	5429	Scripps Alias	No	0	Edit	Delete
Jim Test 5		0 B	0 B	0		No	Forever	Edit	Delete
Prime Demo 2020		313 MB	151 KB	148		No	Forever	Edit	Delete
Juan test folder retain days		0 B	0 B	0		No	10	Edit	Delete
T18	TEGNA Look	244 MB	0 B	20	All Prime Projects	No	10	Edit	Delete
JimTest1		202 MB	67 MB	27	NewNewNewAlias	No	Forever	Edit	Delete
BNF	FOX 0&0 Graphics	5 MB	324 KB	64	All Prime Projects	No	Forever	Edit	Delete
NXST_Fox1	NexStar Look	26 GB	12 GB	888	All Prime Projects	No	Forever	Edit	Delete

Changing the FSS Default Admin Password

The installer creates a default admin user which cannot be deleted. To change the password of the default admin user, click on Users and change the admin password under “Users”. The password can also be changed from the CAMIO Admin Tools > Users page as shown below.



Two important points about the default admin user password.

- It is very important not to forget the password for the default admin user. There is no password recovery method in FSS. Contact Chyron Support if you require assistance.
- The default admin user password should be the same in CAMIO and FSS.

Navigating the FSS Toolbar

The FSS Toolbar gives admin users access to configuration settings.

Folders

Folders are the basic unit of content being shared by the users. An example of a folder is `i:\prime\projects\news` and all its subfolders. These contain all the assets needed to use the Prime News project. Administrative users define what folders will be shared by the system. Read/Write Users (such as the art department) upload the project to the FSS Server using their Client App. Read Only Users (such as playout devices) can subscribe to a folder, download the content to their local machine and be notified of any changes or have changes automatically downloaded. The name of the Folder entered here must be the same as the top level Windows folder that the assets are in, such as News in the example above.

Folder Groups

Folders are assigned to Folder Groups which make the management of multiple folders easier. Folder Groups can be copied from a hub FSS to multiple spoke FSS to ease distribution of assets in a station group. Access to Folder Groups can be limited to certain users if desired.

Users

FSS Users fall into 3 categories:

1. **Admin** users can log in to the FSS administration page and configure all aspects of the system
 2. **Read/Write** Users (Artists) can upload content to the FSS Server
 3. **Read Only** Users (Clients) can only download folders that they are subscribed to.
- Users and their passwords are created on this page by an Admin User.

Aliases

An Alias is the default drive path that a synced Folder will be saved to on client machines. This has nothing to do with where the files are saved on the Server. All files on the server are saved in the Asset Storage drive defined on installation.

Folder Group Cloning

In a station group network, folder groups on the Hub FSS can be replicated to one or more Spoke FSS. This process is called Cloning and is configured from the Spoke FSS that receives the assets. The Spoke FSS will then make these assets available to local clients for download. Cloning assets reduces the workload for a central FSS to have to distribute assets to many clients over a large network.

System

This section has several housekeeping functions that the administrator should use to monitor performance and keep the system running smoothly.

File Path Aliases

An Alias is the default drive path that a Sync Folder will be saved to on client machines. This has nothing to do with where the files are saved on the Server. All files on the server are saved in the Asset Storage drive defined on installation.

Chyron File Sync Server ver 5.1.2 Folders Folder groups Users Aliases Folder Group Cloning System ▾ Log out adminjim

+ New

Name	Default path	Description	Replicated		
Prime	I:\Prime\Projects	Prime Projects	No	Edit..	Delete
I Drive Root	I:\	Needed for Local Asset Mode	No	Edit..	Delete
Storage	I:\storage		Yes	Edit..	Delete
Lyric	I:\	Lyric Projects	No	Edit..	Delete

New aliases can be created by clicking on the NEW button. Existing aliases can be edited by clicking on the Edit button for the desired alias. Aliases can be deleted by clicking on the Delete Button for the desired alias

Update alias - 994159a0-fa73-11e8-938e-8f8b769075ab

Name

All Prime Projects

Default Path

I:\Prime\Projects

Description

All Prime Projects

OK

Cancel

Create alias

Alias name

Default path

Description

OK

Cancel

Note that an alias may be replicated from a Hub CAMIO as part of Folder Group Cloning if that is used.

Typically, for Lyric content you want to set up the Alias for the drive path for Lyric directories to i:\, and for Prime content the alias should be i:\prime\projects. All FileSync Clients can override the alias with a preferred filepath if necessary. If you are running the Client on a laptop that does not have an i:/ drive you might want to change the alias to c:\i-drive\.

Remember, Alias + Sync Folder = Path

Lyric Packages (I:\) + PM News = I:\PM News

Prime Projects (I:\Prime\Projects) + PM News = I:\Prime\Projects\PM News

Users

This page shows all FSS users and their settings. It also has links to create new users, and to edit or delete existing ones.

Chyron File Sync Server ver 5.1.2

Folders

Folder groups

Users

Aliases

Folder Group Cloning

System ▾

Log out adminjim

+ New

Id	Privilege	Group			
Design1	Read/Write		Edit..	Set password..	Delete
Designer	Read/Write		Edit..	Set password..	Delete
Playout	Read only		Edit..	Set password..	Delete
Sports1	Read only		Edit..	Set password..	Delete
Sports2	Read only		Edit..	Set password..	Delete
wu-rw	Read/Write		Edit..	Set password..	Delete
artist	Read/Write	CAMIO	Edit..	Set password..	Delete
admin	Admin	CAMIO	Edit..	Set password..	Delete
adminjim	Admin	CAMIO	Edit..	Set password..	Delete

+New popup dialog for creating a new user

Create user

User id

Password

Confirm password

Privilege

Read only

OK

Cancel

ID is the Login Username. Note that the username is case sensitive in FSS.

Privilege users can be of type Admin, Read Only or Read/Write

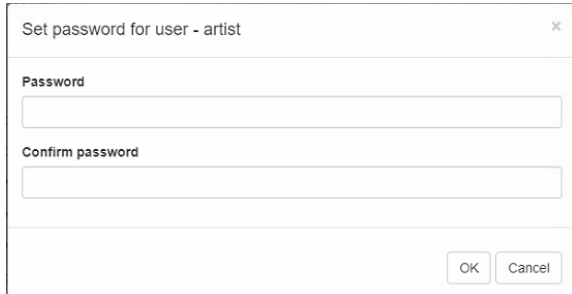
Group this field is not used. Legacy users that were created and shared in CAMIO will say Group = CAMIO.

Edit allows for changing the privilege of the user.



A dialog box titled "Update user - Playout" with a close button (X) in the top right corner. It features a "Privilege" section with a dropdown menu currently set to "Read only". At the bottom right, there are "OK" and "Cancel" buttons.

Set Password popup dialog for changing the user's password



A dialog box titled "Set password for user - artist" with a close button (X) in the top right corner. It contains two input fields: "Password" and "Confirm password". At the bottom right, there are "OK" and "Cancel" buttons.

Delete delete the selected user. NOTE: do not delete the default admin user.



A dialog box titled "Delete user - adminjim" with a close button (X) in the top right corner. It contains the text "Are you sure?". At the bottom right, there are "OK" and "Cancel" buttons.

Folders

A sync folder contains content that will be synchronized between client devices that subscribe to it. They correspond to the physical folders on a Windows or Mac OS system. Sync Folders will normally contain Lyric and Prime projects that are uploaded to FileSync by the Art department and distributed to playout devices.

Chyron File Sync Server ver 5.1.2							
Folders Folder groups Users Aliases Folder Group Cloning System ▾ Log out adminjim							
+ New							
Folder Name ^	Description	Size	Purgeable size	Version	Alias	Cloned from Host	Retain days
AWS HubDrive		549 MB	9 MB	73		Yes	Forever
Common		352 GB	11 MB	4908		No	Forever
JA TEST	JA TEST	642 MB	522 MB	104		No	Forever
juan test folder retain days		0 B	0 B	0		No	10
Kyle Prime		2 GB	54 GB	238		No	Forever
News Demo	News Demo	11 GB	847 MB	2250		No	Forever

Create folder

Folder name

Evening News

Description

PRIME graphics

Alias ID

Days to retain deleted files on purge

No retain Keep 10 days Keep 20 days Keep 30 days Keep forever

Alias ID is required

OK Cancel

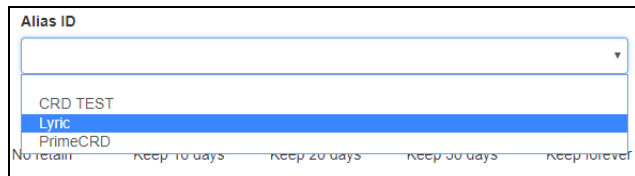
Press the +New button to create a new folder. Enter a **Folder Name** and **Description**. The combination of Folder Name and Description must be unique. Select an **Alias ID** you previously created from the drop-down box.

Select a **Days to Retain** option from the slide bar. When an asset is removed from Hub Drive by the user, it is retained in cache for the number of days shown here. (See the section on Purging Assets).

Size is the current size of the folder. **Purgeable Size** is the size of files which have been deleted from the folder but are still stored in FSS until purged. See System Maintenance > Storage Purge Job for more information. **Note** - Windows File Explorer uses kilobytes (KB) to represent file sizes. In this context, 1 kilobyte is defined as 1,000 bytes, following the SI

(International System of Units) standard. Therefore both the Filesync server use the decimal (1000) format.

Alias can be assigned to a Folder. This is the default path that the folder will be stored on the client machines. As mentioned above, the typical alias for Prime projects is i:\Prime\Project and for Lyric projects is i:\.



