

# File Authorization

Under The Hood

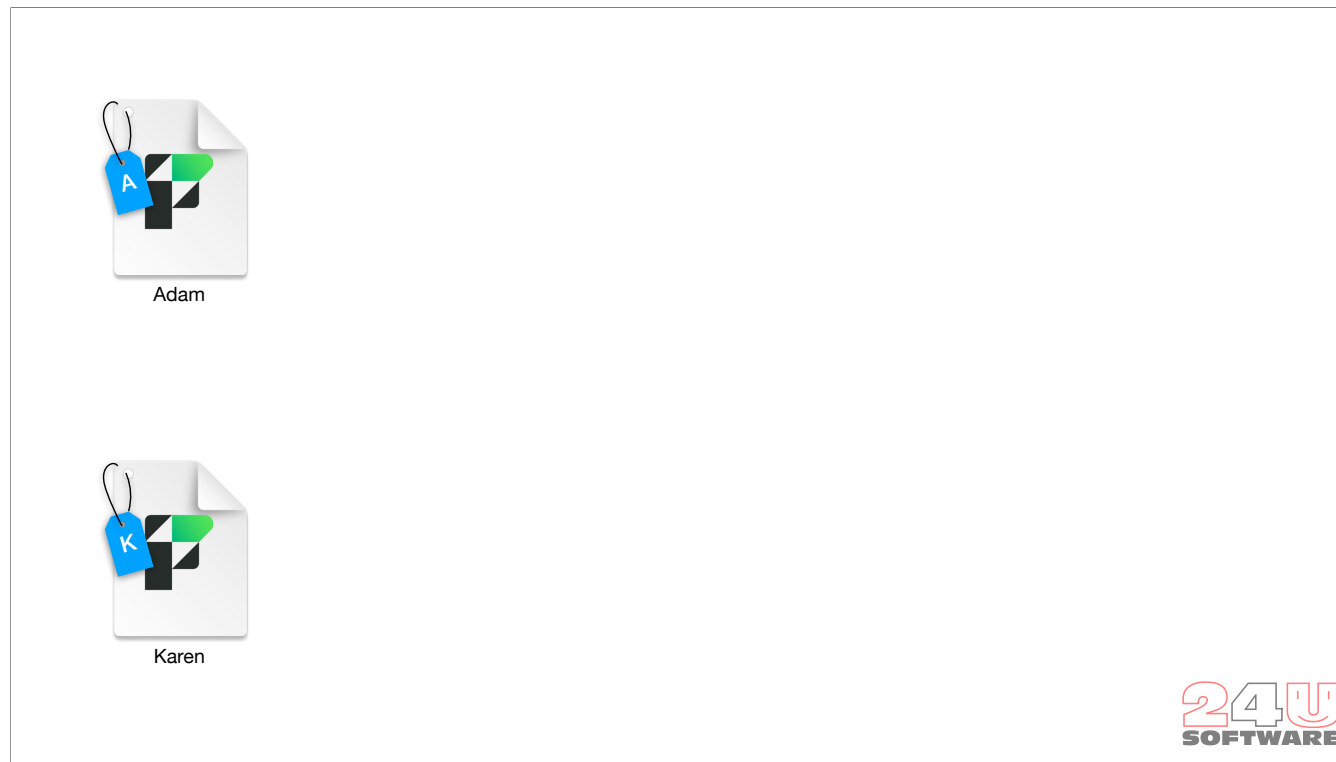
HOnza Koudelka, 24U



## Do you know?

- External data source can be set dynamically since FileMaker 16
  - Can't be changed once used until closing & re-opening the referencing file
- FileMaker file can restrict access to schema from another FileMaker file
  - Introduced in FileMaker 11
  - Enabled by default since FileMaker 18
  - Without this, restricting menu, layout and script access is not sufficient





Starting with two files - Adam and Karen

Each file has its own unique internal ID

Granting Adam access to Karen creates a pair of a key and a lock

By having a matching key to Karen's lock, Adam can now access Karen's data



Adam

Internal File ID



Karen

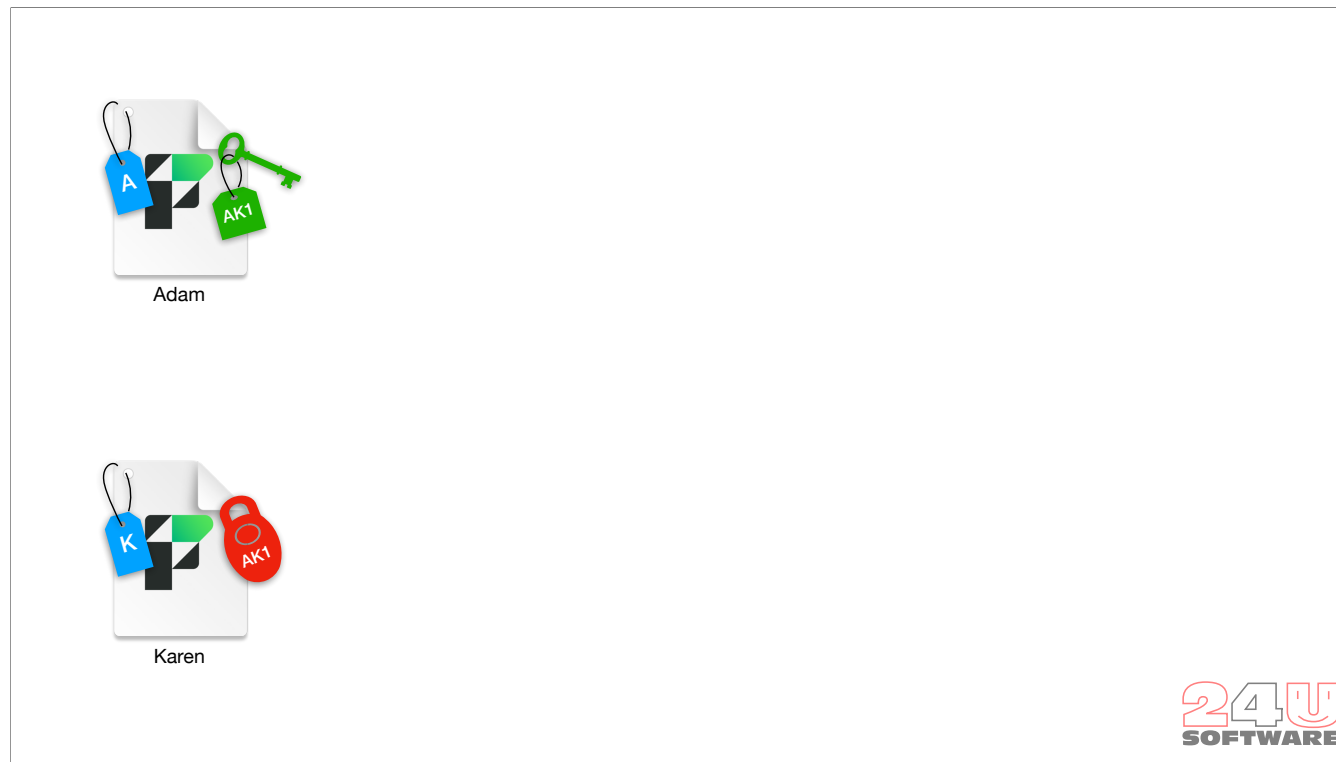


Adam



Karen





By creating Laura as a copy of Karen, Laura inherits the same file ID and access locks  
So Adam's key now lets him access both Karen's and Laura's data



Adam

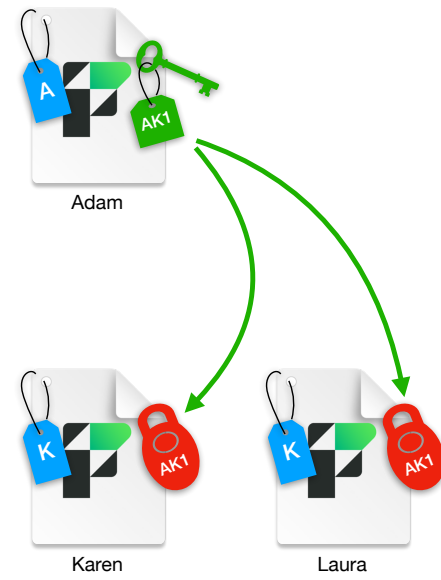


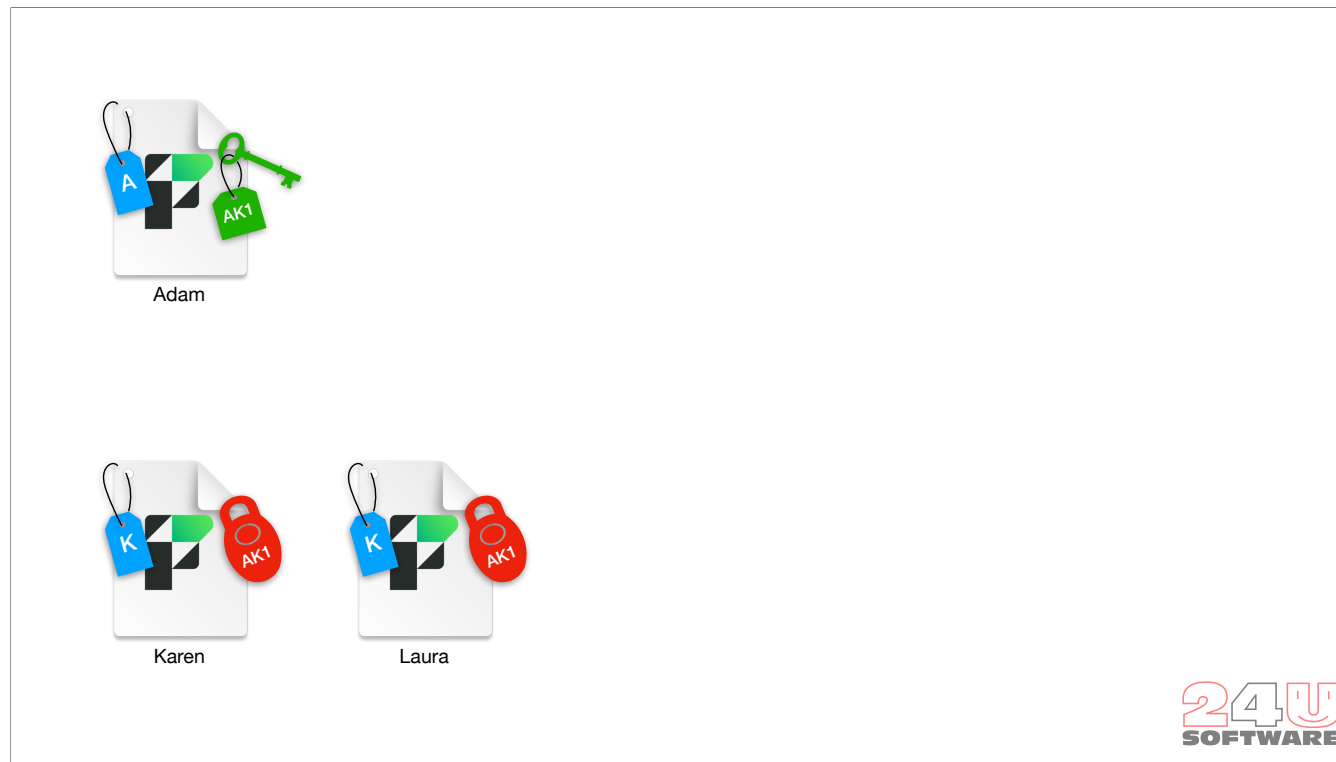
Karen



Laura







Creating Monica as a copy of Laura, Monica inherits the file ID and access locks as well  
Using the Reset All button, however, all locks are removed and Monica also gets a new file ID  
This breaks Adam's access to Monica  
Granting Adam access to Monica again creates a new pair of a key and a lock  
Adams access to Karen and Laura still work because he still has the matching key