The screenshot shows a web interface for selecting an alias. A dropdown menu labeled 'Alias ID' is open, displaying three options: 'CRD TEST', 'Lyric' (which is highlighted in blue), and 'PrimeCRD'. Below the dropdown menu, there are five radio button options for retention: 'No retain', 'keep 10 days', 'keep 20 days', 'keep 30 days', and 'keep forever'.

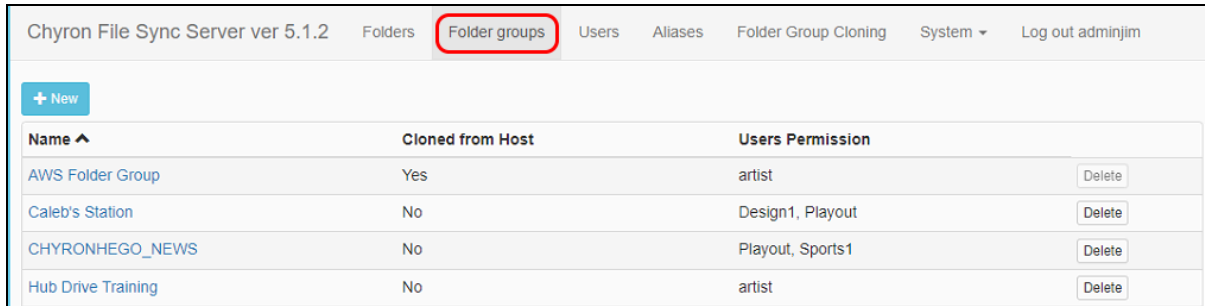
Edit Button allows the admin user to change the configuration settings of the folder which were entered when the folder was created.

Delete Button will delete the Folder from the FSS server. Any client syncing to that folder will be notified that the folder no longer exists and have the option of keeping the files locally or deleting them.

*Folders marked as **Cloned from Host** are copied from a Host FileSync machine and cannot be edited or deleted from the spoke system. See [Folder Group Cloning](#) for more information.*

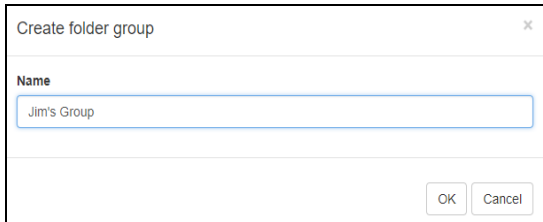
Folder Groups

Folders are organized into Folder Groups which correspond to different playout applications. For instance a Folder Group can bundle all the Folders needed for a particular control room's shows, or for a given sport's remote production truck. In a CAMIO system, Folder Groups can be used to bundle all the folders needed for a Context. Not all Folders have to be placed in a group, in which case they are called 'orphaned'. The system allows for controlling access to folder groups for the logged in client user.



Chyron File Sync Server ver 5.1.2 Folders Folder groups Users Aliases Folder Group Cloning System ▾ Log out adminjim			
+ New			
Name ^	Cloned from Host	Users Permission	
AWS Folder Group	Yes	artist	Delete
Caleb's Station	No	Design1, Playout	Delete
CHYRONHEGO_NEWS	No	Playout, Sports1	Delete
Hub Drive Training	No	artist	Delete

Creating a New Folder Group



Create folder group

Name

Jim's Group

OK

Cancel

Click on the +New button and fill out the popup dialog with the desired Folder Group Name.

Then click on the Folder Name to open the Folder Group editing dialog.

Chyron File Sync Server ver 5.1.2 Folders Folder groups Users Aliases Folder Group Cloning System ▾ Log out adminjim

Add folders to Jim's Group

JimTest3
News Prime Look (Prime News Look 1 Graphics)
KHOU (KHOU Graphics)
Prime Demo News
Scripps Test
Jim Test 5
Prime Demo 2020
...more test folders contain data...

>>
>
<
<<

Add users to Jim's Group

Design1
Designer
Playout
Sports1
Sports2
wu-rw
artist

>>
>
<
<<

Save

Assigning Folders to Folder Groups

Folders are assigned to Folder Groups by moving them from the left window to the right window by selecting a folder and clicking on the right arrow button. All folders can be assigned by clicking on the double arrow button and folders can be deleted from the folder group by clicking on the left arrow button. After assigning the needed folders, click on the SAVE button. Likewise, folders can be deleted from the Folder Group by selecting the folder and clicking on the left arrow button.



Folder Groups marked as Cloned from Host are copied from a Host FileSync machine and cannot be edited or deleted from the spoke system. A Cloned Folder Group will be grayed out in this dialog to prevent editing. See Folder Group Cloning for more information.

Assigning Users to Folder Groups

User access to specific Folder Groups can be managed in the FSS admin page. Users are assigned to Folder Groups using a UI very similar to that described above for assigning Folders to Folder Groups.

Chyron File Sync Server ver 5.1.2 Folders Folder groups Users Aliases Folder Group Cloning System ▾ Log out adminjim

Add folders to AWS Folder Group

Prime Demo News Scripps Test Prime Demo 2020 juan test folder retain days T18 (TEGNA Look) NXST_Fox1 (NexStar Look) Common VCCTest (connected to test AWS folder)	>> > < <<	AWS HubDrive
--	--------------------	--------------

Add users to AWS Folder Group

Design1 Designer Sports1 Sports2 wu-rw	>> > < <<	Playout artist
--	--------------------	----------------

Save

Adding a user to the folder group means that user will see the folder group from their FileSync Client login. Removing a user from the folder group means that this user will not see the folder group.

Note that, as shown, in the screen grab above, users are assigned to a Cloned Folder locally not from the hub FSS. You cannot change the folder assignments of a cloned folder (which is grayed out) but you can only change the user assignments locally..

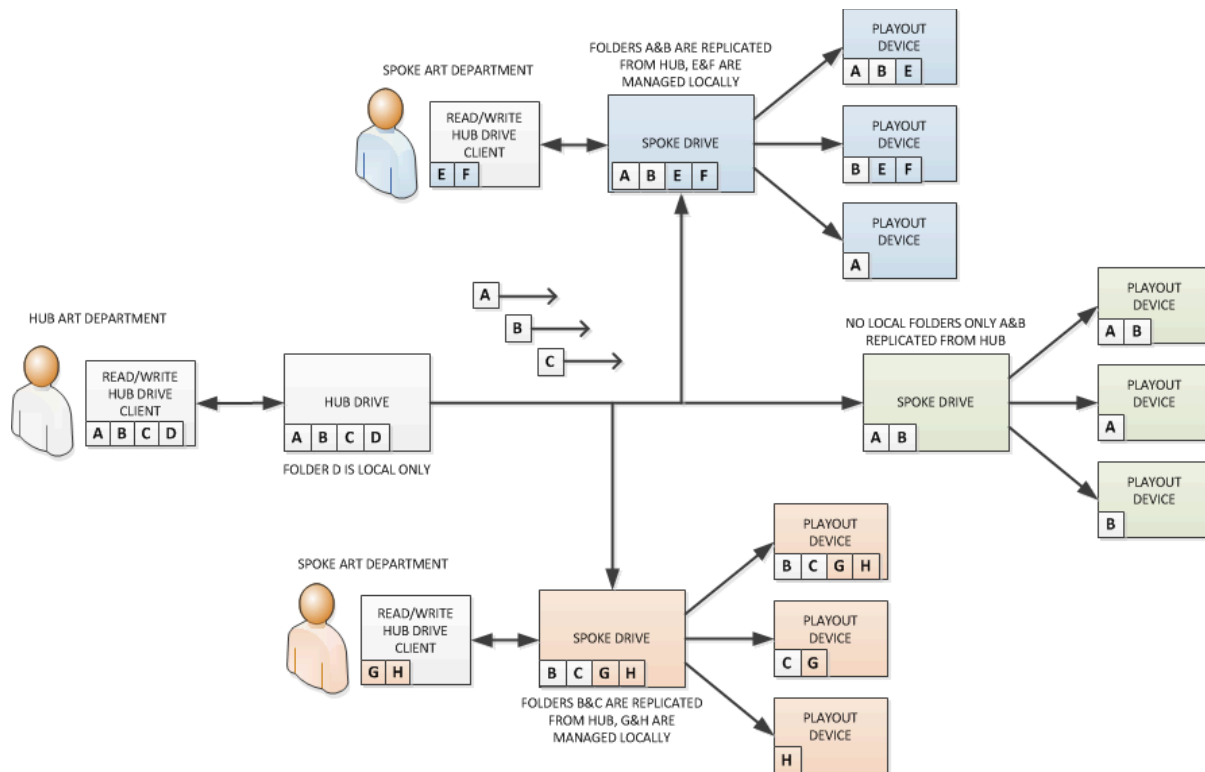
Note the following rules addressing user access. The system is designed so that if no specific user access changes are made, all users will have access to all folders.

- If a Folder Group is not assigned to any specific user, it will default to “All Users” and all users will have access to that folder group.
- It is possible for a folder to not be assigned to any folder group. These are called orphaned folders. Orphaned folders are always visible to all users. Folders must be in a Folder Group in order to control access to it.
- Admin users have access to all folder groups and do not need to be assigned in this UI.

- Note that the same folder can be in more than one folder group. A user can see a folder as long as they have access to at least one Folder Group that includes that folder.

Folder Group Cloning

In a large station group network, it is desirable to set up FSS at each spoke station rather than using a single server to distribute assets to all playout devices. There will be one master FSS typically located at the station group hub. Additional FSS will be located at each spoke station of the network.



FSS software has a feature called Cloning which replicates Folder Groups from the Hub FSS to the Spoke FSS. In addition, the spoke drives can have their own local sync folders. The Cloned Folder Groups must be managed from the Hub FSS. Local users can add content to their local synced folders only.

Configuring Cloning

Cloning is configured by Folder Group. Each Spoke FSS can only be connected to one Hub FSS. Connect to the Master CAMIO FileSync by entering its hostname or IP.

Chyron File Sync Server ver 5.1.2					Folders	Folder groups	Users	Aliases	Folder Group Cloning	System ▾	Log out adminjim
+ New Folder Group Clone											
Host	Connected	Download queue	Download speed								
camio.int.chyron.com:4302	Yes	0 files (0 B)	0 B/sec	Edit	Delete						

Create Folder Group from Host

Host Server IP

10.10.3.69

Port

4302

Connected

Select Folder Groups to Clone

Available from Host

Prime
Lyric

Selected for Cloning

Jim's Group

OK

Cancel

Click the EDIT button to open this dialog and select which Folder Groups you wish to clone from the host. Click on the right arrow to add the folder group and left arrow to delete. Click OK to save.

Folder groups which are cloned will be shown as 'Cloned from Host = Yes' and cannot be edited or deleted from the spoke system.

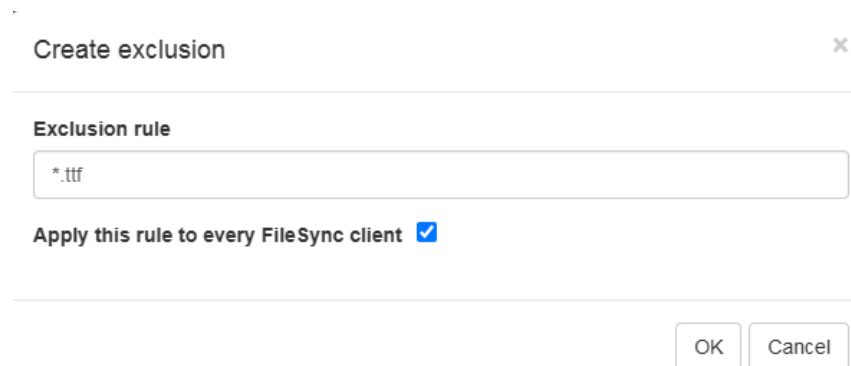
Folder name	id	Description	Size	Purgeable size	Version	Alias	Cloned from Host	Retain days		
News Demo	06192cc0-8f57-11e8-9e6e-d9b4d6e9b752	testing CRD	43 GB	75 MB	2265	PrimeCRD	No	Forever	Edit	Delete
Bugs and Tickers	233ef900-dd28-11e8-b5ad-e5da53acdcc0	Prime	0 B	0 B	0	PrimeCRD	Yes	Forever	Edit	Delete

Likewise, Folders which are in cloned folder groups will be shown as 'Cloned from Host = Yes' and cannot be deleted from the spoke system.

id	name	Cloned from Host	
560a6a50-8f57-11e8-9e6e-d9b466e9b752	Prime	No	Delete
b7105d30-45de-11e9-a9ea-0dbb3fcadee8	Jim's Group	Yes	Delete

Exclusions

FileSync exclusions rules are setup on each client and allow certain files to be excluded from upload to the Hub. While working in PRIME scenes, PRIME generates some files which may never need to be synced. It is possible to setup an exclusion rule centrally, in the FileSync Server Admin that will be enabled for all FileSync clients. Note - this can be overridden on each FileSync client if required.



Create exclusion ✕

Exclusion rule

Apply this rule to every FileSync client ☒

OK Cancel

If you want to ignore specific file, you need to write path from root of synced folder and extension:

`IgnoredFile.txt`

`Images/IgnoredImage.png`

If you want to ignore specific folder you need to write path from root of synced folder:

`Scenes/**`

If you want to ignore all files with name, you need whole name with extension:

`**/IgnoredFile.txt`

If you want to ignore all files with specific extension:

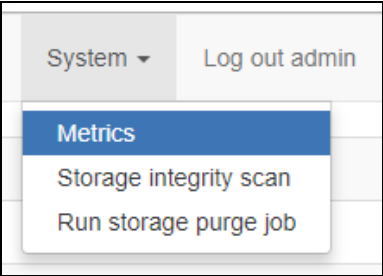
`**/*.png`

(ignores all files everywhere in synced folder with extension .png)

Chyron FileSync Server ver 5.5.0		Folders	Folder groups	Users	Aliases	Folder Group Cloning	Exclusions	System ▾	Log out admin
+ New									
Rule		Enabled by default							
*.eps	Yes	Edit Delete							
*.txt	Yes	Edit Delete							

System Maintenance

System Maintenance dropdown menu provides three tools to help maintain the system.

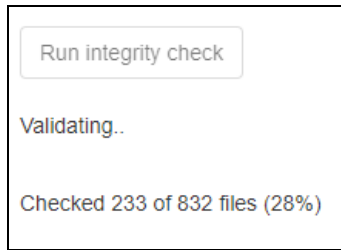


Metrics

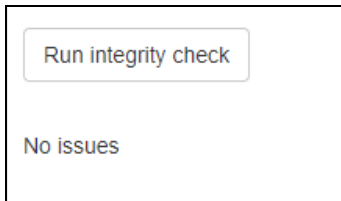
ChyronHego HubDrive Server ver 1.1.0-beta.3		≡
Version	1.1.0-beta.3	
Storage	filesystem	
Database	mssql	
Total memory	31.89 GB	
Free memory	27.95 GB	
Storage path	I:\HubDrive	
Free disk space	4.02 TB	

Metrics dialog shows the state of the CAMIO FileSync Server.

Storage Integrity Scan



Press the Run Integrity Check button. Storage Integrity Scan will check the CAMIO FileSync storage for missing or corrupted files.



If there are no missing or corrupted files there are no issues reported.

Any missing or corrupted files will be listed in the report. Deleting the reference will prevent clients from downloading these bad files. Files which have a hash mismatch can be downloaded for examination.

Validation errors			
File	Issue	References	
00fb61f07b63c5aa7f7c573a6c54dda9	MISSING	Bugs and Tickers/Clips/Weather Icons/Snow_Heavy_256.ppc	Delete reference
0a1fe65f352b788d9be70784e8f551af	HASH_MISMATCH	ChyronHego Lyric Demo/3D Objects/models/malaysian f1 track/jors2.jpg	Download Delete reference

Run Storage Purge Job

Files which are deleted from a shared folder by a client are not immediately deleted from CAMIO FileSync Storage and can create storage issues over time. These files are marked as unused in the database and can be purged in the future based on simple rules. The Purge Job is run once every 24 hours and deletes files in storage that have been marked for deletion.

Edit folder

Folder name

Bugs and Tickers

Description

Prime

Alias ID

PrimeCRD

Days to retain deleted files on purge

No retain

Keep 10 days

Keep 20 days

Keep 30 days

Keep forever

OK

Cancel

Shared Folder “Days to Retain” Setting

From the shared folder’s Edit menu, select the desired Days to Retain. An asset will be deleted the next time the purge job is run after the days have expired.

For instance, an asset is deleted by a client on Day 1. Days to Retain is set to 20 days. The asset will be deleted by a Purge Job is run on Day 21 or later.

Purge storage

Are you sure you want to trigger the purge job?

OK

Cancel

System Maintenance > Run Purge Storage Job

Purge Jobs can be run on demand using this link. Otherwise they are run automatically every 24 hours from the time the CAMIO FileSync Service was started.

Folder Browsing

The Folders page provides access to view and download the assets stored in CAMIO FileSync.

ChyronHego HubDrive Server ver 1.1.0-beta.3									
Log out admin									
+ New									
Folder name	id	Description	Size	Purgeable size	Version	Alias	Cloned from Host	Retain days	
Bugs and Tickers	233ef000-dd28-11e8-b5ad-e5da53aadc00	Prime	4 GB	0 B	832	PrimeCRD	No	Forever	Edit Delete
ChyronHego Lyric Demo	3d25b500-e84c-11e8-ba38-4fcf5afdcdf1	Lyric Content	7 GB	199 KB	2696	Lyric	No	Forever	Edit Delete

Click on the Folder Name to open a page that lists all assets in the folder. You can click on a **Filename** to download that file into your browser's download folder.

ChyronHego HubDrive Server ver 1.1.0-beta.3			
Log out admin			
Filename	Size	Modified	User
Project.cpf	4.67 kB	2018-11-02T10:36:54.780Z	admin
parameters.xml	409 B	2018-11-02T10:36:54.797Z	admin
Browse/wx0.mov	9.57 MB	2018-11-02T10:36:54.797Z	admin
Browse/wx1.mov	10.1 MB	2018-11-02T10:36:54.797Z	admin
Clips/00000004.ppc	91.2 kB	2018-11-02T10:36:54.797Z	admin
Clips/3dlogo 4_Open.mov	29.7 MB	2018-11-02T10:36:54.813Z	admin
Clips/3dlogo 4_Open.ppc	4.22 kB	2018-11-02T10:36:54.813Z	admin
Clips/Bug_loop_(3.20sec).mov	14.5 MB	2018-11-02T10:36:54.813Z	admin
Clips/Bug_loop_(3.20sec).ppc	4.27 kB	2018-11-02T10:36:54.813Z	admin

Alternatively you can click on the **Version** number link as shown below. This displays the history of every change made to that folder.

ChyronHego HubDrive Server ver 1.1.0-beta.3									
Log out admin									
+ New									
Folder name	id	Description	Size	Purgeable size	Version	Alias	Cloned from Host	Retain days	
Bugs and Tickers	233ef900-dd28-11e8-b5ad-e5da53a0d0c0	Prime	4 GB	0 B	832	PrimeCRD	No	Forever	Edit Delete
ChyronHego Lyric Demo	3d25b500-e84c-11e8-ba38-4fcf5afdc0f1	Lyric Content	7 GB	199 KB	2696	Lyric	No	Forever	Edit Delete

Version display shows every change made to that folder (new files, update and delete) along with which user made that change. Links are provided to download current and previous versions of a file that have not been purged.