Adam



Karen



Laura



Monica



Adam



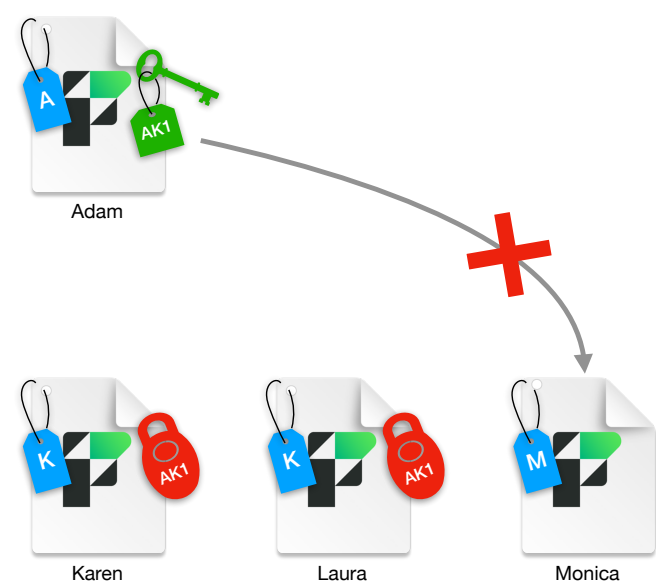
Karen

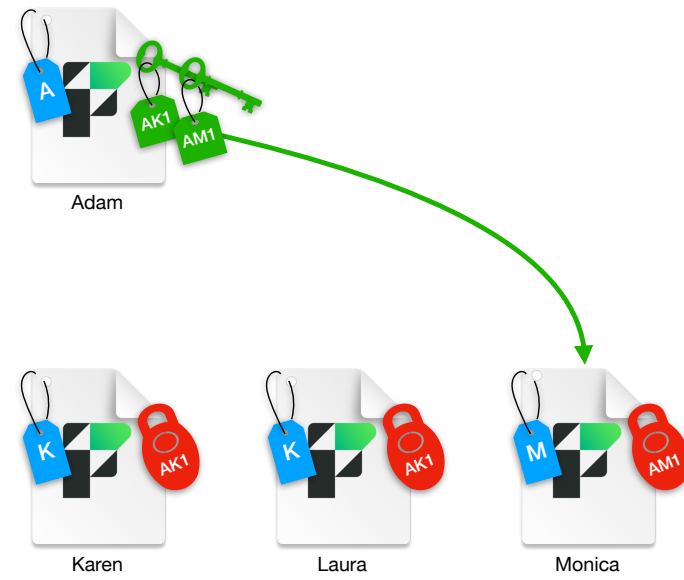


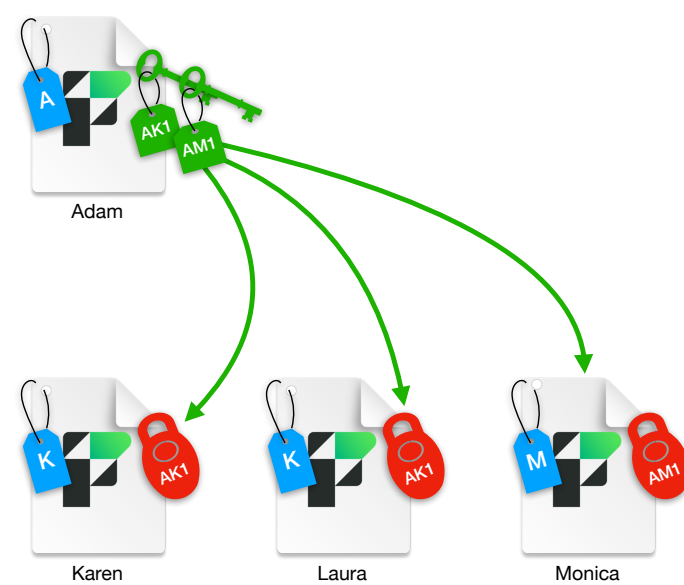
Laura

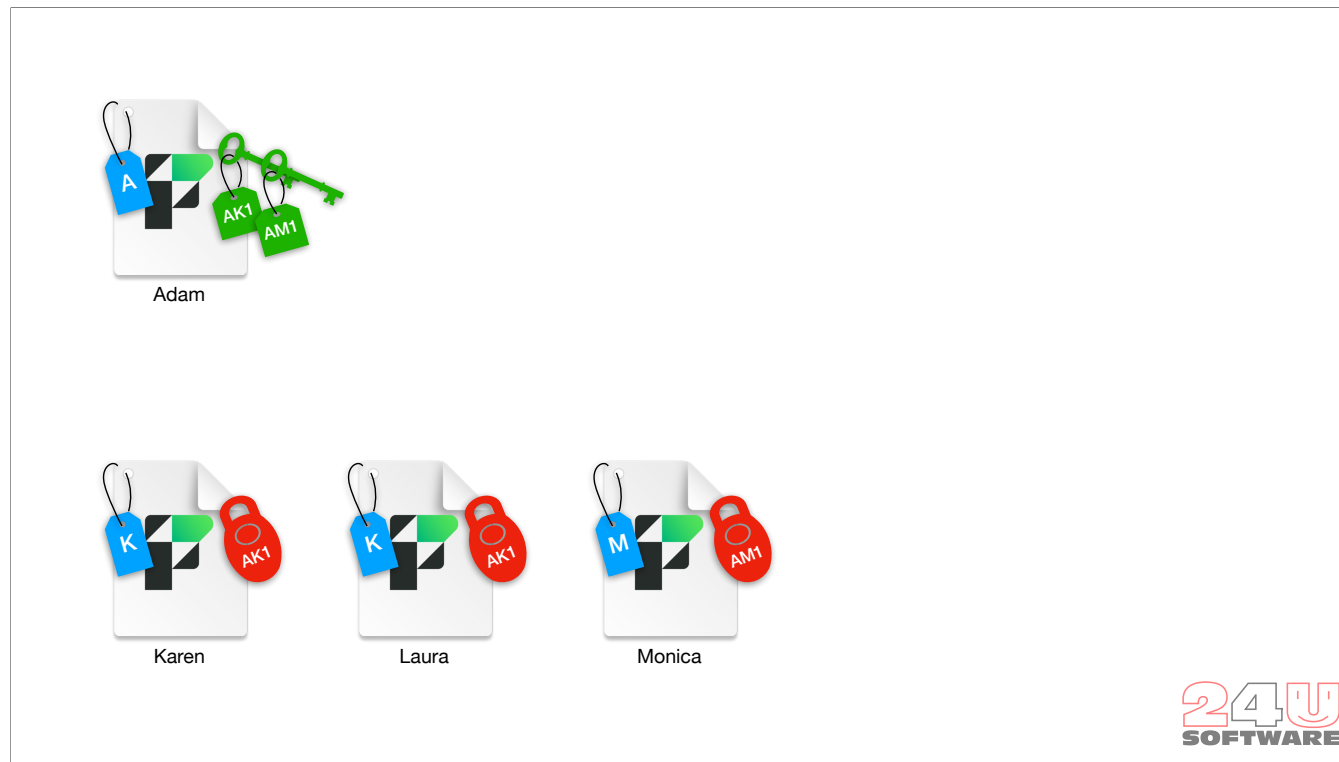


Monica









When Nancy is created as a copy of Monica, she again inherits Monica's file ID and access locks  
Because of that, Adam can now also access Nancy's data





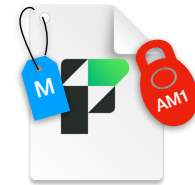
Adam



Karen



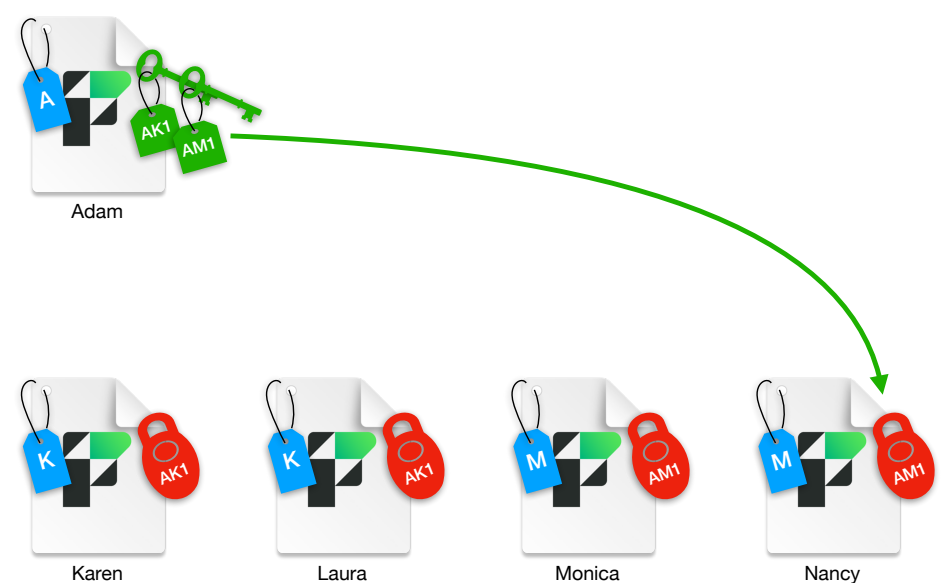
Laura

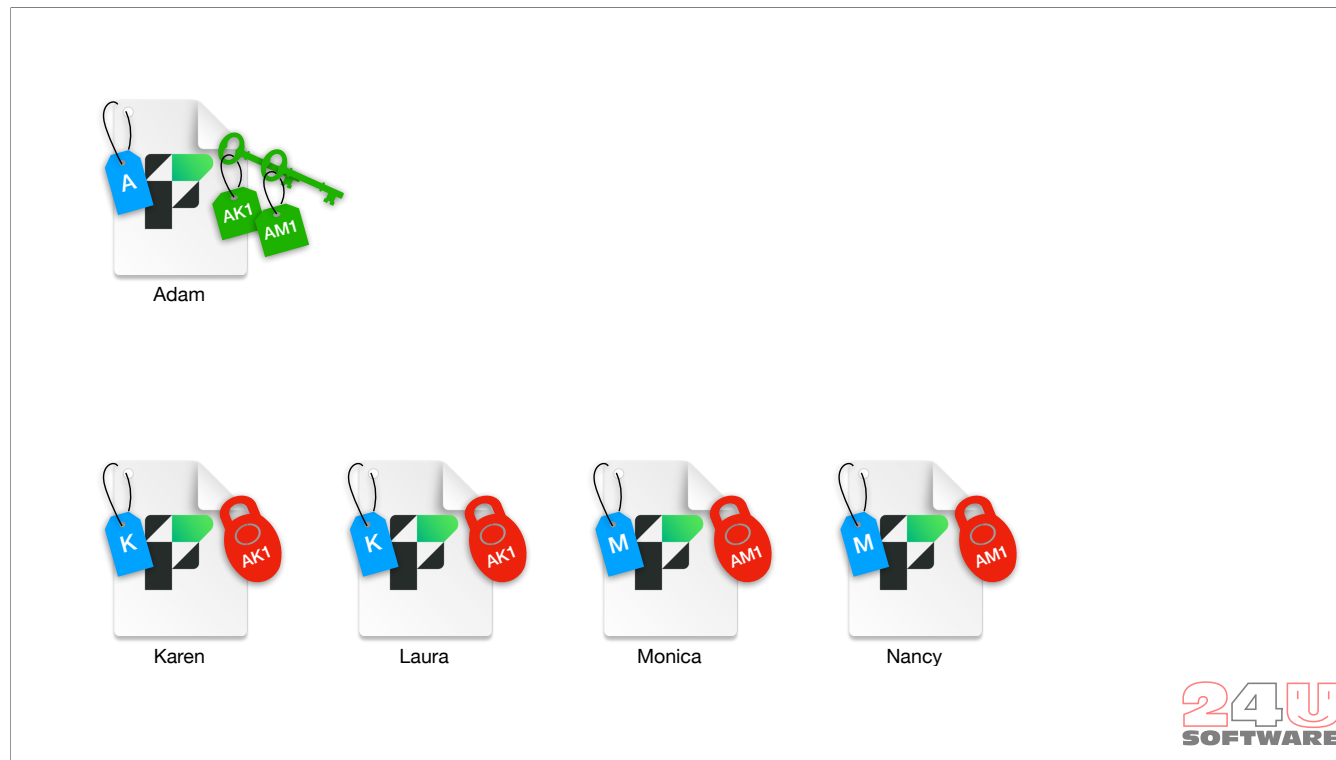


Monica

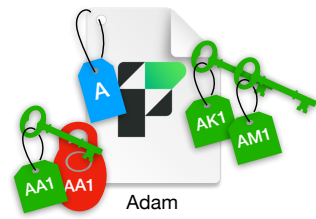


Nancy





In addition to the keys we added later, Adam already got one pair of a key and a lock when I created the file  
So when I create Billy as a copy of Adam, he'll have the same set of keys and locks  
This gives them both mutual access each other's data