Version	Filename	Size	Modified	User	Action
1	Project.cpf	4.67 kB	2018-11-02T10:36:54.780Z	admin	add
2	parameters.xml	409 B	2018-11-02T10:36:54.797Z	admin	add
3	Browse/wx0.mov	9.57 MB	2018-11-02T10:36:54.797Z	admin	add
4	Browse/wx1.mov	10.1 MB	2018-11-02T10:36:54.797Z	admin	add
5	Clips/00000004.ppc	91.2 kB	2018-11-02T10:36:54.797Z	admin	add
6	Clips/3dlogo 4_Open.mov	29.7 MB	2018-11-02T10:36:54.813Z	admin	add

Size and **Purgeable Size** show how large this shared folder is and how many assets can be purged by running the Purge Job.

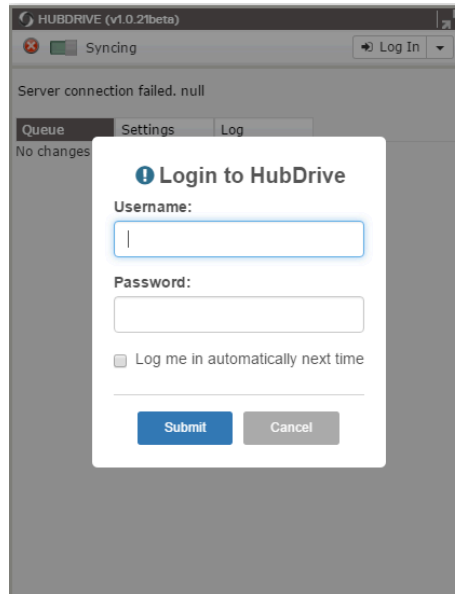
ChyronHego HubDrive Server ver 1.1.0-beta.3									
Log out admin									
+ New									
Folder name	id	Description	Size	Purgeable size	Version	Alias	Cloned from Host	Retain days	
Bugs and Tickers	233ef900-dd28-11e8-b5ad-e5da53a0d0c0	Prime	4 GB	0 B	832	PrimeCRD	No	Forever	Edit Delete
ChyronHego Lyric Demo	3d25b500-e84c-11e8-ba38-4fcf5afdc0f1	Lyric Content	7 GB	199 KB	2696	Lyric	No	Forever	Edit Delete

CAMIO FILESYNC CLIENT

Installation

Run the installer. FileSync Client will install.

Note, the first time the Client runs it will open to the login screen. Please cancel to be able to configure settings. Select Settings > Configuration.



Settings Configuration

Server is the address of the server this client will get its content from.

Client should log in with [hostname or IP]:4302 in the Settings>Configuration>Server. For example, if the server hosting CAMIO FileSync server is called CAMIO-A, the server address one should put into FileSync client (FSC) is CAMIO-A:4302. Hostname can be hostname or IP.

FILESYNC (v5.5.0)

Syncing admin

Red folders have been deleted off server. Untick to choose to remove or kee...

Queue Settings Log

Sync Folders

Aliases

Autosync Scheduler

Exclusions

Configuration

Server 10.10.2.46:4302

Client Name Richard

Changes Per Page 25

☒ Enable Syncing on Startup

☒ Always sync new folders

☒ Auto Launch on Reboot

Save

Client Name is the name this client will display on the local UI and in the FSS logs. Administrators and Artists will have unique names referring to a user, but read-only clients will likely have a name referring to the device, such as Renderer or Playout1.

Changes per page defines how many changes per page listed in the Queue. Too large a number may slow performance.

Enable Syncing on Startup, when selected, enables the Syncing switch on start up, which will automatically download all changes from the server unless there is a conflict.

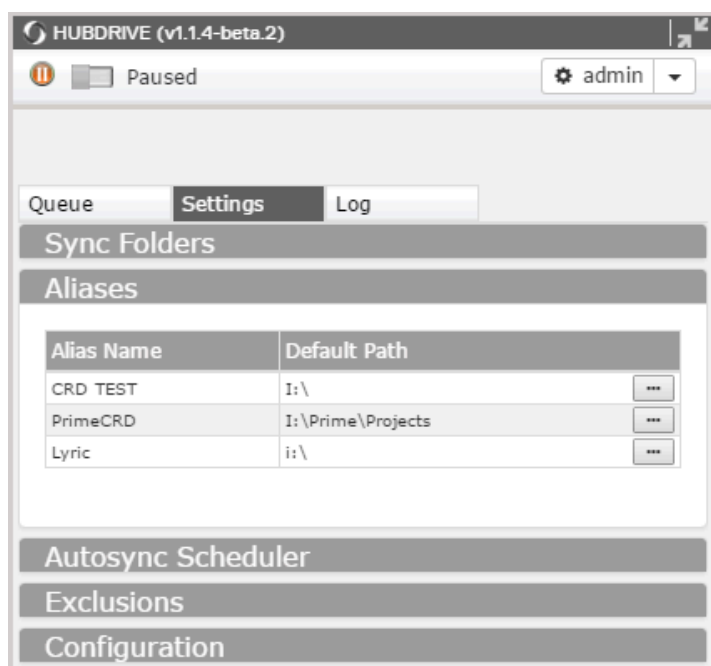
Always sync new folders, means that any new folders added to the server will automatically have their contents sync'd, removing the need for clients to be manually updated.

Auto Launch on Reboot, when selected, will launch FSC software if the device reboots.

Enable Syncing on Startup and Auto Launch on Reboot should both be set to on for any devices that run without human intervention (most playout devices)

Client Aliases

Default Alias Paths are downloaded from the server. These can be overwritten to match local filesystem constraints.



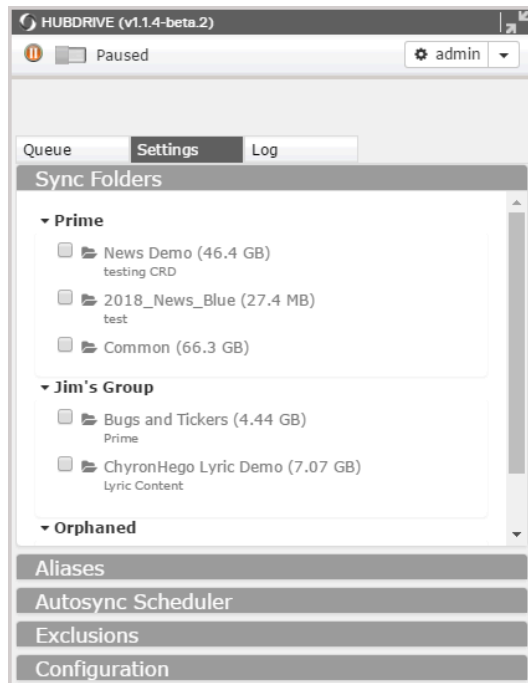
Users can overwrite the default path (Alias) set on the server to match their local system. For instance, if the server default path for Lyric messages is 'i:\', but this client machine does not have an i: drive, the alias name should be changed to 'c:\content' here. If you are going to be repointing all folders this saves a step in the Sync Folder set up by having that default to the new path.

NOTE: Due to Lyric having absolute paths, it is recommended not to put any part of a Lyric directory on a different file path than I:\, but the purpose of this is to be able to repoint the root drive from the Server Alias to a different path if desired.

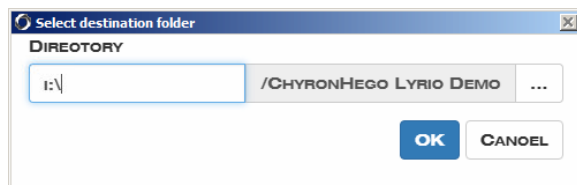
SYNC FOLDERS

Contexts (folder groups) and their sync folders are listed in the Sync Folders menu of the Client settings. Select which folders this client is “subscribing” to. Those are the folders that this client device will synchronize.

Click on the checkbox next to the Sync Folder you want to subscribe to:



When first subscribing to a Sync Folder you will be asked to select an Alias Path. If the Alias is defined for that folder it will automatically populate. Or you can search for a folder using the browse button or type in a folder name.



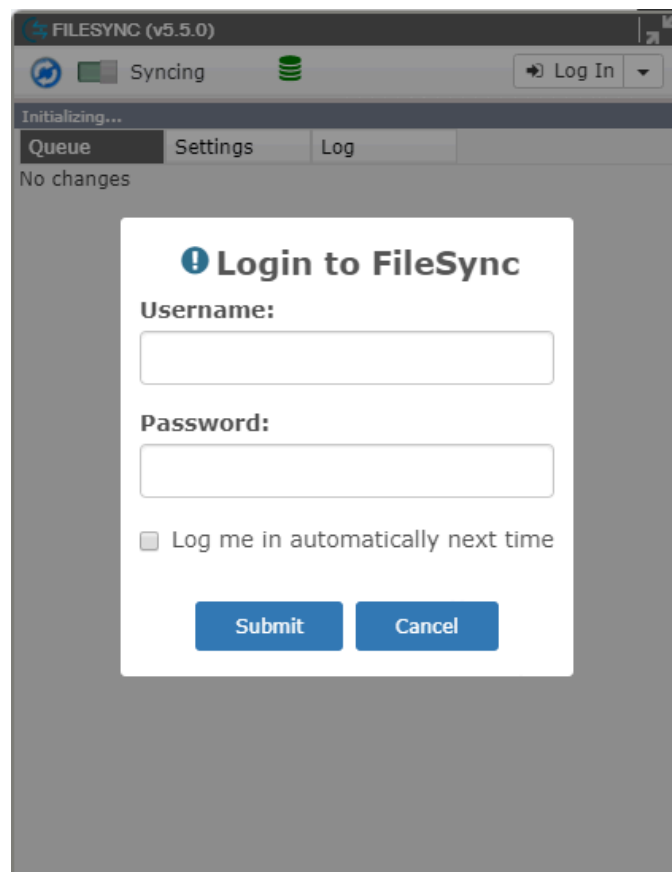
Select a folder and it will show you where it will save it by default according to the Aliases set up on this client. To override the path, click on the browse button to report the folder to where you desire. If you have pointed to a folder incorrectly, simply unclick and relick to repoint.

USER LOGIN

Logging into a client as an artist or admin means that the user will have permission to be able to write as well as read. Read Only permission allows the user to receive files from the server as well as revert any changes made on this local machine to the server version but NOT to write any files back to the server for distribution to the rest of the clients.

Devices that are not logged in with a username to the FSC are only able to receive content with the Syncing switch enabled. IT IS HIGHLY RECOMMENDED EVERY CLIENT IS ALWAYS LOGGED IN, even as a read-only user.

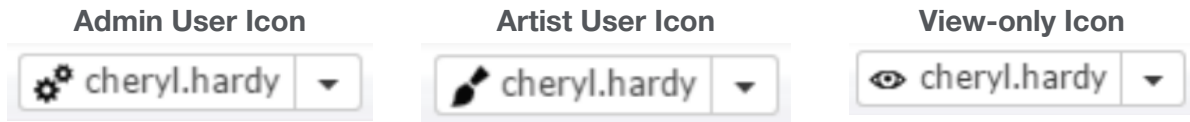
Log Me In Automatically Next Time - will automatically log the user in with the supplied username and password and must be enabled for unmanned devices (CAMIO, Mediamaker, etc.)



Once you are logged in, the client should go from an Error state to a Paused state.

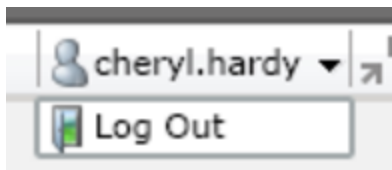
User Login Icons

The icon on the user login button will indicate if the user is logged in as Admin, Artist or Read-only



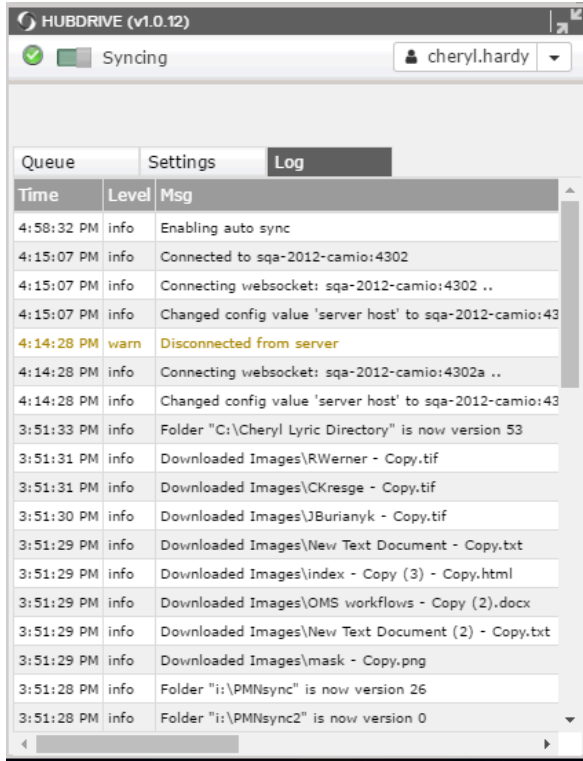
Logging Out

To log out click the down arrow next to the username and select Log Out.



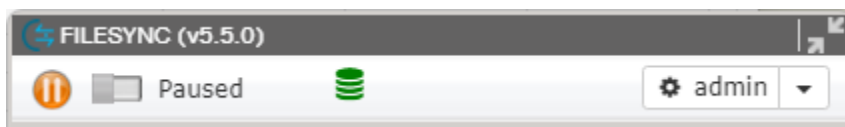
Client Log

The client log shows all activity in the client, whether uploading or downloading.



USING THE FILESYNC CLIENT

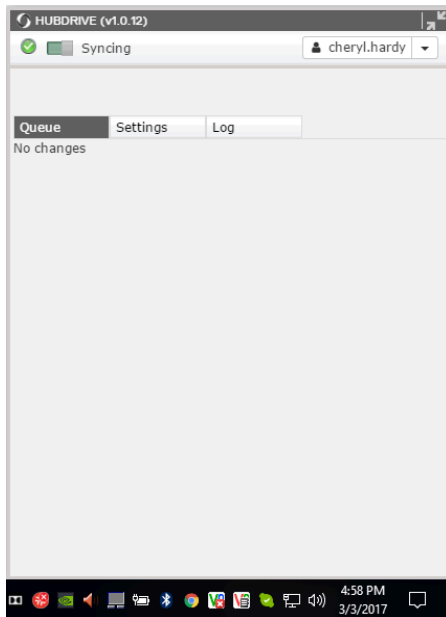
The Top Bar



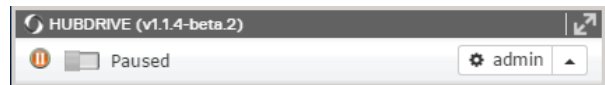
The top bar of the FSC contains the version information as well as the push/pull/revert all icons and a  minimize and  maximize arrow.

The client is docked to the lower right corner of the screen and cannot be moved. The FSC can be displayed as Maximized, Minimized or Hidden. Maximized state is needed to configure or monitor operation. Minimized saves desktop space while still showing status. The hidden state is just an icon in the system tray.

Maximized Client



Minimized Client



Hidden Client



Sync Status



The top bar displays the current status of synchronization with the server in a simple graphical form. These icons show the number of items out of sync and can be pressed to initiate synchronization.

- Pull Now (from Server)  orange down arrow, i.e. there is one (or newer) item on the CAMIO FileSync server that needs to be downloaded.
- Push Now (from Local)  blue up arrow, i.e. there are two new (or newer) items on the local device that need to be pushed to the server (only if the user has write privileges.)
- Revert to Server Version  orange left arrow, when pressed in the top bar, will revert all local files to the server version.

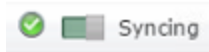
- Clicking on the buttons inline in the Queue will push, pull, or revert each file independently. Queue operation is described in more detail below.

+		Multi Candidate No Pic FF...	 	6 weeks ago	Unknown
		i:\NAB 2017\Messages\Multi C...			
+		OTS - Image Left.lyr	 	6 weeks ago	Unknown
		i:\NAB 2017\Messages\OTS - L...			
+		FF - Map.lyr	 	6 weeks ago	Unknown
		i:\NAB 2017\Messages\FF - M...			
+		Ticker_Weather.lyr	 	9 weeks ago	Unknown
		i:\NAB 2017\Messages\Ticker_...			
+		Ticker_Breaking News.lyr	 	9 weeks ago	Unknown
		i:\NAB 2017\Messages\Ticker_...			
+		Ticker.lyr	 	9 weeks ago	Unknown
		i:\NAB 2017\Messages\Ticker.lyr			

Auto Syncing

Auto Syncing will automatically download any changes from the server to the local client. There are two states of the Auto Syncing switch

On (Syncing)



This is when the client will automatically download any pending server changes to the local device. NOTE, local changes NEVER auto-sync to the server and must be pushed to the server, and can only be pushed by a user with write permissions.

Off (Paused)



This is when any server changes will queue and must be pulled to the local device to change on that device. Local changes also queue and must be pushed to the server.

Status Indicators

There are four statuses of the FSC.



- Synchronized



- Sync paused. No changes from the server will automatically sync to the client.



- Error. Either there is a conflict that must be resolved or there is an issue in the settings.

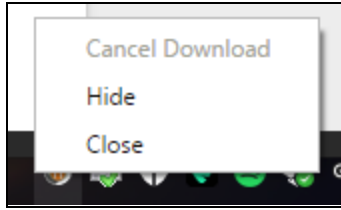


- Syncing content in progress.



Whatever the current status, it is replicated in the tray icon.

By right clicking on the tray icon you can:

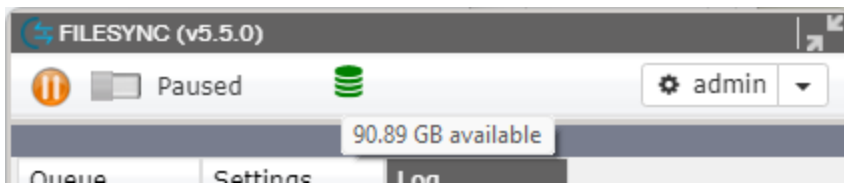


- **Cancel a download** that is happening.
- **Hide** the Client (and Show the client if it is hidden)
- **Close** and exit CAMIO FileSync.