Adam



Karen



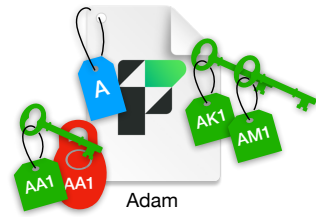
Laura



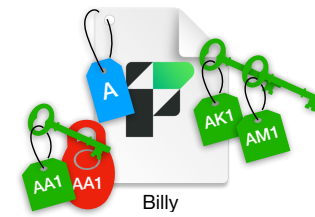
Monica



Nancy



Adam



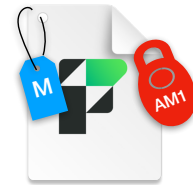
Billy



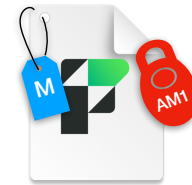
Karen



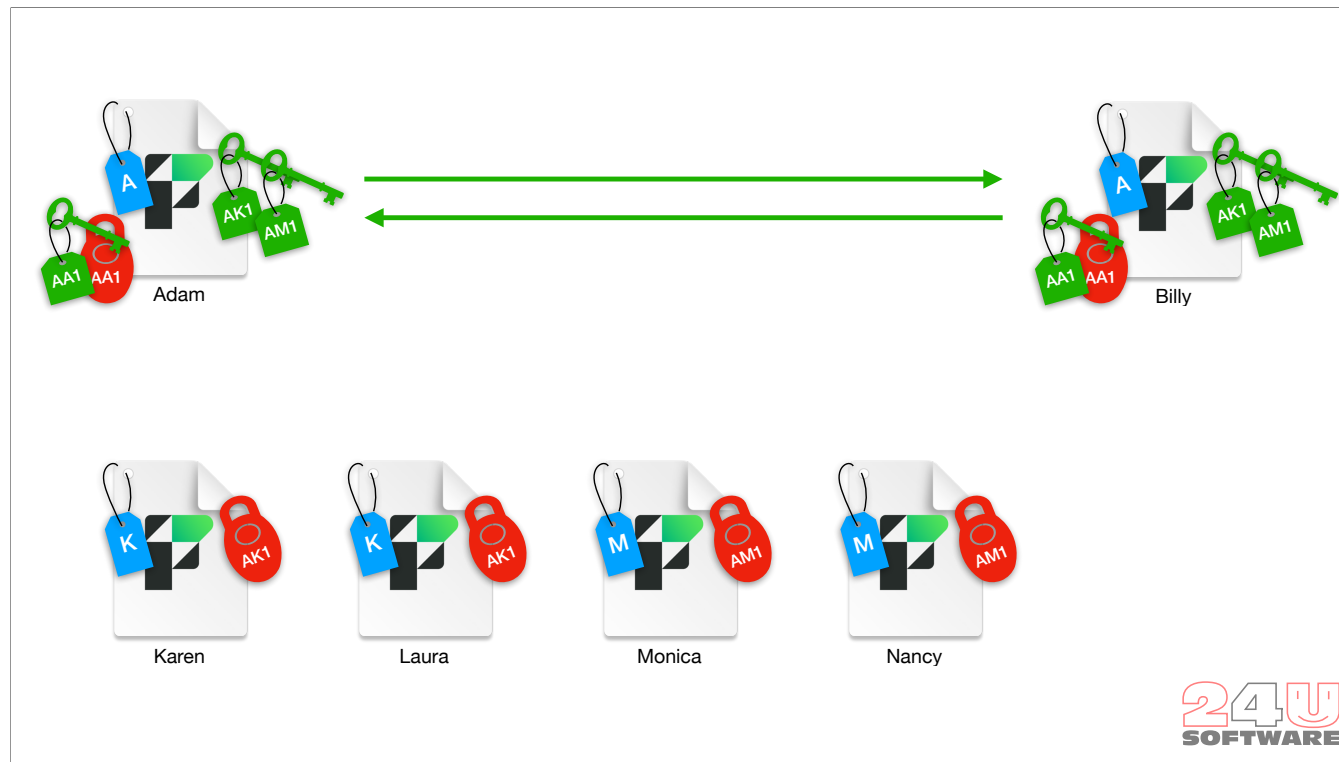
Laura

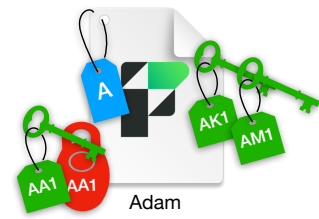


Monica



Nancy





Adam



Karen



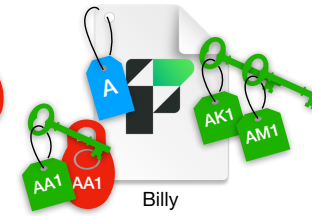
Laura



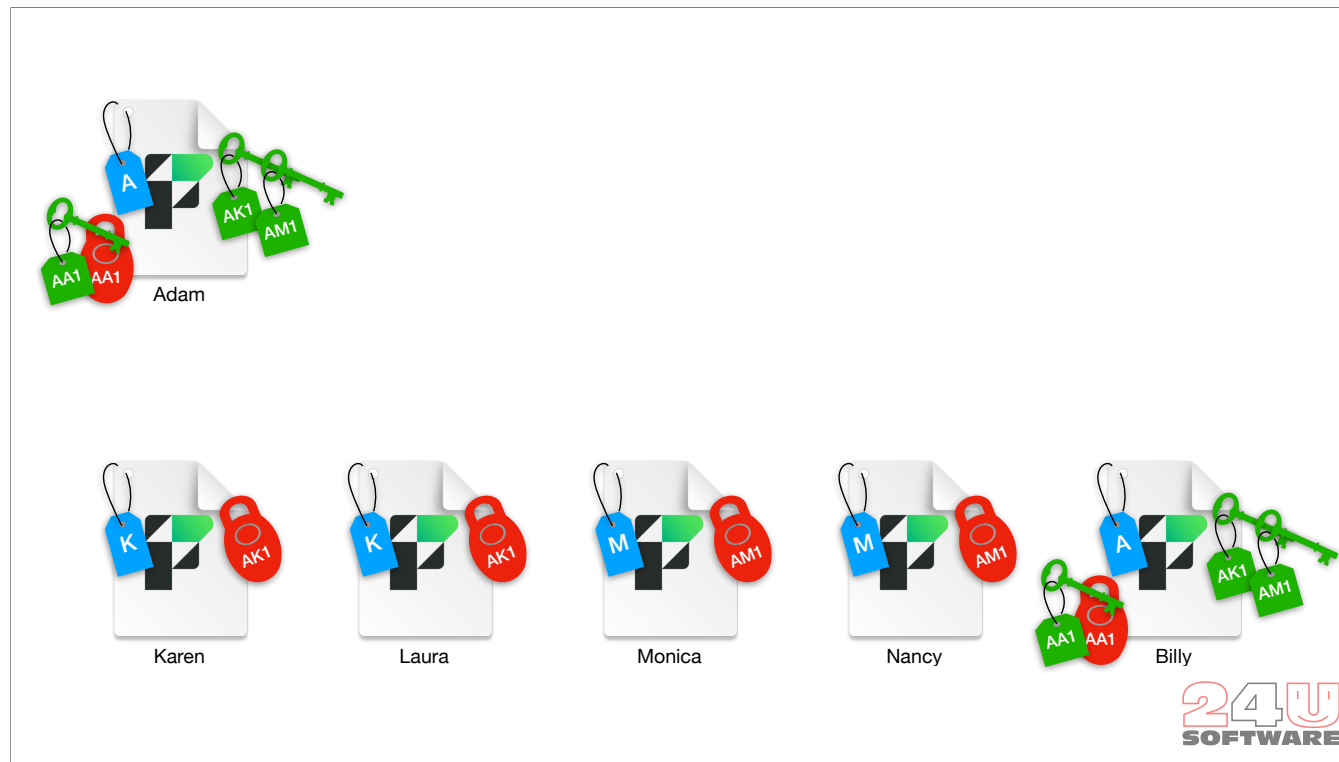
Monica



Nancy

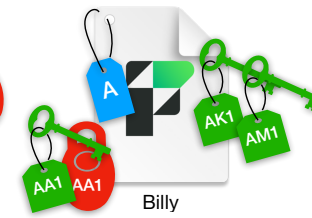
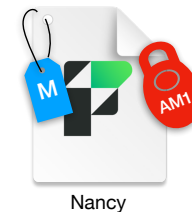
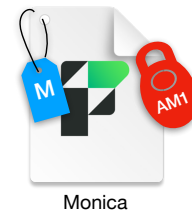
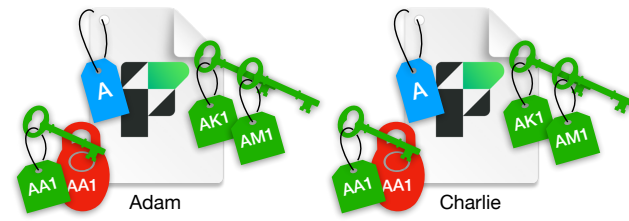


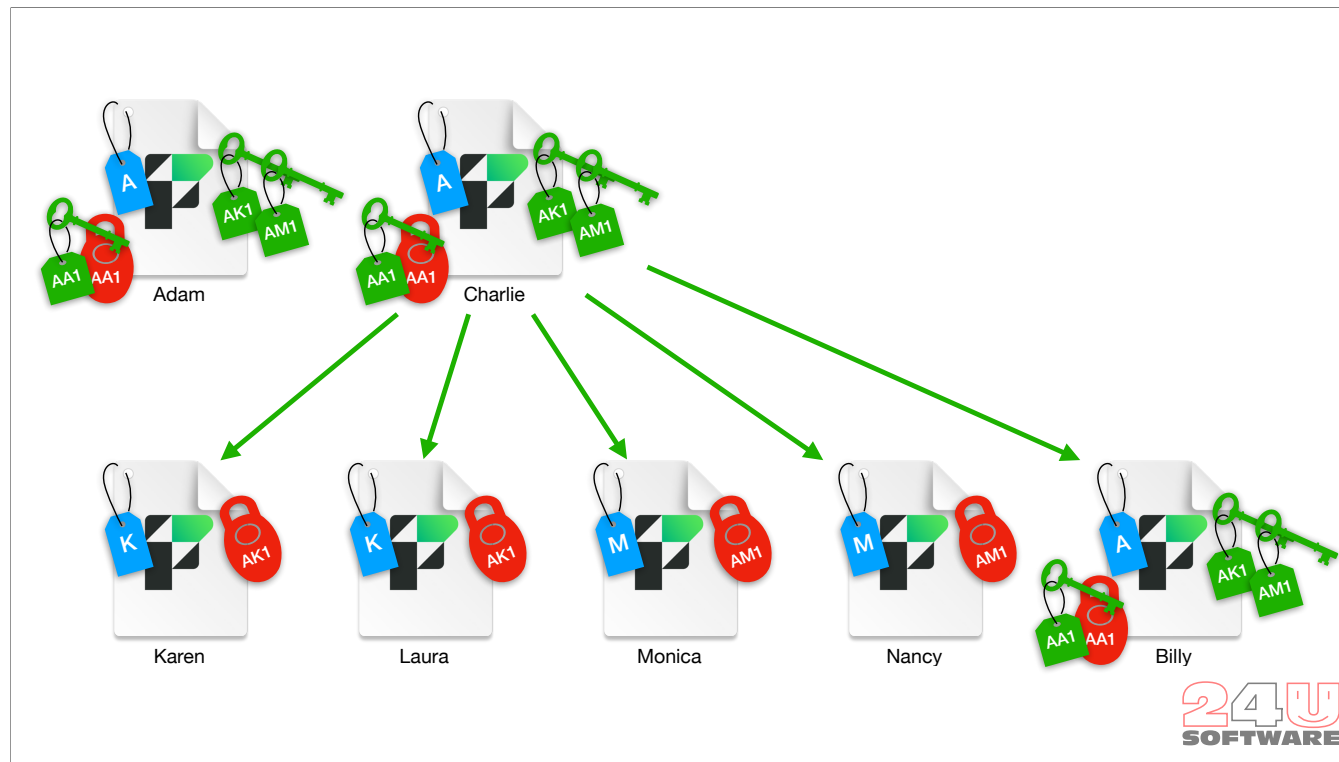
Billy

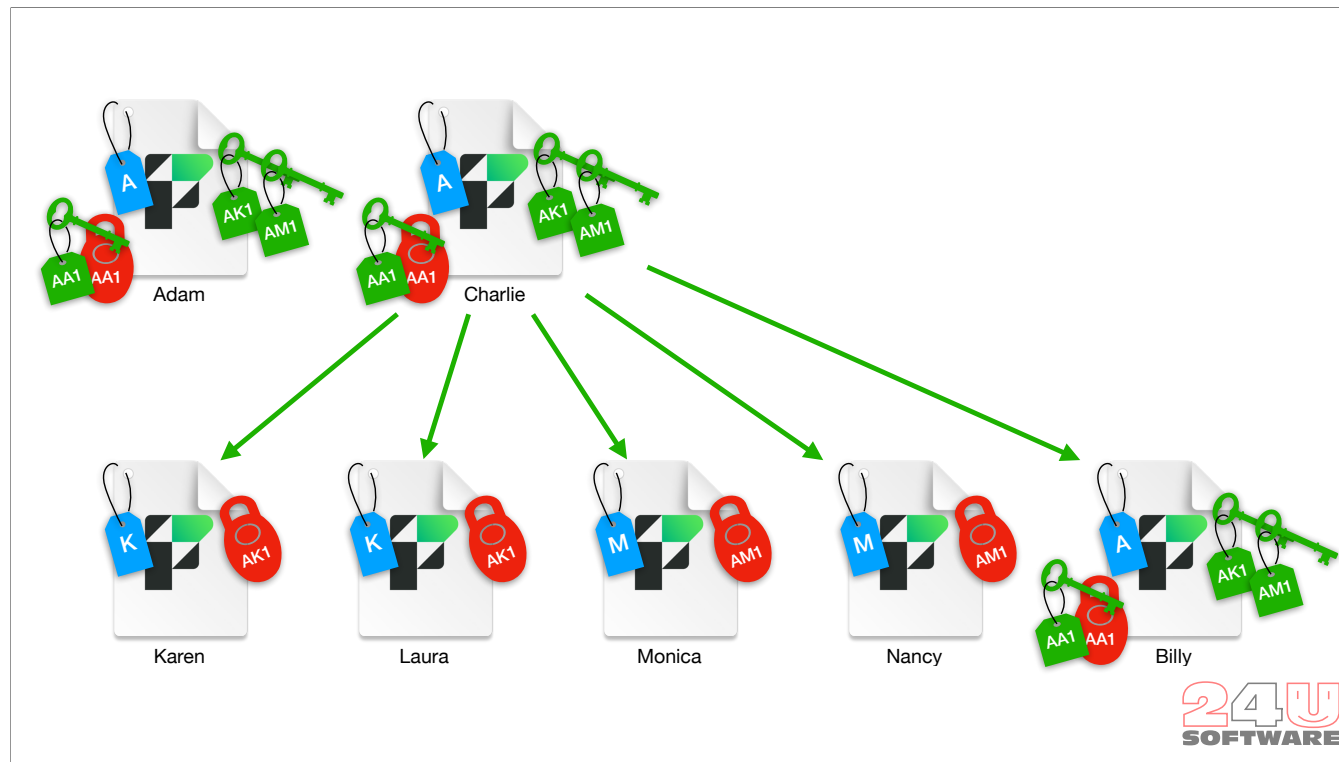


When I create Charlie as another copy of Adam, he again inherits all of Adam's keys and locks  
So he has access to all the other files

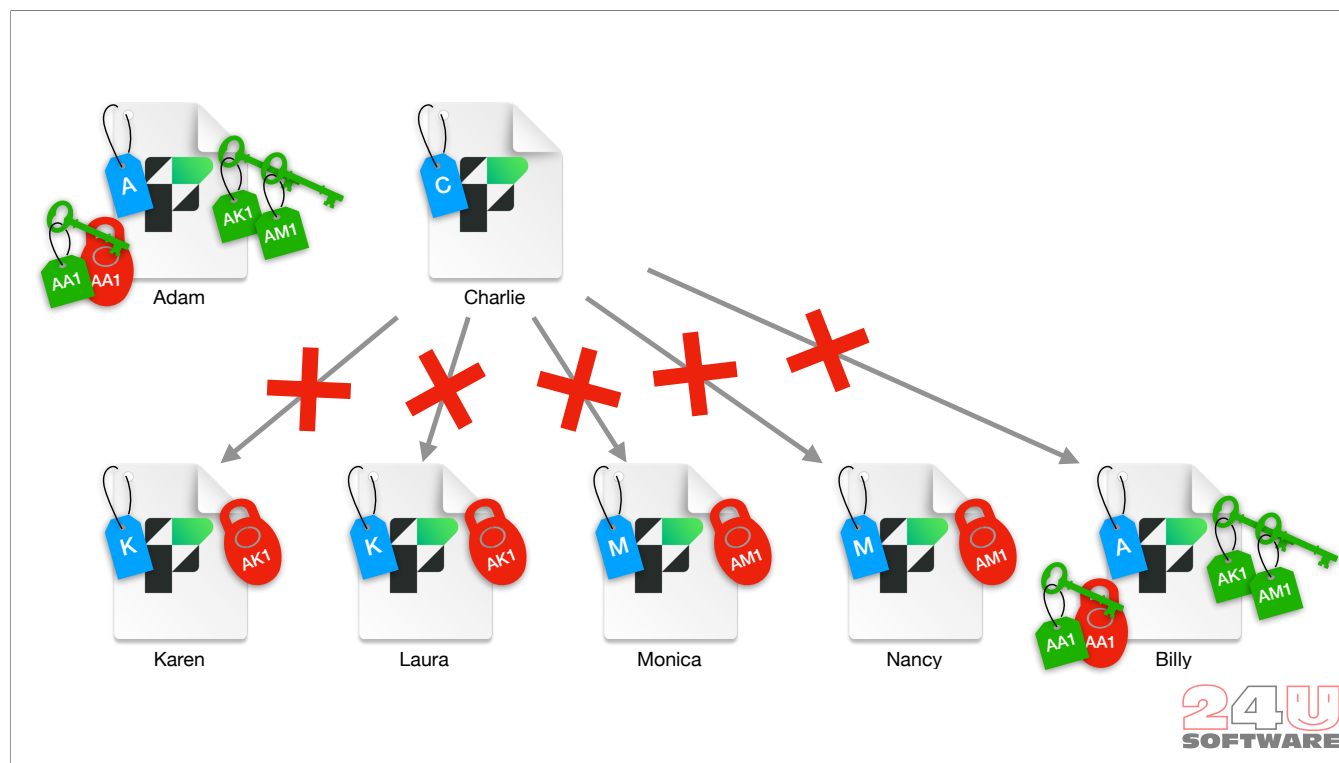


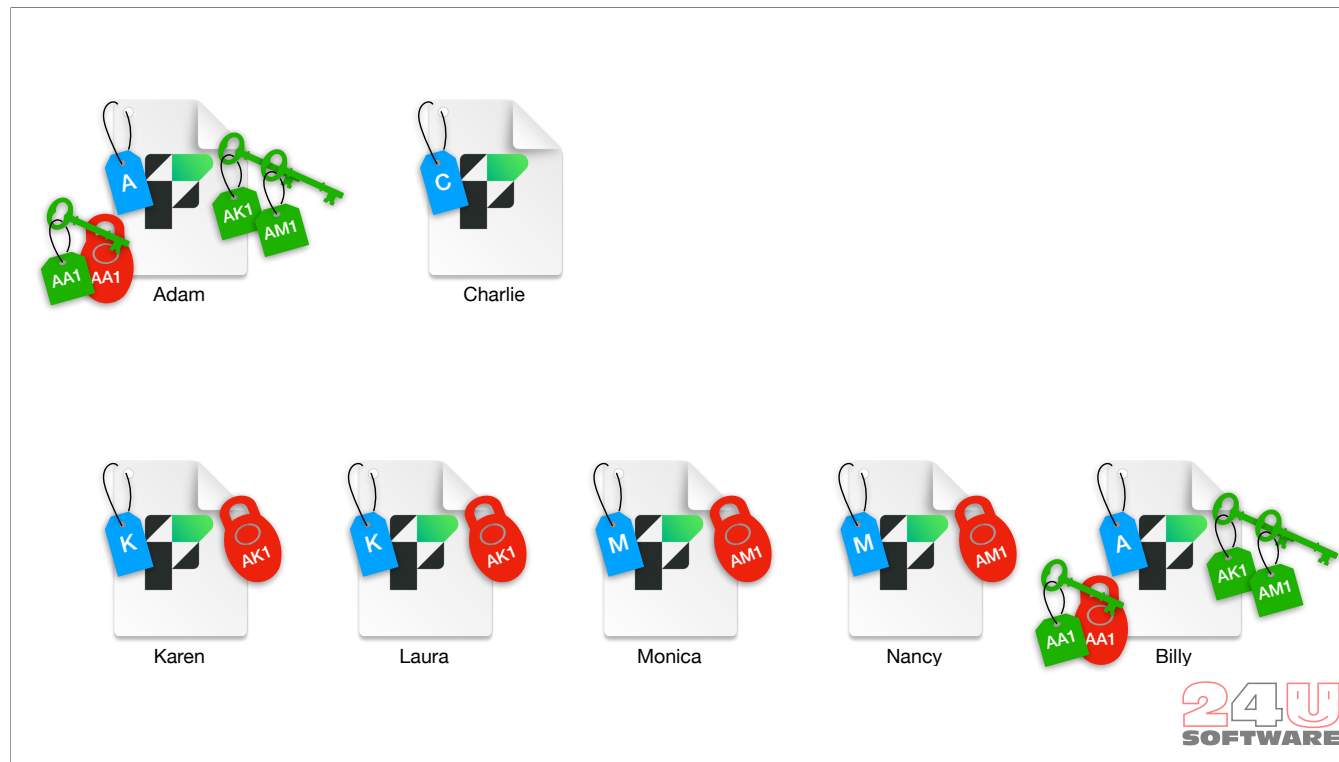




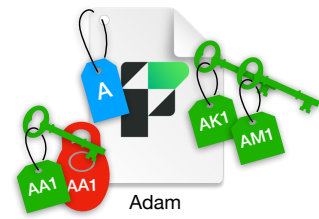


By using the Reset All button, Charlie loses all his keys and gets a new file ID





By creating David as a copy of Charlie, David has no keys to inherit, but he still inherits Charlie's file ID