Disk space indicator

The disk icon in the top bar gives a quick, visual indication of the amount of storage available on the client disk volume where the FSC syncs files to. The color of the icon indicates the % of capacity used:

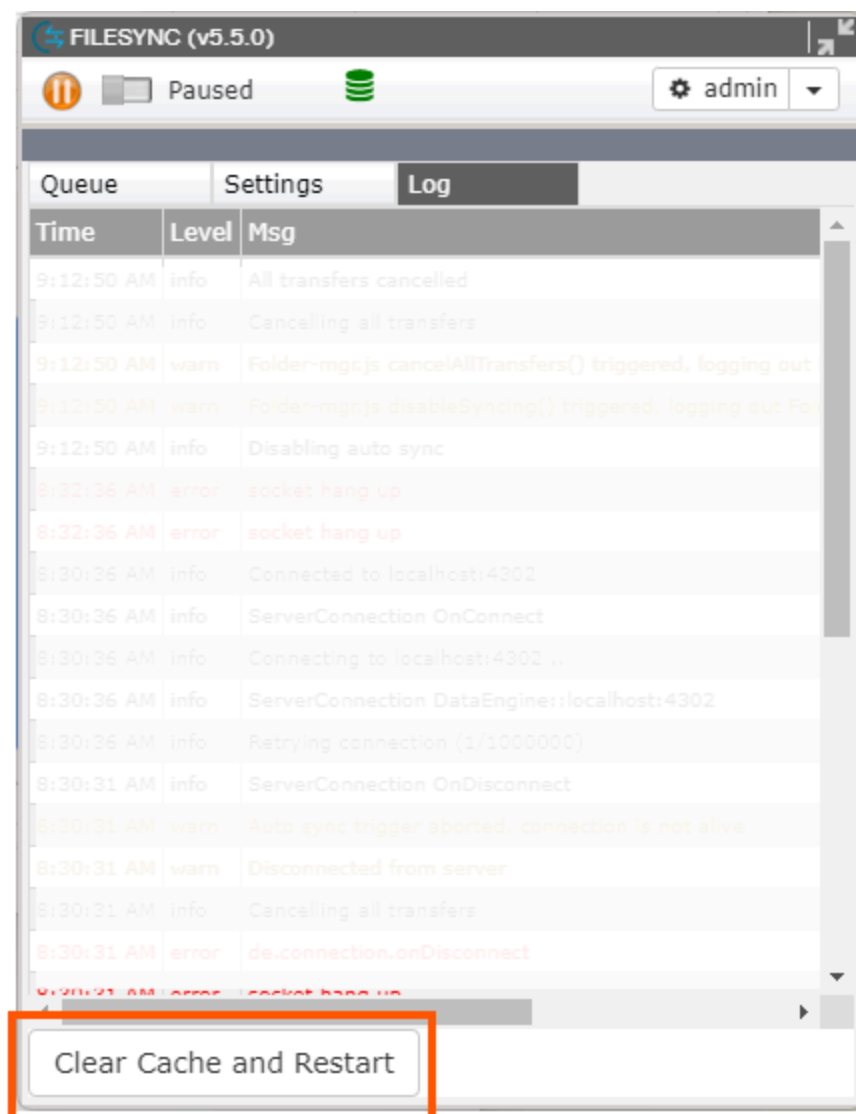
- Green - less than 90%,
- Amber- between 90% and 95%
- Red - over 95%



Hovering the mouse pointer over the icon will give the specific amount of storage that is available (unused).

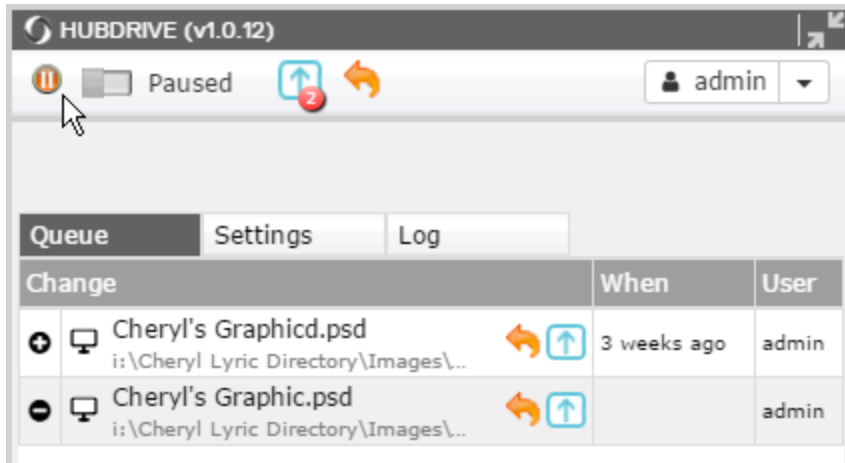
Clear Cache and Restart

Occasionally FileSync encounters an unrecoverable sync fault. This may happen if a device unexpectedly reboots during syncing for example. The Clear Cache and Restart button - on the Logs tab - cleans up the .fs folder and restarts the FSC in order to recover from the fault.



Queue

The queue shows all discrepancies between the server and local client.



The different icons in the queue indicate different info and capabilities.

Type of change

- created file
- deleted file
- edited file that exists on both server and client devices

Where was the change made

- Local device
- Server

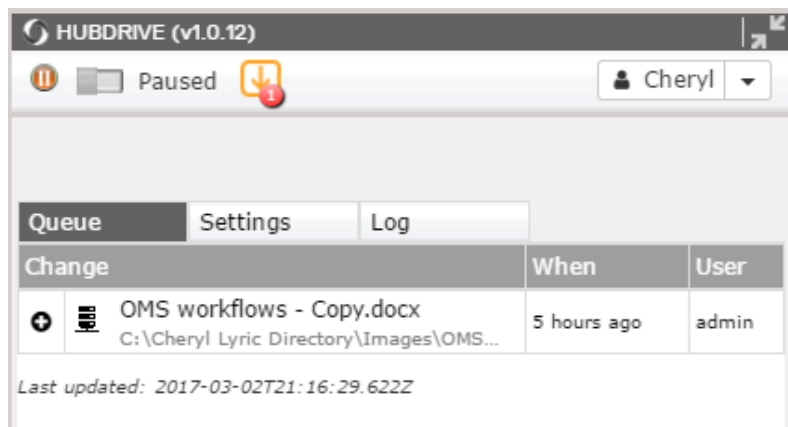
Actions users can perform

Orange down arrow in the top bar (for pull all) or next to individual items in the queue indicate files available on the server that can be pulled to local device. This indicator is only available when syncing is paused, otherwise Server files will be automatically synced to the local device.

Blue up arrow in the top bar (for push all) or next to individual items in the queue indicate files changed locally that can be pushed to the server. Even when syncing is not paused, all local file changes must be pushed manually, either by pressing the “push all”

button in the top bar, or by manually pushing individual files in the change queue. **Local files will NOT automatically be pushed to the server in any scenario.**

 Orange revert arrow in the top bar (for revert all) or next to individual items in the queue indicates reverting a local change back to the server version by pulling the server version of that (or all) files to the local device again. Whether a single file or all files are reverted is determined by whether the orange revert arrow is pressed in the top bar or against individual files in the Changes Queue.



Orange down arrow is pull down server versions to local device. It only exists in the top bar while Syncing is paused.

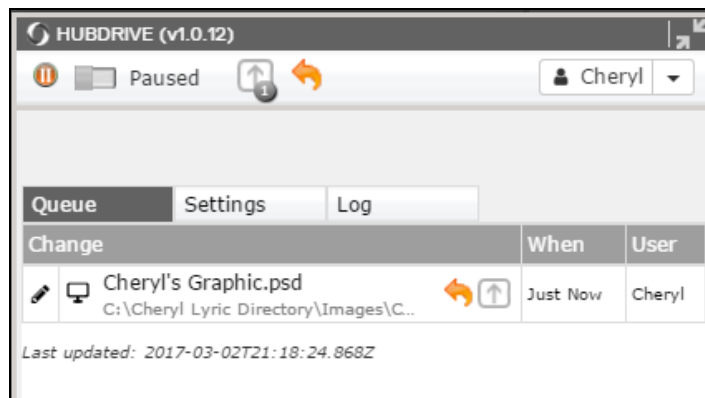
Changes			When	User
	 HS_Beyonce.tif C:\test-folder\HS_Beyonce.tif			admin
	 KWeir.tif C:\test-folder\KWeir.tif			admin
	 New Bitmap Image.bmp C:\test-folder\New Bitmap Image....			admin
	 HS_David Beckham.tif C:\test-folder\HS_David Beckham....			admin
	 HS_Jennifer Lopez.tif C:\test-folder\HS_Jennifer Lopez.tif			admin
	 Landgraf_Lois.tif C:\test-folder\Landgraf_Lois.tif			admin

Blue up arrow pushes local content back to server (only available to read/write and admin users only.)

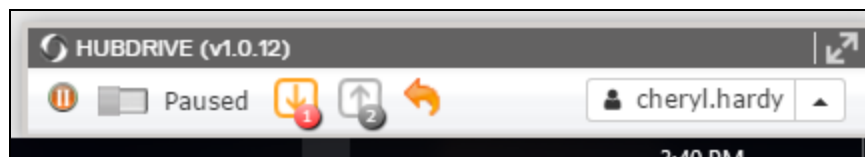
Orange revert arrow means revert changed local file to server version (available to all users.)

Reverting will mean different things depending on what kind of file action it is reverting.

- Reverting a file ADDITION/creation - means the file will be DELETED locally (bypassing the Recycle Bin.)
- Reverting a file SUBTRACTION/deletion - means the file will be RE-DOWNLOADED from the server.
- Reverting a file EDIT - means the file will be RE-DOWNLOADED from the server and local changes OVERWRITTEN.