Adam



Charlie



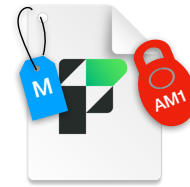
David



Karen



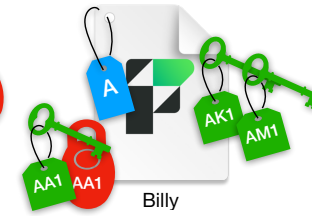
Laura



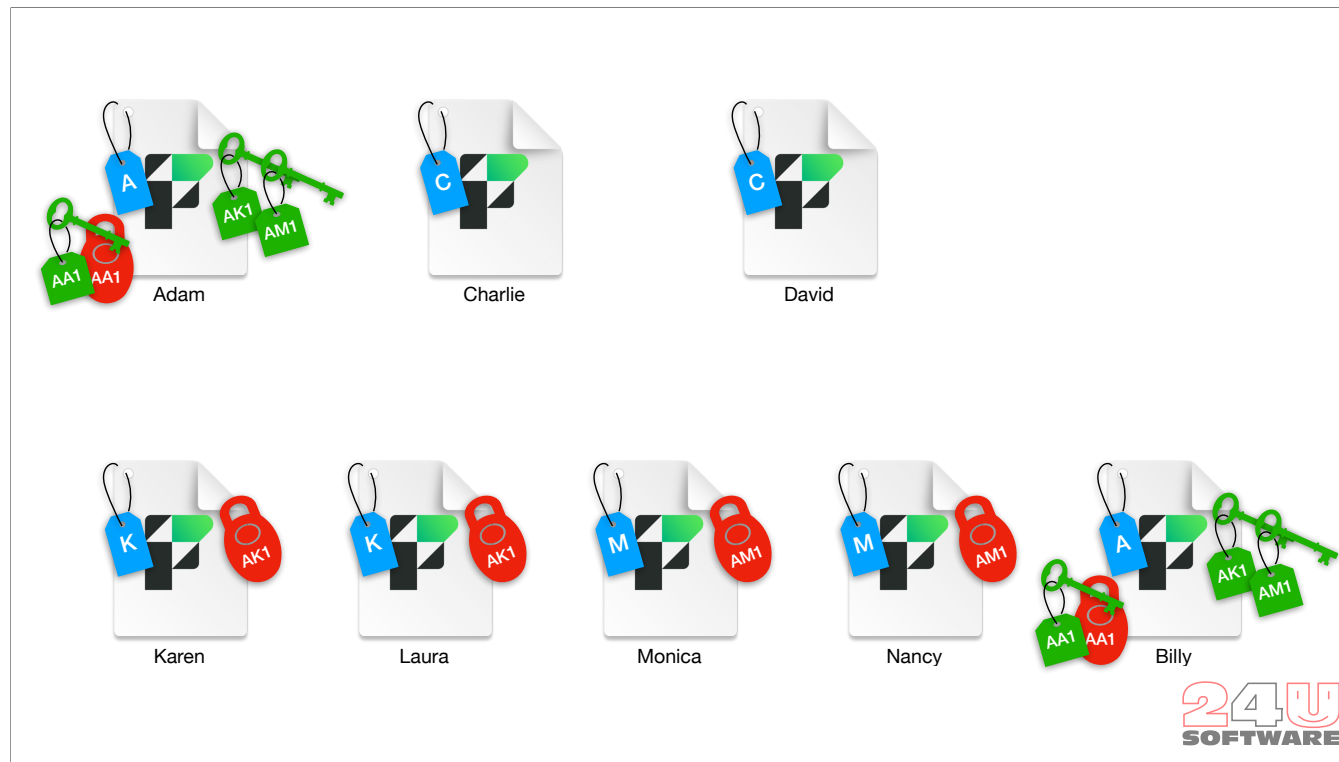
Monica



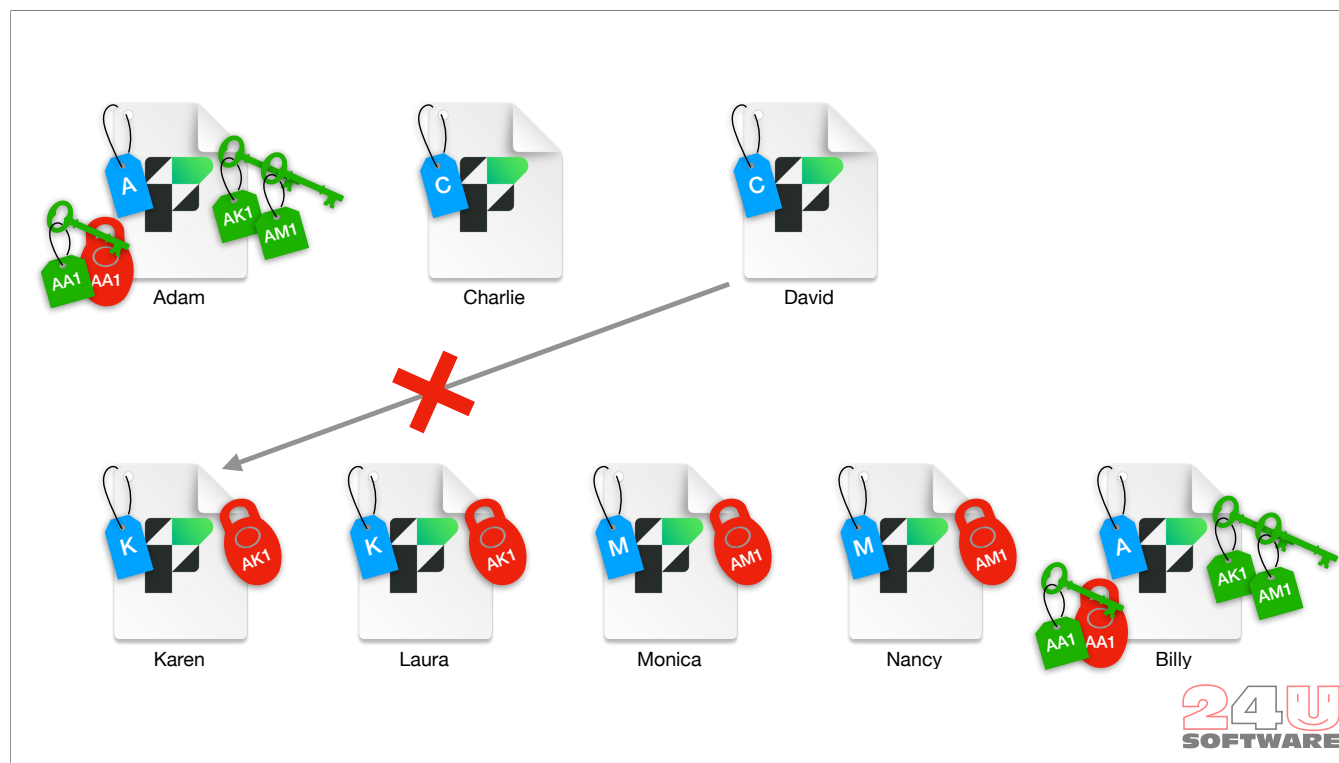
Nancy



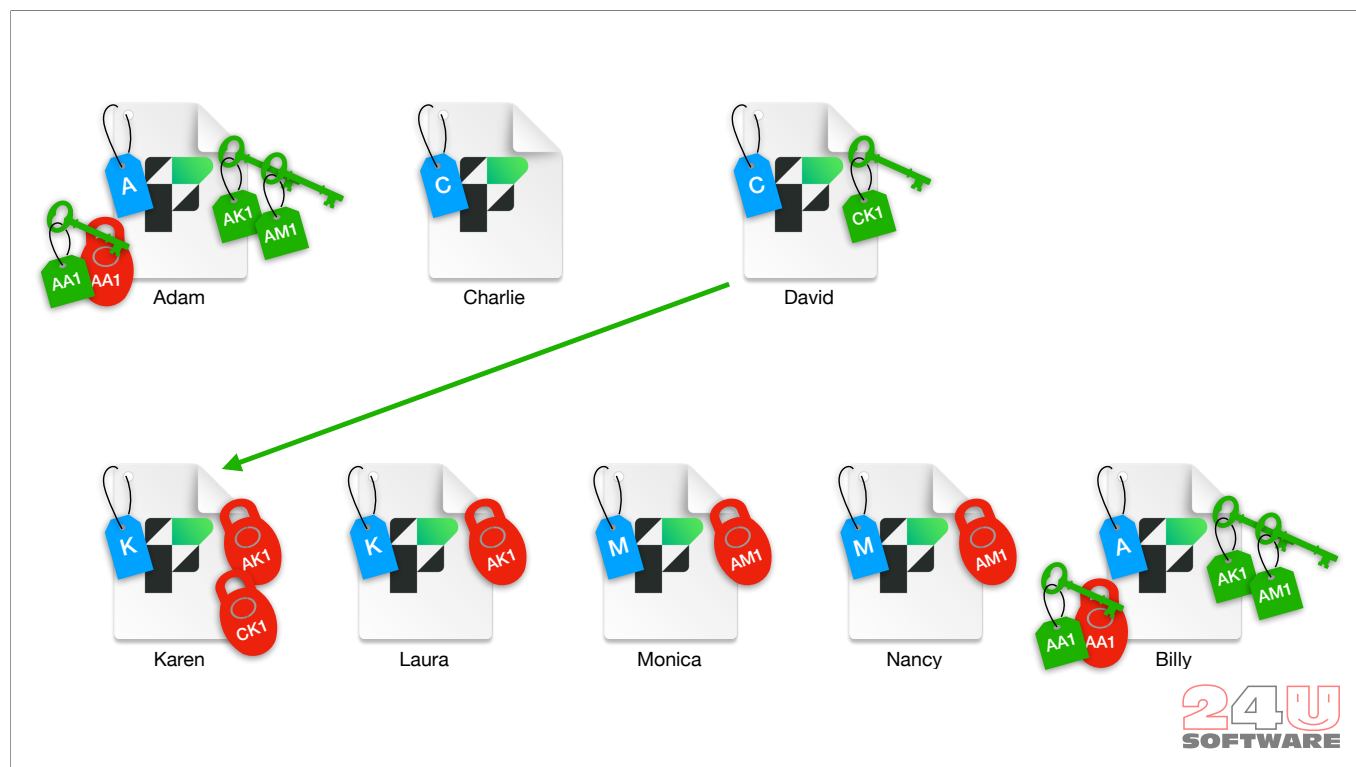
Billy

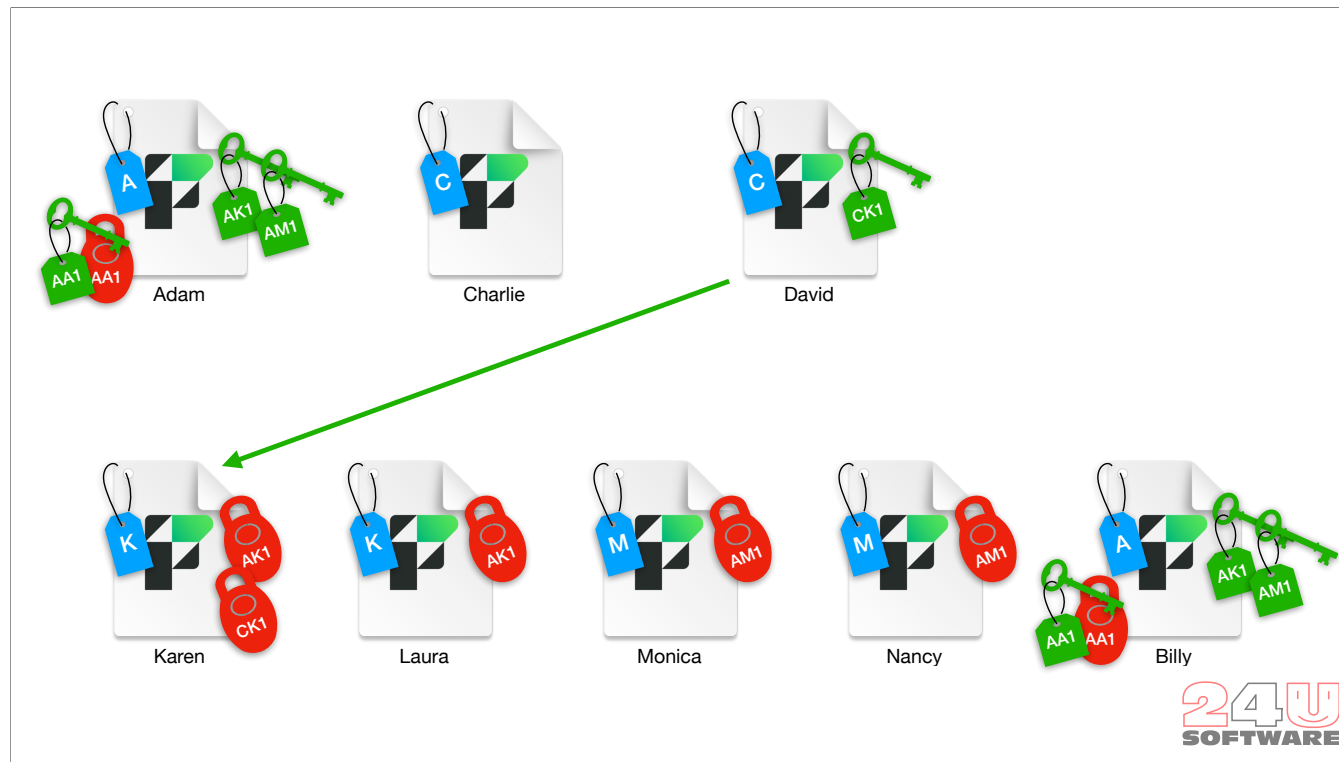


So like Charlie, David also does not have access to Karen  
By granting him the access, a new pair of a key and lock is created

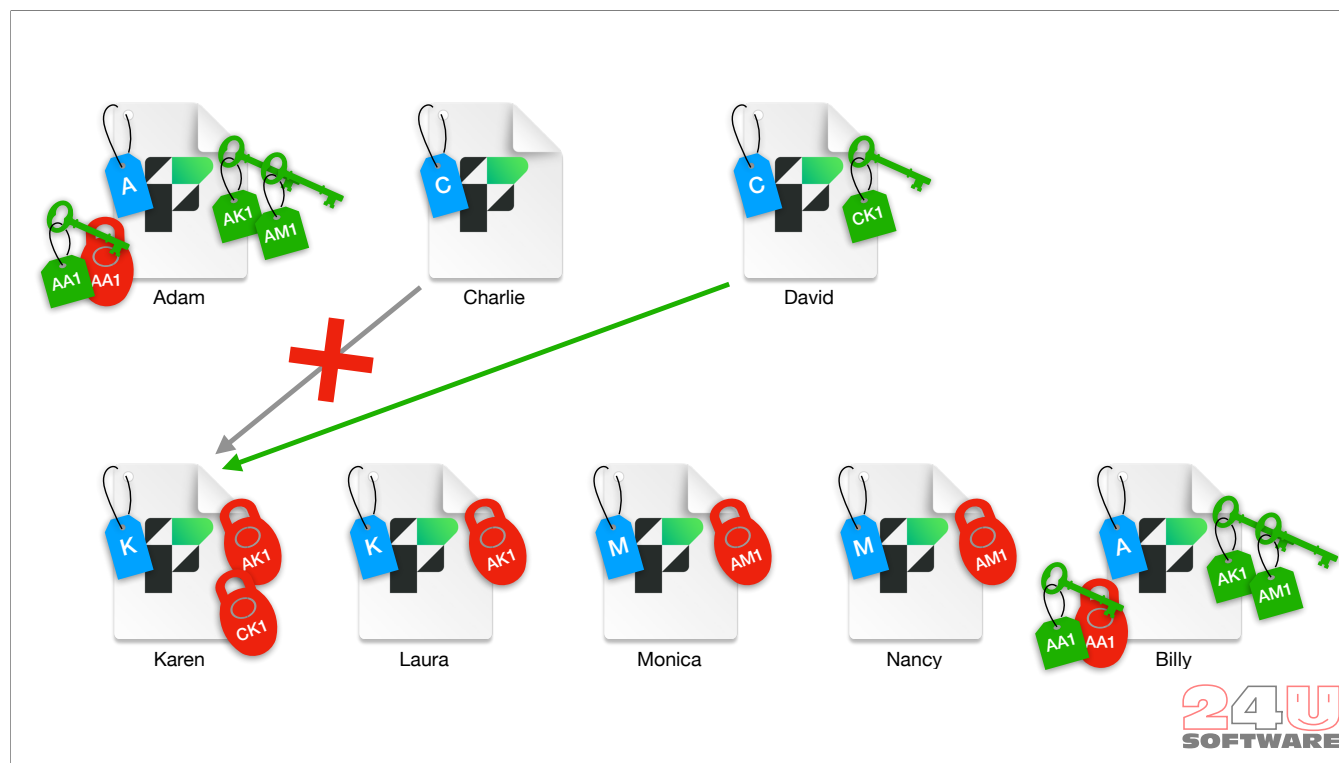


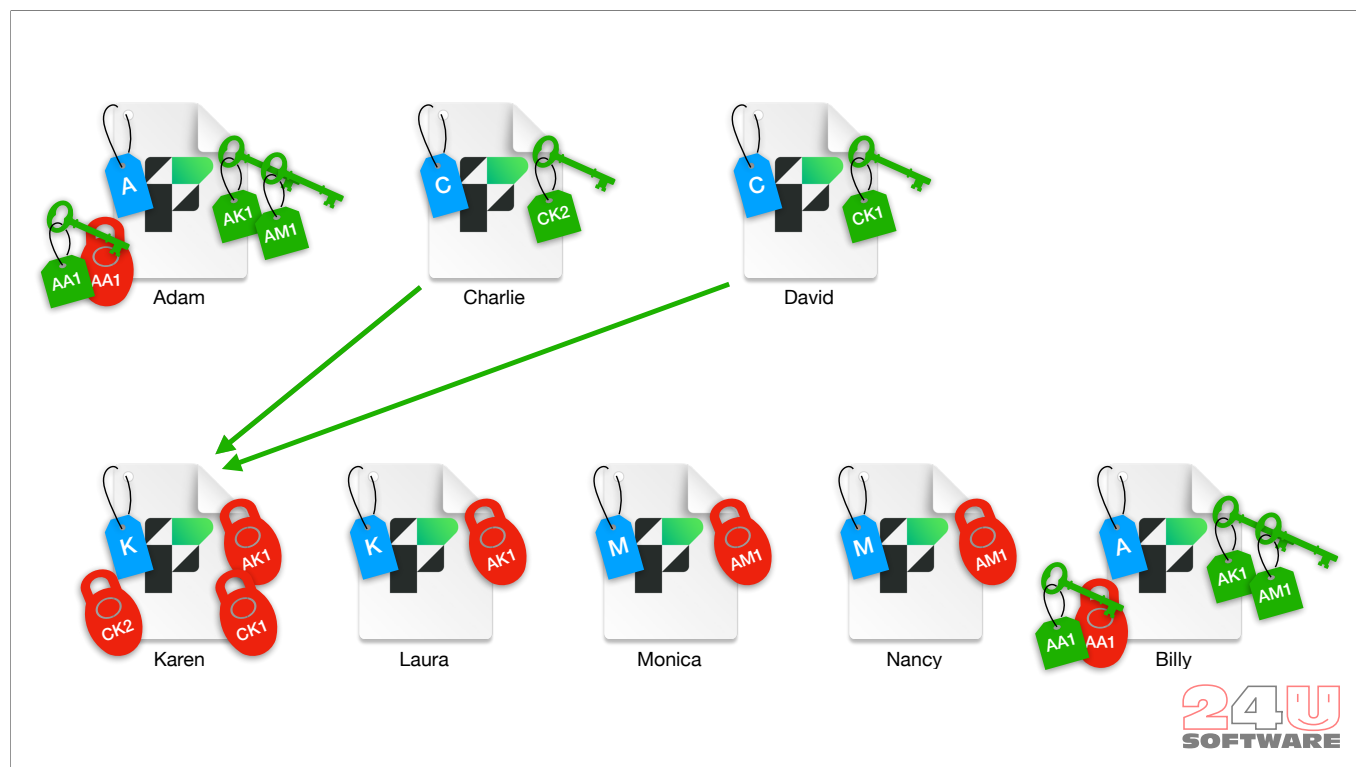


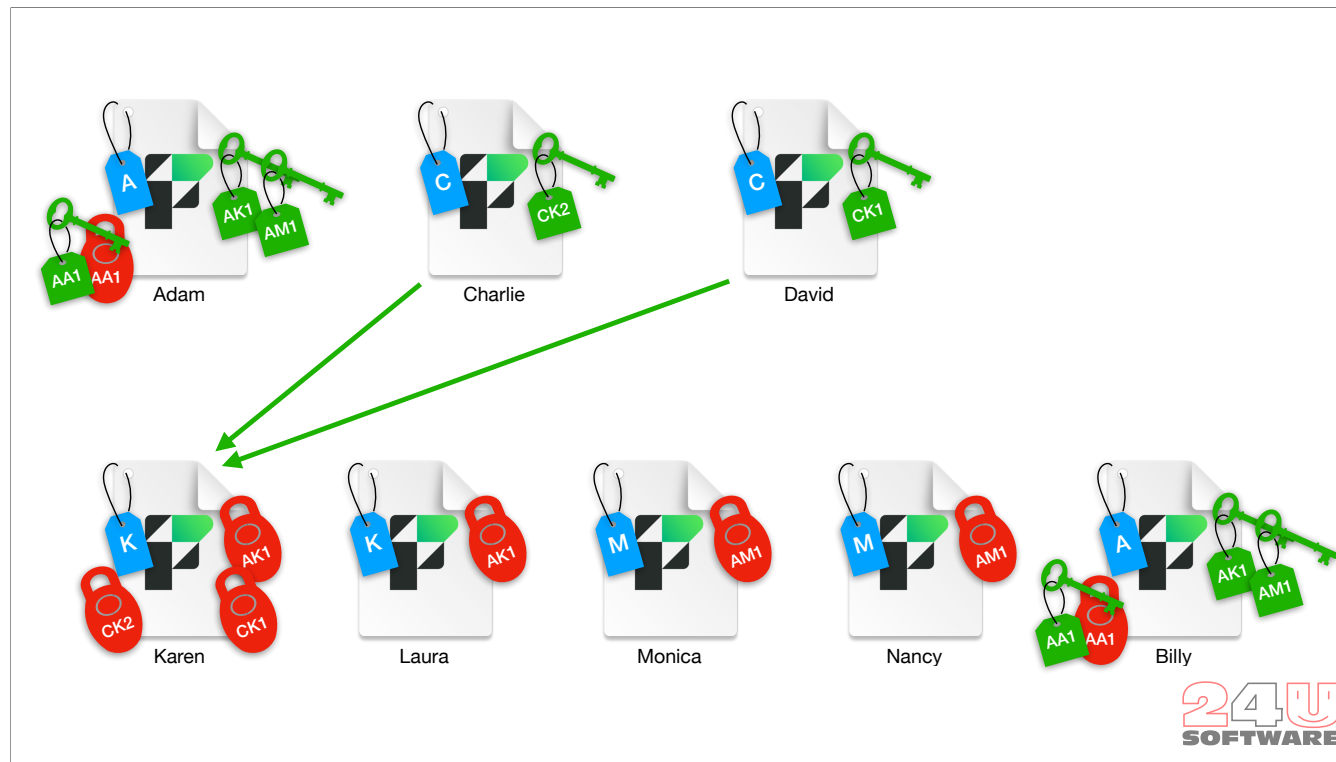




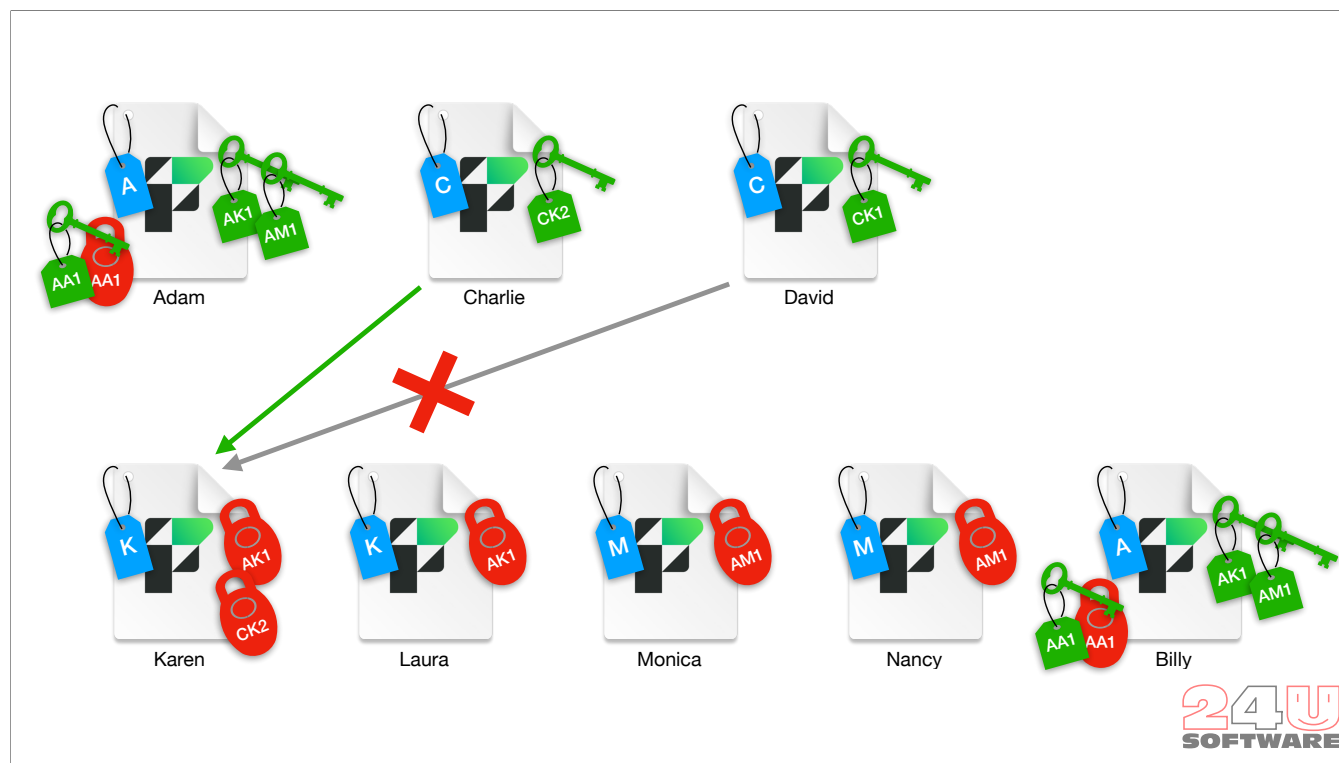
But that does not give access to Charlie, because the new key has only been given to David  
By granting also Charlie access to Karen, another pair of a key and a lock is created

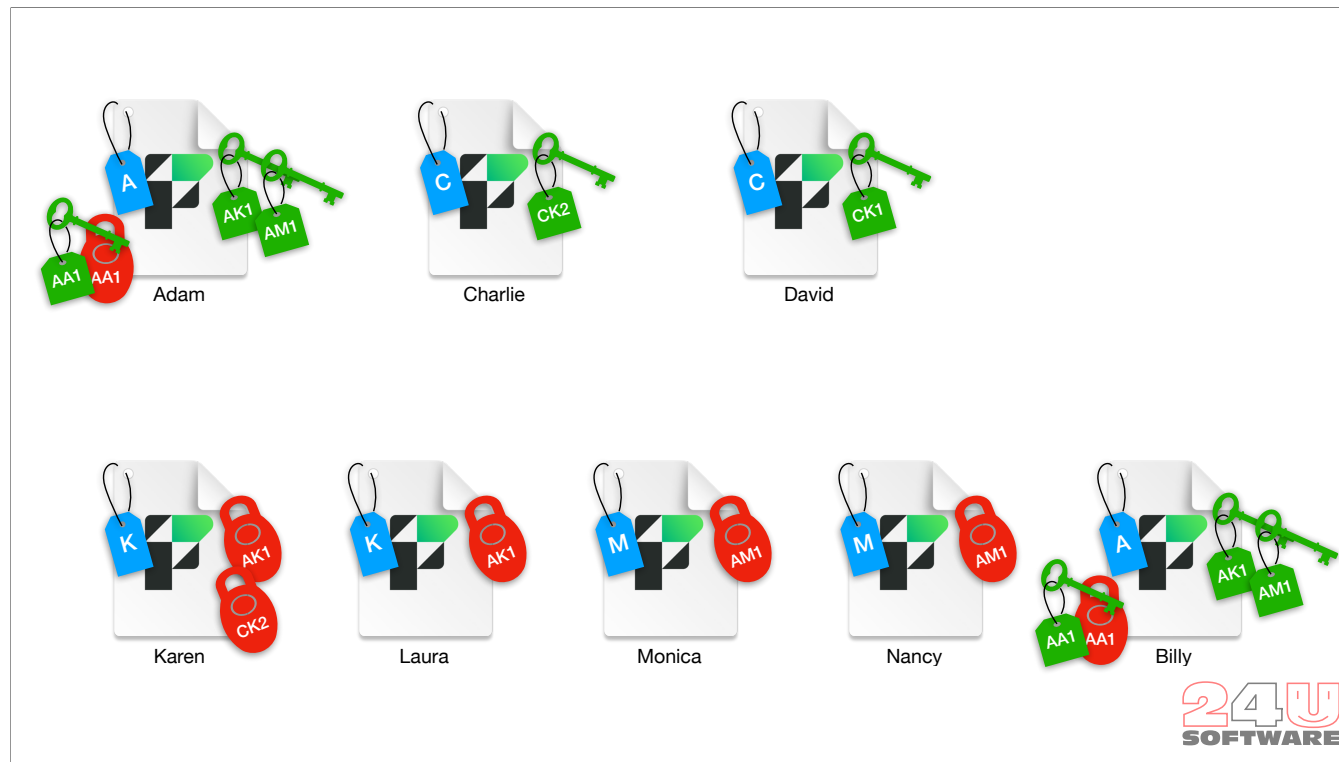




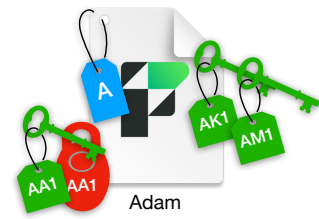


But because the lock added to Karen belongs to the same pair of file ID's, David's older lock is replaced with the new one created for Charlie. And whenever an un-authorized copy of the same File ID is re-authorized, any previously authorized copies get their authorization invalidated.





Ernie, created as a copy of Adam, inherits all his access keys again  
So he has access to both Karen and Laura