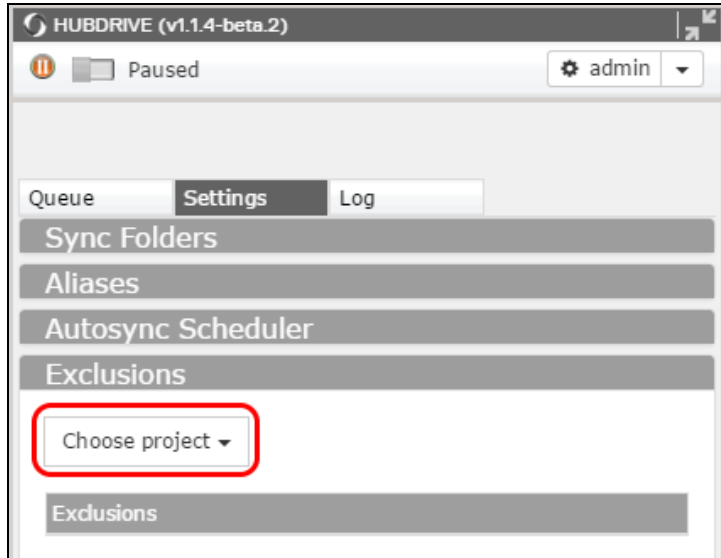
A read only user, after making a change, would only be given the option to revert all files (top bar orange revert arrow) or revert files one at a time (orange revert arrow next to each file in the Change Queue.) That user would not be able to push local changes to the server and those local changes would accumulate in the Queue and in the top bar indicator.



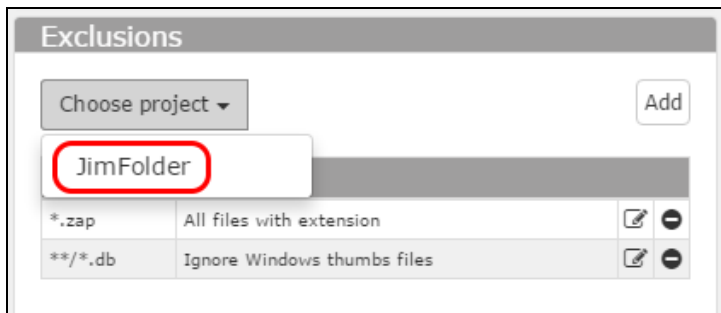
When Syncing is Paused, files must be pulled from the client before local files can be pushed to the server, as shown above. The push from local button in the top bar is inactive until files are pulled from the server.

Exclusions

Exclusions prevent the FSC from uploading files and folders that match certain rules. A common use for this is to exclude the Windows thumbs.db file from CAMIO FileSync since it is being constantly updated and cannot be used on the server or other clients. Exclusions are defined separately for each shared folder.

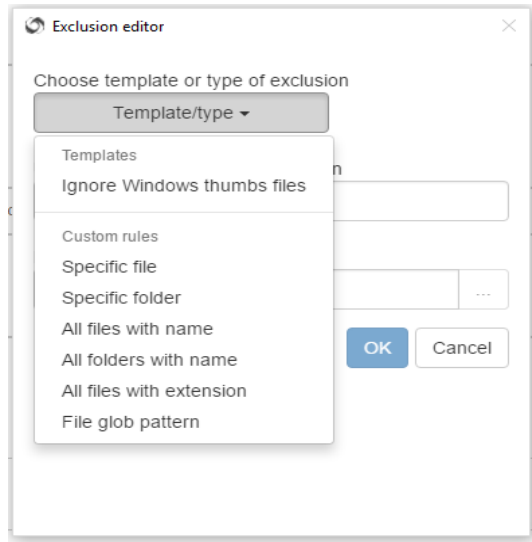


Click on the Exclusions Tab and then Choose Project to select from a list of shared Folders. Clicking on a Shared Folder name it will show any previously configured exclusions.



Press the Add button to add a new exclusion rule, Existing exclusion rules can be edited and deleted by clicking the icons to the right of the exclusion rule name and description

Creating a new exclusion rule



Ignore Windows Thumbs Files

`**/*.db` - ignores changes, additions or deletions to any file with .db extension in any subfolder.

Ignore Specific File

`filepath/myfile.txt` - ignores changes, deletions or additions the files to this file but not a deletion of the file.

Ignore Specific Folder

`filepath/**` - ignores changes, additions and deletions to files within that folder. Ignores deletion of the folder itself and adding it back.

All Files with Name

`**/myfile.txt` - ignores changes, deletions or additions to a file named myfile.txt in any subfolder.

All Files with Extension

`**/*.txt` - similar to the Ignore Windows Thumbs Files for any extension. Ignores changes, deletions or additions to any file with specified extension in any subfolder \

File Glob Pattern

Free form template using these wildcards.

"?" matches a single character

"*" matches any number of characters within name

"**" matches any number of characters across all directories

Note: CAMIO FileSync Ignore file is created by the FSC and placed in the shared folder when an exclusion rule is created or edited. The purpose of this file is to push the exclusion rules to other clients on the network. This is ideal if the whole network can agree on a standard set of exclusion rules.

You can also create an exclusion rule to ignore this specific file in which case it will not be uploaded to the server and shared with other clients.

Resolving Conflicts

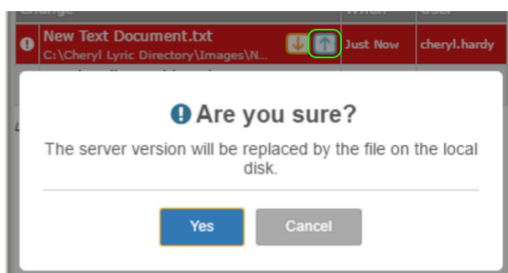


When a file has been changed on both the server and on the local device, a conflict occurs and must be resolved before any other files may be pushed or pulled.

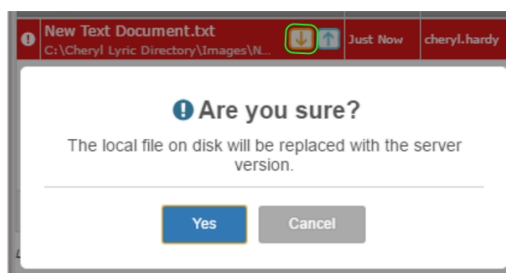
TO RESOLVE THE CONFLICT, a user must choose either the orange server version or blue local version by clicking on the down orange (server) or up blue (local) arrow button to resolve the conflict.

Select the orange pull down (use server version) or blue push up (use local version) buttons in the conflicted file's row to resolve the issue.

Choosing Local Version



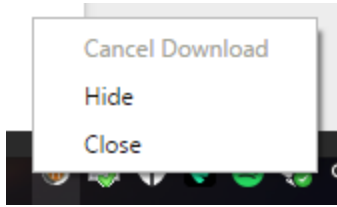
Choosing Server Version



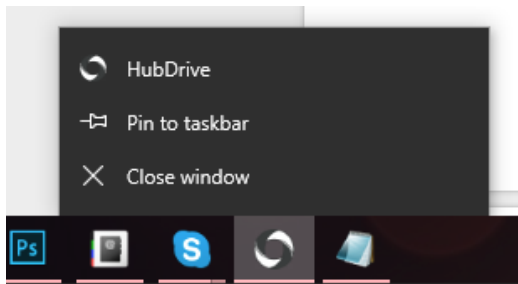
If you choose the server version it will be downloaded and overwrite the local version. If you choose the local version it will wait for you to push local changes to the server, (at this point you can still choose to revert changes from server), then overwrite the server version with the local version. **Read-only users** will never have conflicts because they cannot upload changes to the server.

Exiting CAMIO FileSync Client

You can close FSC by right clicking on the icon in the tray.



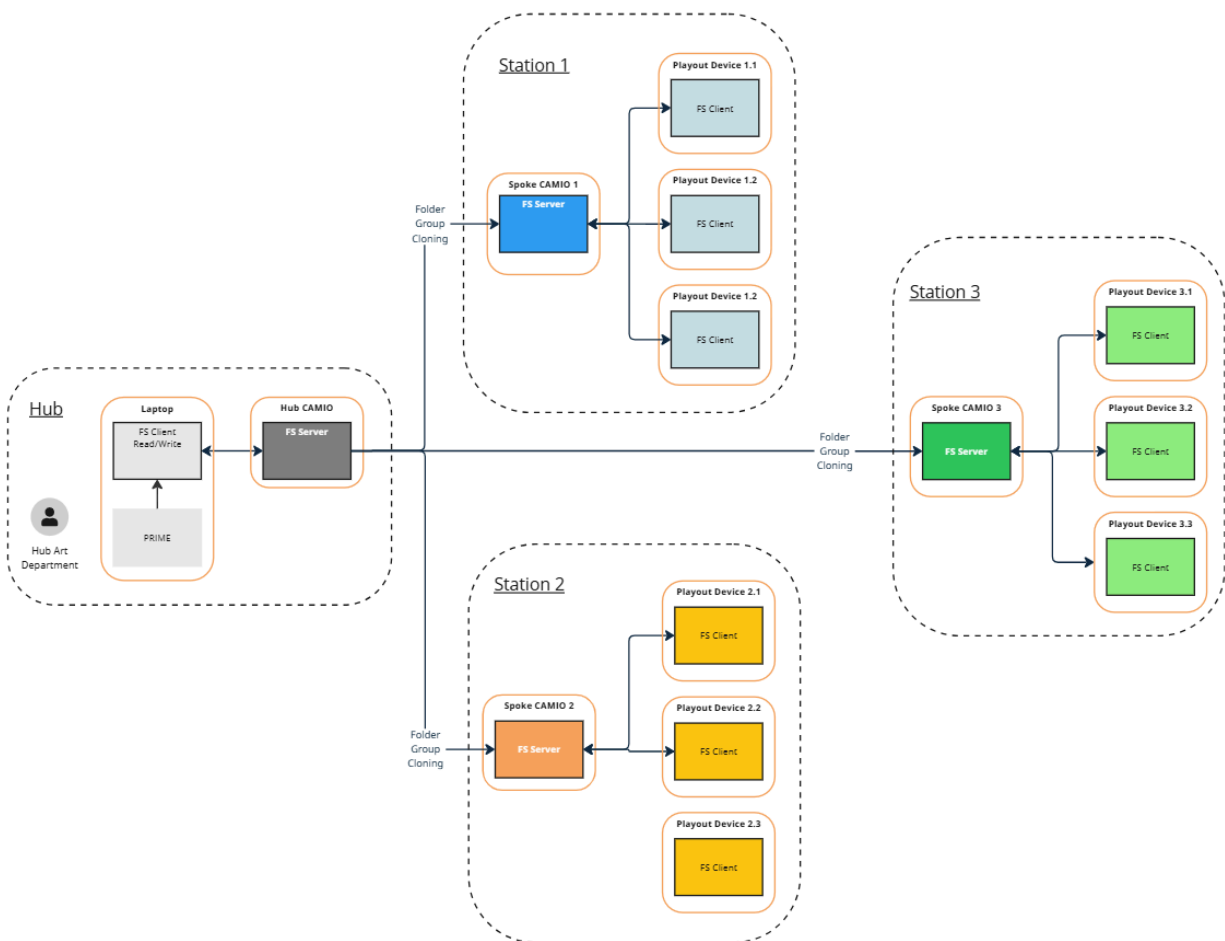
You can also right click on the CAMIO FileSync icon in the taskbar to close.