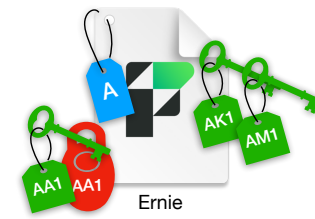
Adam



Charlie



David



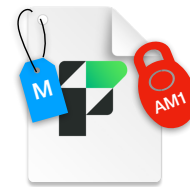
Ernie



Karen



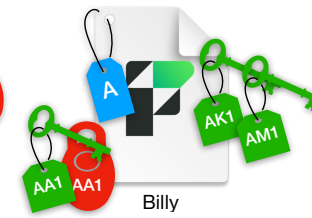
Laura



Monica

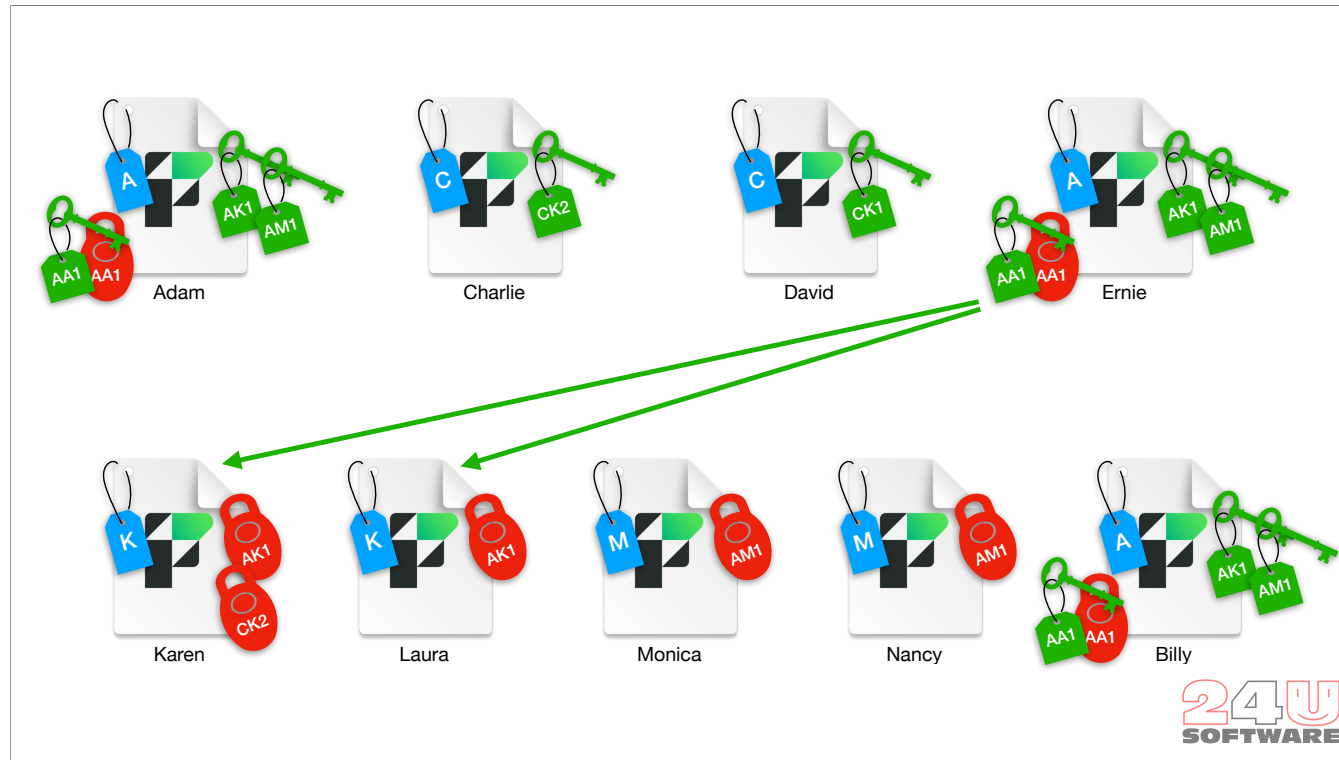


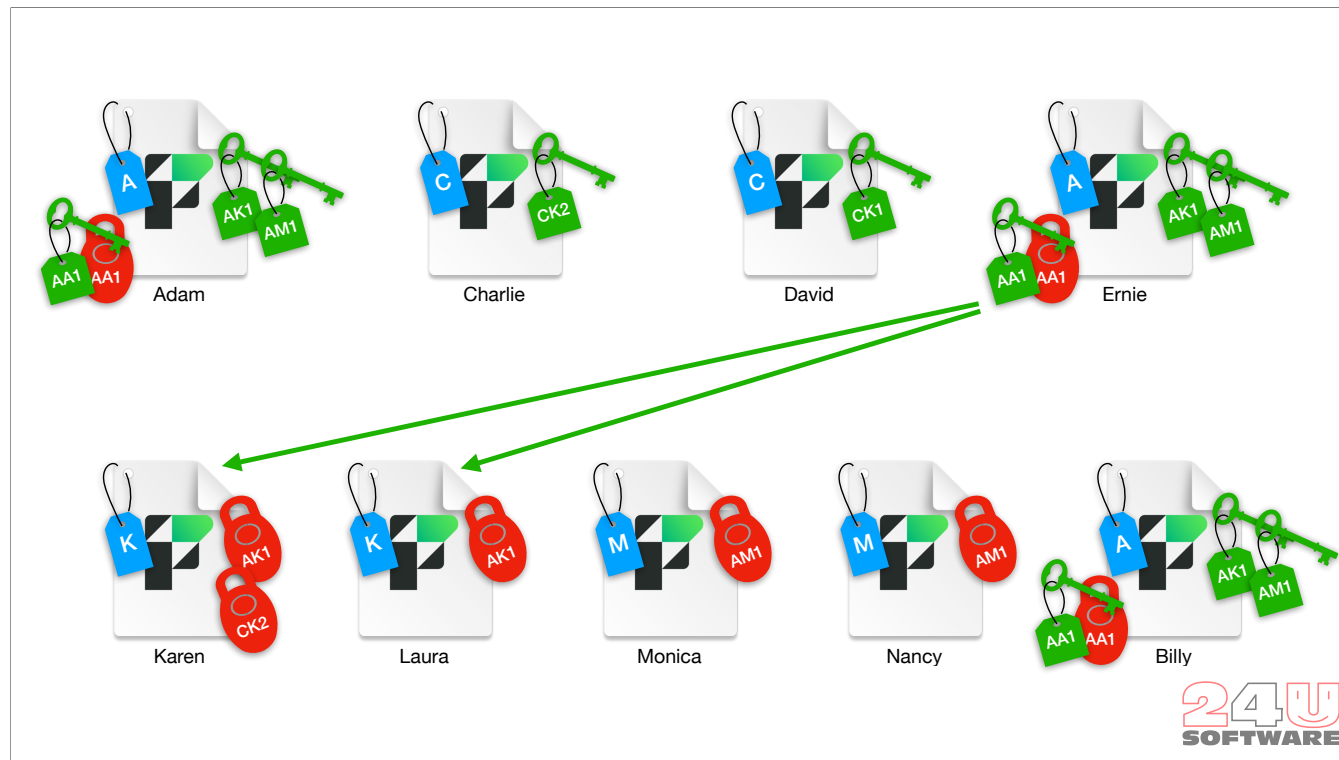
Nancy



Billy





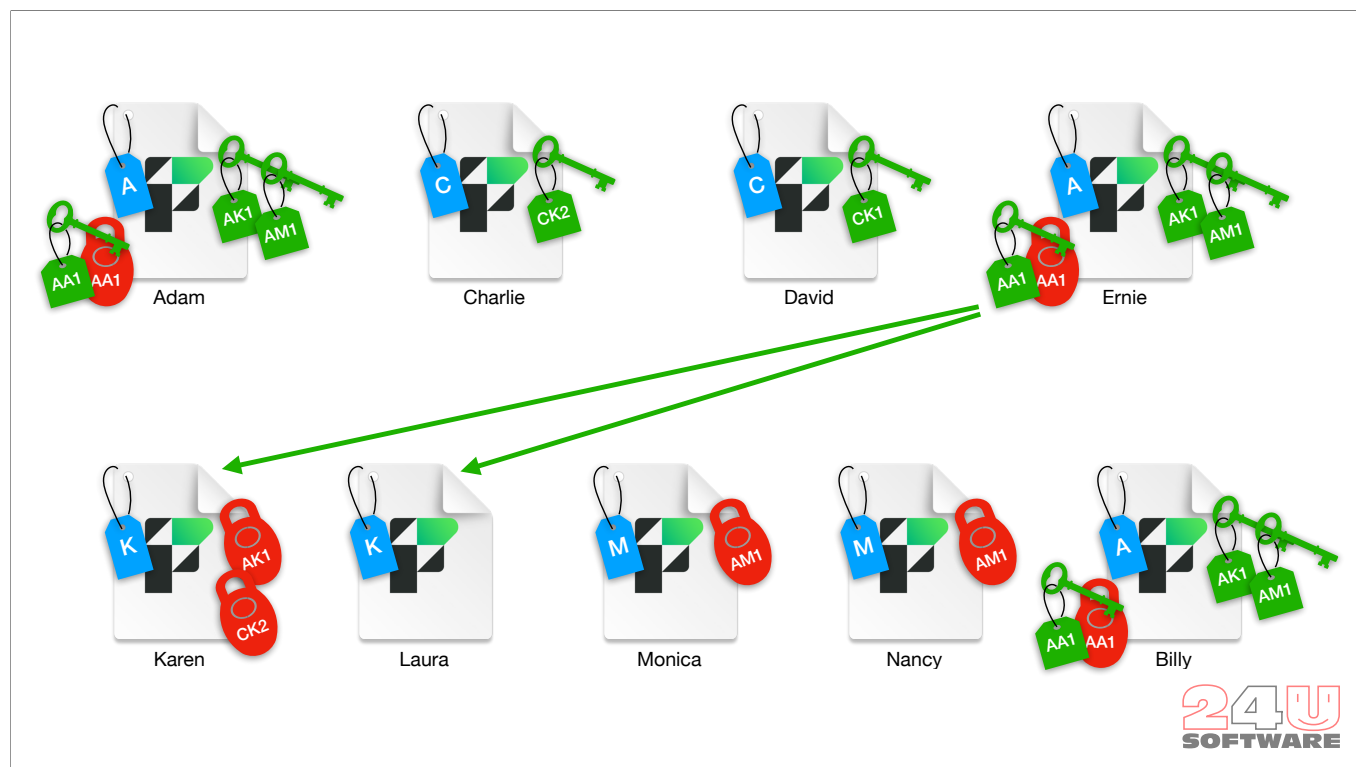


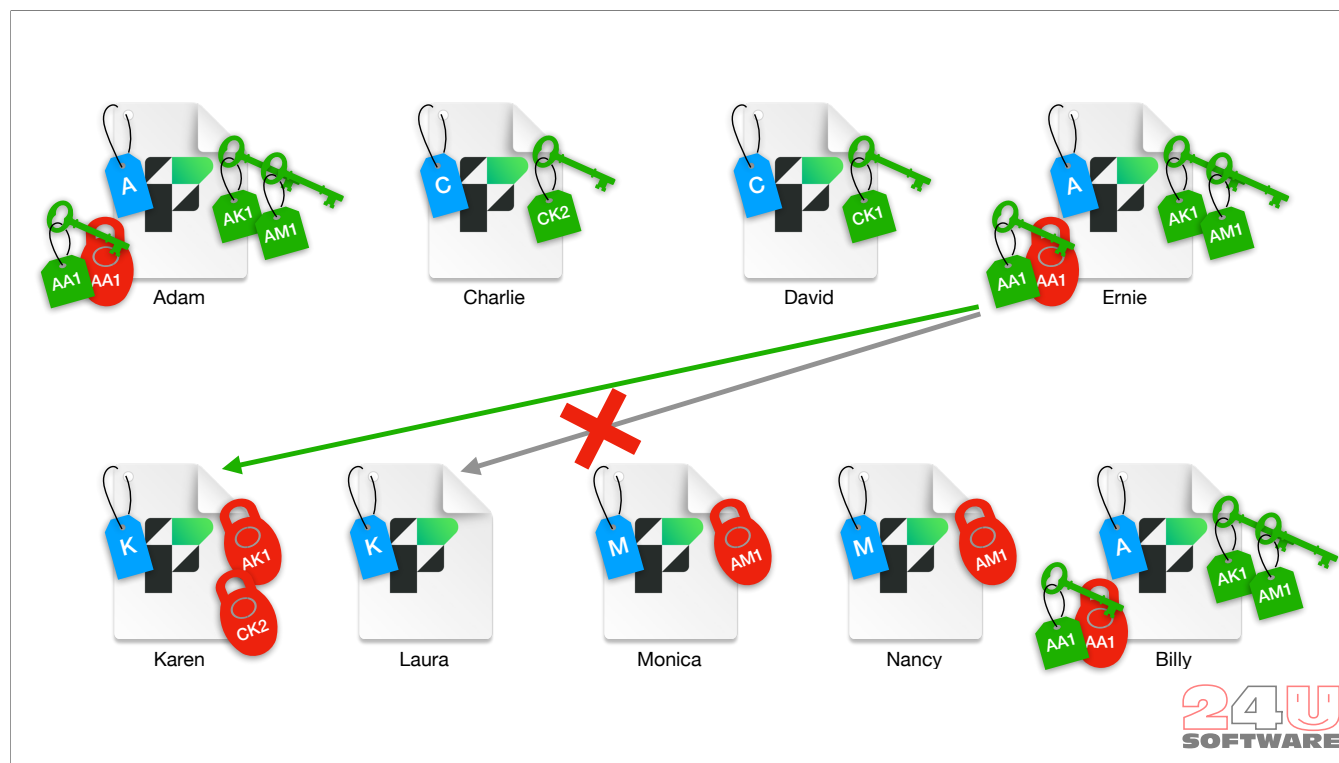
Deauthorizing Adam in Laura removes the lock but does not reset the file ID

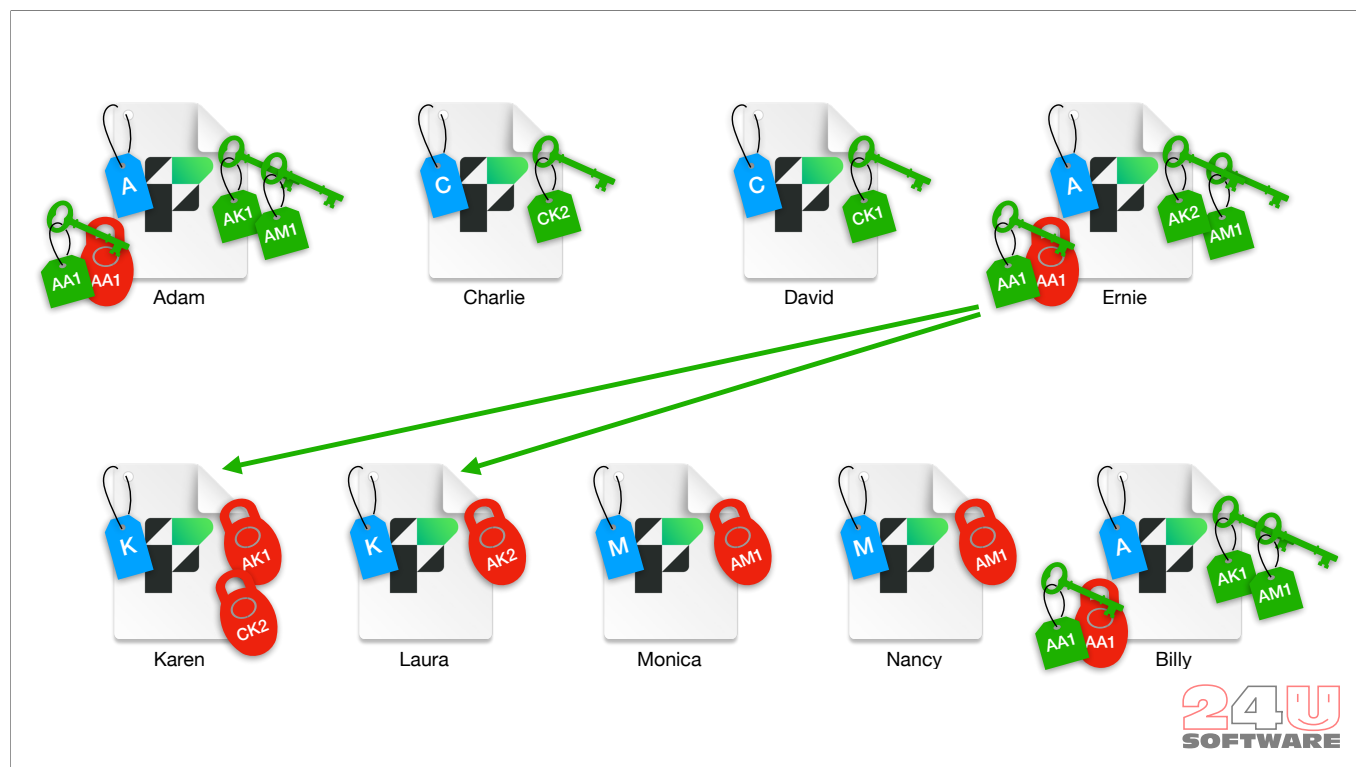
So Ernie still has access to Karen but lost access to Laura

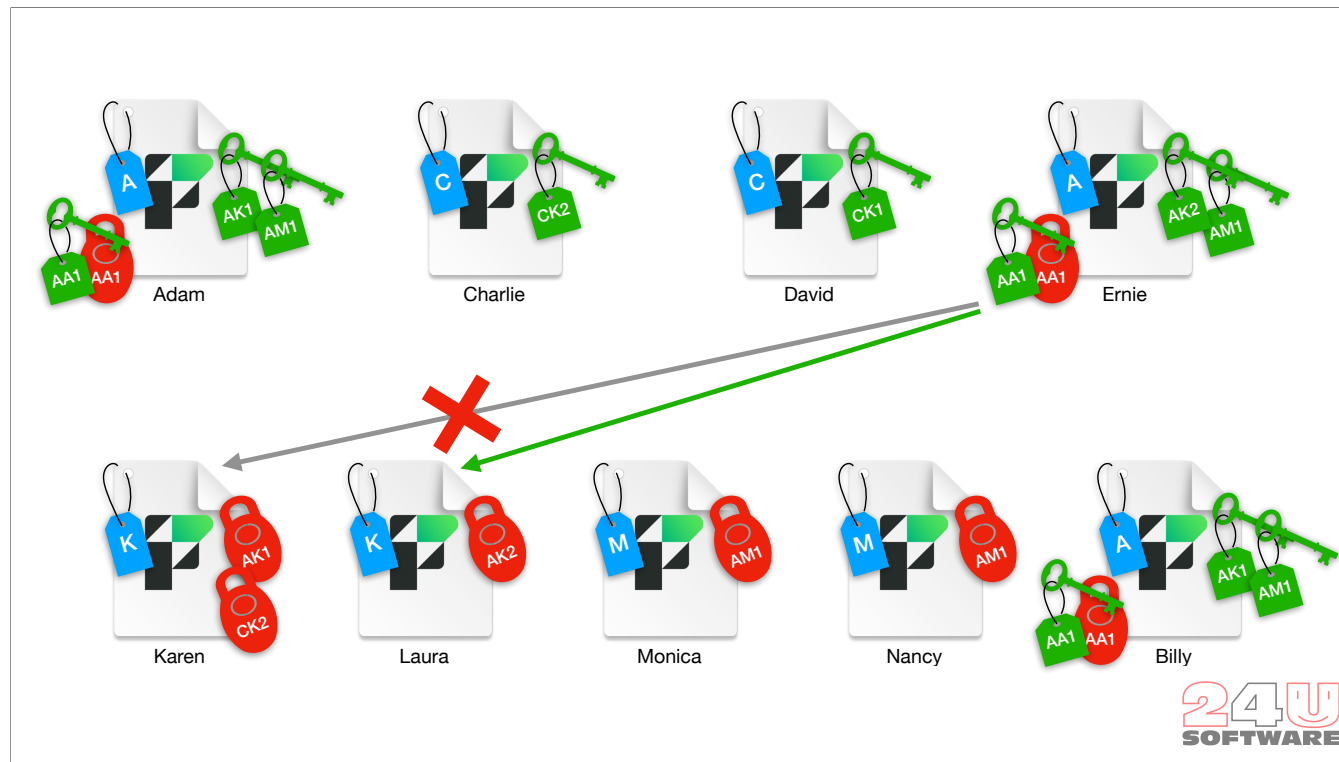
By re-granting Ernie access to Laura, a new key is created that replaces the previous key with the same file ID