Note - User Windows task manager to force the FileSync client to quit, or an unexpected reboot while files are in the process of syncing is highly likely to leave the files in a state from which they cannot be recovered. In the case where file syncing is causing a high load on the network which needs to be alleviated, simply user the [Pause syncing](#) function and/or use the [Auto Syncing](#) feature.

FileSync known limitations and behaviours

FileSync by its nature is a complex product with many variables that make benchmarking metrics difficult. Although Chyron can benchmark the sync process in our controlled testing environment, in the real world it may involve a hub-spoke-playout or hub-spoke topology and the number of FileSync clients, amount of files and network configuration can vary enormously. It is therefore not possible to give overall product performance metrics.



Recent developments of FileSync have prioritised stability of delivery over speed of delivery. It's more important that files arrive correctly than arrive quickly. See [Maximum number of FileSync Client connections to FileSync Server](#) section.

Below is some information and guidance based on extensive Chyron testing of FileSync in a controlled environment where FileSync behaviour and performance is as isolated as possible.

Factors that affect file transfer speed

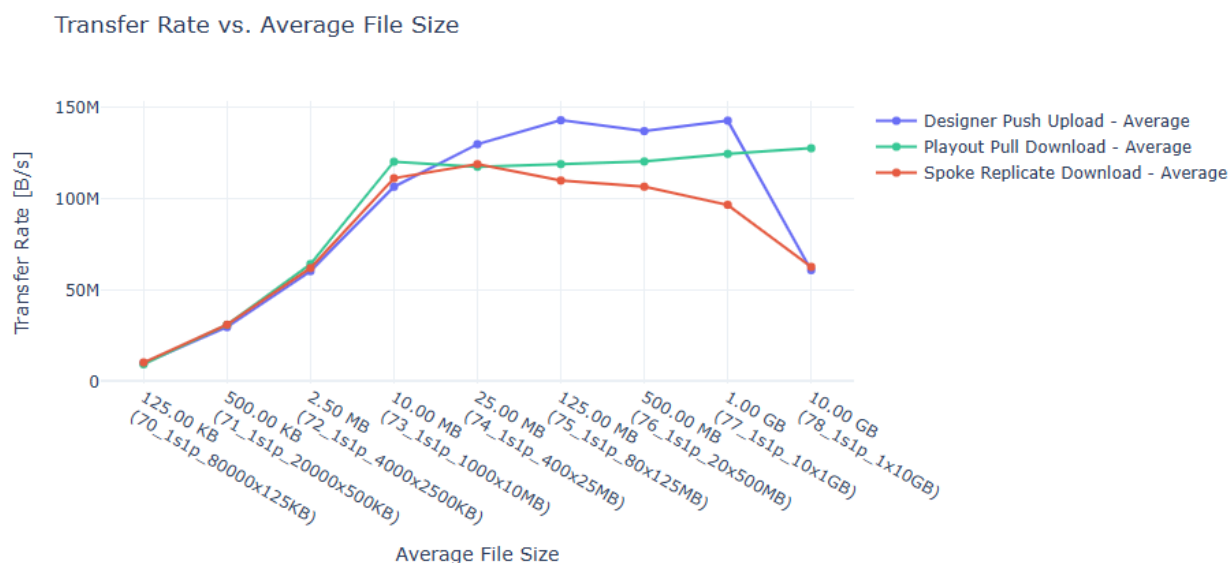
Total volume of data to be transferred

It is self-evident that the more data there is to transfer, the longer it will take. This relates not only to the total volume of data in files within a project but also the number of spoke CAMIOs and playout devices used.

A 1GB file being sync'd across 1 hub and 10 spokes each with 3 playout devices results in over 40GB of data being transferred.

Number of files

We've run tests to transfer 10GB of data across Hub (pushed to the hub from a designer PC), spoke and playout device



This graph shows that many small files (80,000 x 125KB files) result in a much lower transfer rate than mid-size files and very large files (1 x 10GB) have lower performance too. The sweet spot is between 10MB - 1GB file sizes.

Network bandwidth

The higher bandwidth of the network and all components that support FileSync, the faster the files will be transferred. That said, if there are a high number of downstream spokes and/or playout devices, the rate at which they can receive data will be limited by the maximum upload rate of the FileSync server they're receiving data from.

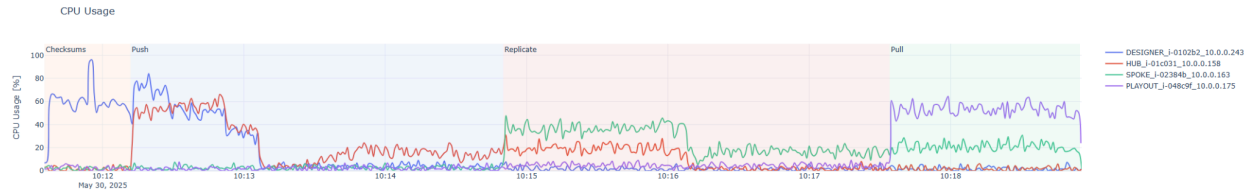
Currently FileSync has a known maximum limit of 2.2Gbps (bits per second) ie when replicating a file between a hub and spoke or syncing to a playout device using FileSync Client. A **single file** cannot be transferred faster than this rate regardless of the other factors like network speed and number of CPUs. However, Folder Group Cloning and the FileSync client upload/download transfer multiple files concurrently so a higher transfer rate is achieved in real world usage.

	Max files that can be transferred concurrently	Max data transfer rate (Mbps)
FileSync Client	2	550
Folder Group Cloning	Unlimited	Network bandwidth available

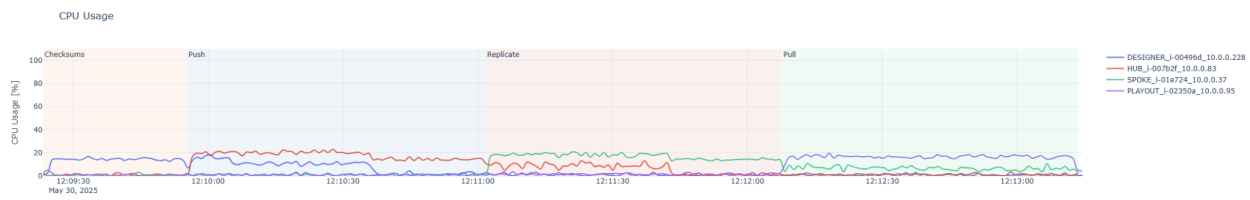
CPU

The main use of the CPU is for calculating checksums. FileSync will use 2-3 CPU cores maximum throughout the whole file sync process. Adding more CPU cores does not speed up the process.

Below is the CPU usage graph for a 10GB file being sync'd across **2x CPU** machines. The CPU usage approaches 100% usage at times



Below is the CPU usage graph for a 10GB file being sync'd across **8x CPU** machines. The CPU usage never exceeds 25% (2x CPUs), showing that adding more CPUs make no difference to performance



Disk IO speed

If all other bottlenecks are removed, the speed of disk read/write operations may theoretically become a bottleneck but this is unlikely.

Maximum number of FileSync Client connections to FileSync Server

FileSync Client now only allows 2 concurrent connections ie 2 files to be uploaded or downloaded concurrently. This has improved stability at the expense of some decrease in sync speed to the FileSync Client.

Guidance

- Stay within the file size sweet spot of 10MB - 1GB file sizes if possible
- Running a FileSync Server (Software) on a CAMIO server that is also running CAMIO will inevitably cause CAMIO performance to be affected. This will vary depending on the amount of data being transferred and whether that occurs during periods of user activity in CAMIO. To mitigate the impact on CAMIO:

- Consider using Filesync's Auto-scheduler feature
- Deploy FileSync on a separate machine to CAMIO

ABOUT US

Chyron is ushering in the next generation of storytelling in the digital age. Founded in 1966, the company pioneered broadcast titling and graphics systems. With a strong foundation built on over 50 years of innovation and efficiency, the name Chyron is synonymous with broadcast graphics. Chyron continues that legacy as a global leader focused on customer-centric broadcast solutions. Today, the company offers production professionals the industry's most comprehensive software portfolio for designing, sharing, and playing live graphics to air with ease. Chyron products are increasingly deployed to empower OTA & OTT workflows and deliver richer, more immersive experiences for audiences and sports fans in the arena, at home, or on the go.

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