So by re-gaining access to Laura, Ernie has lost access to Karen







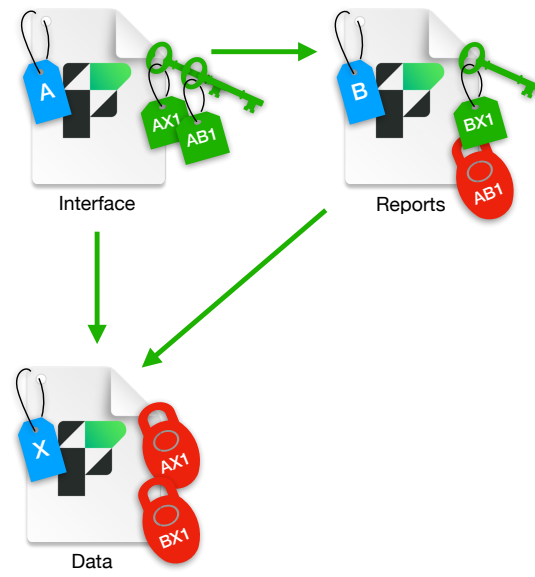


# Vertical Solution Issue



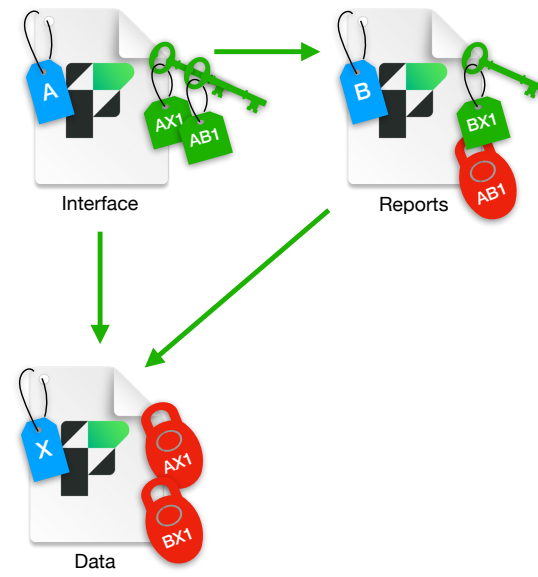
## Development

## Production

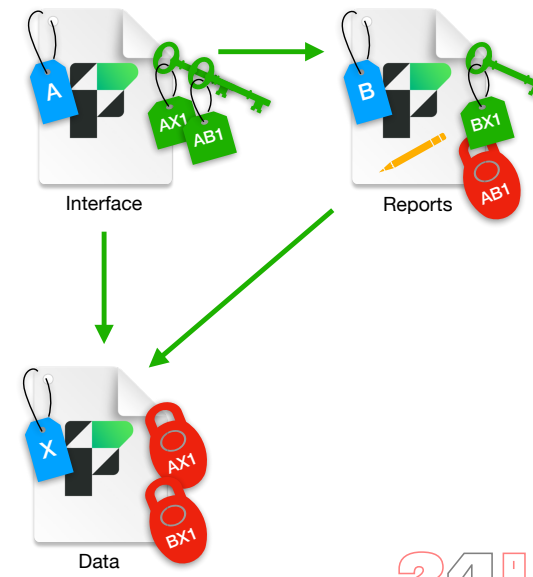




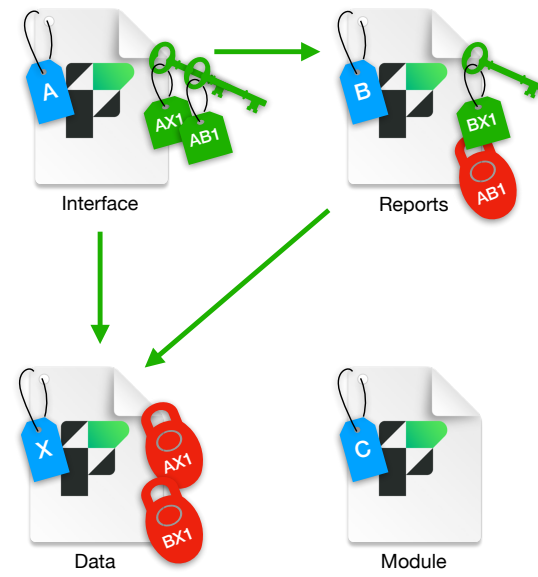
## Development



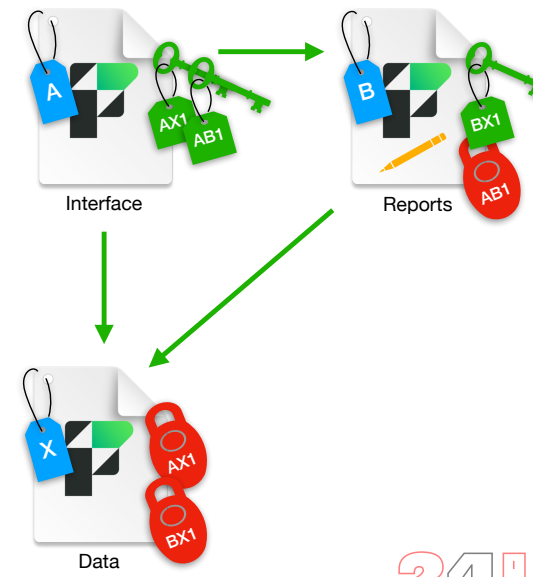
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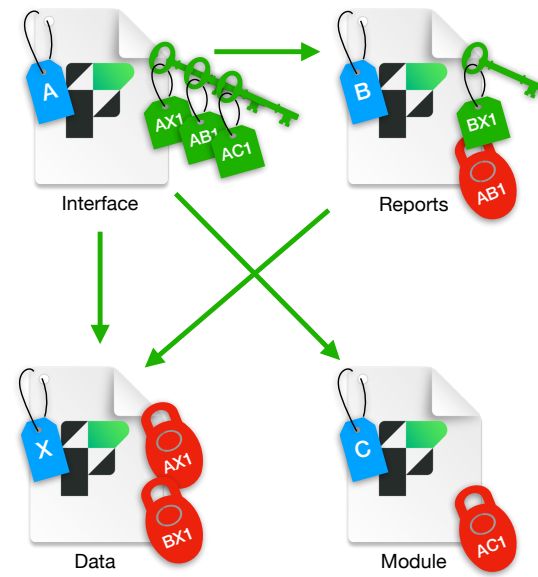
## Development



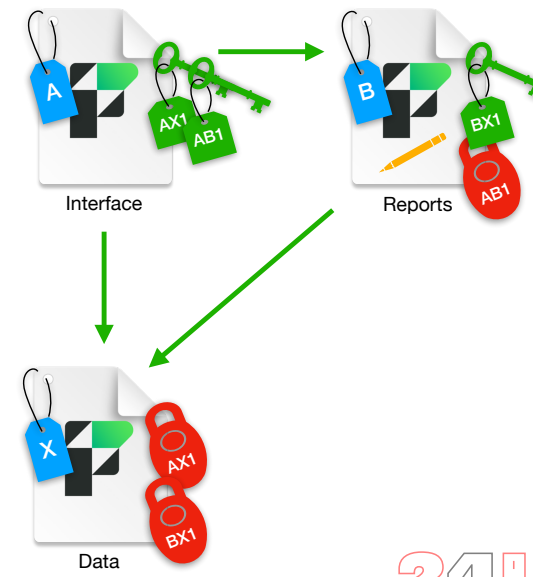
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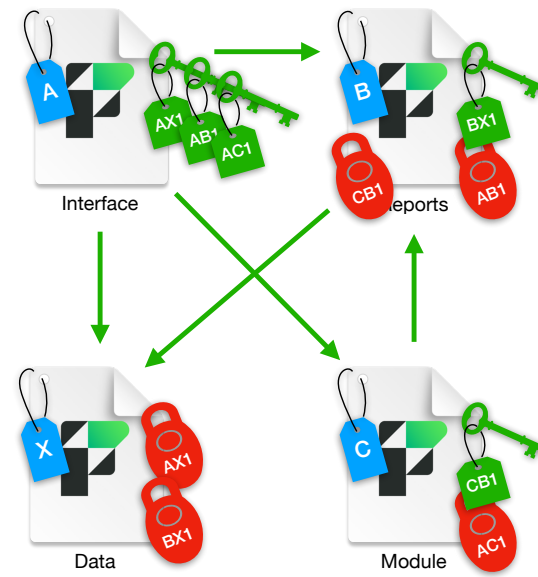
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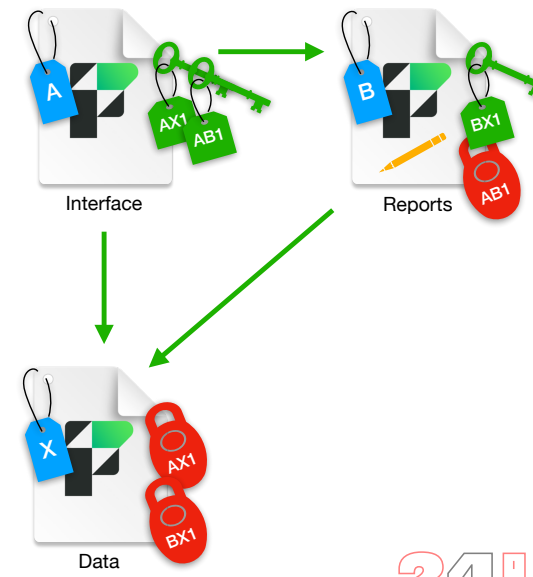
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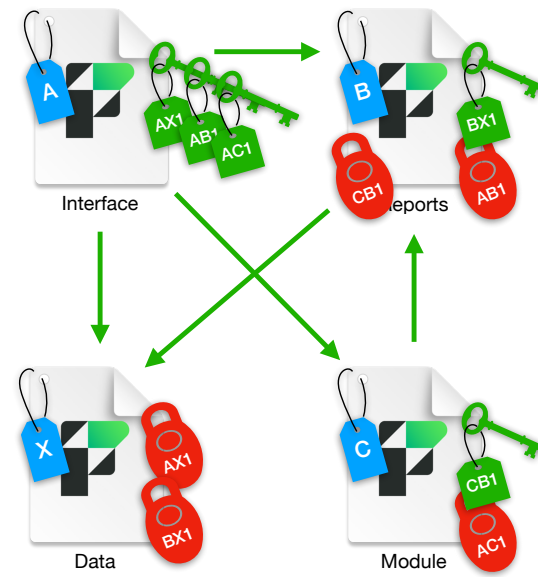
## Development



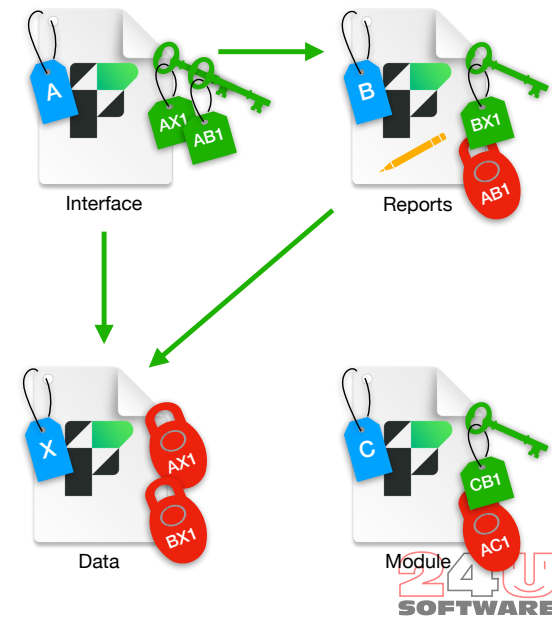
## Production



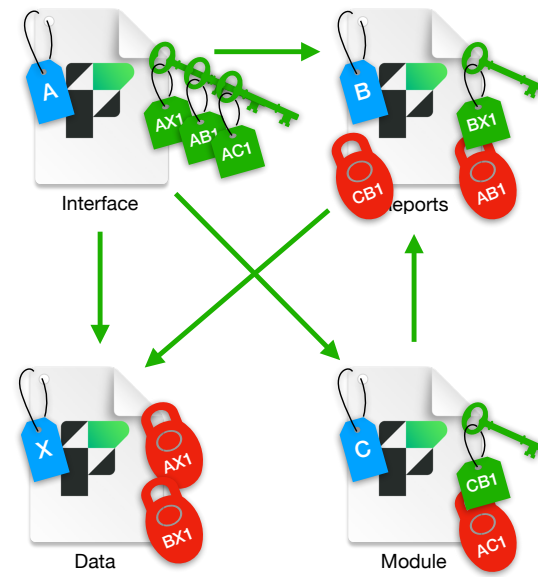
## Development



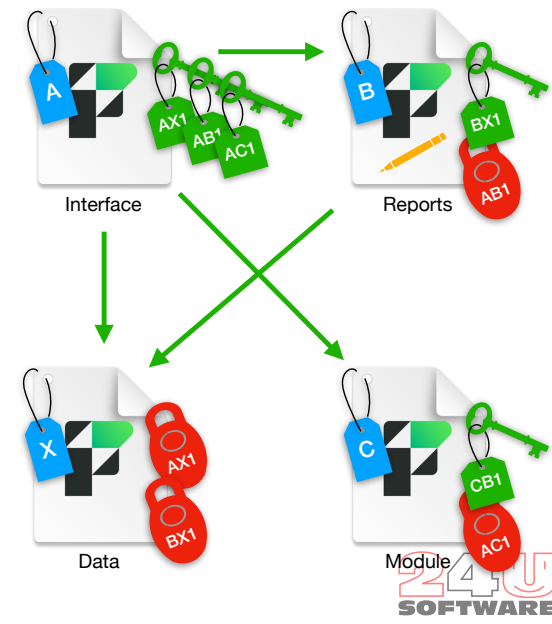
## Production



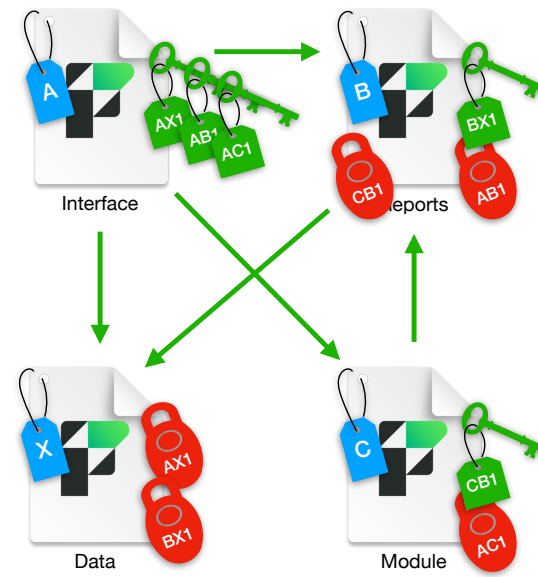
## Development



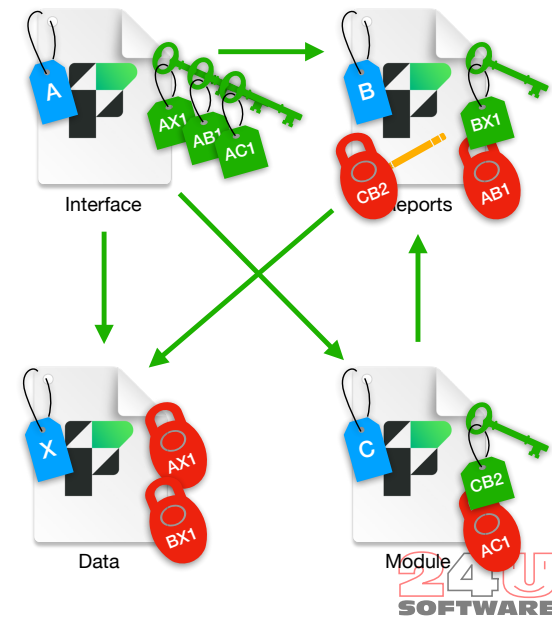
## Production



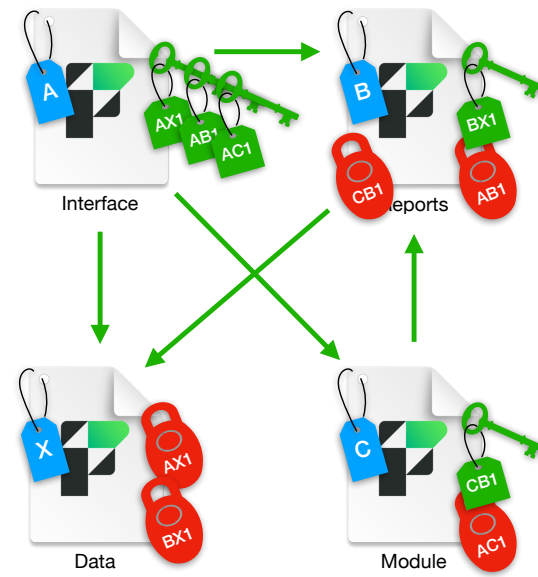
## Development



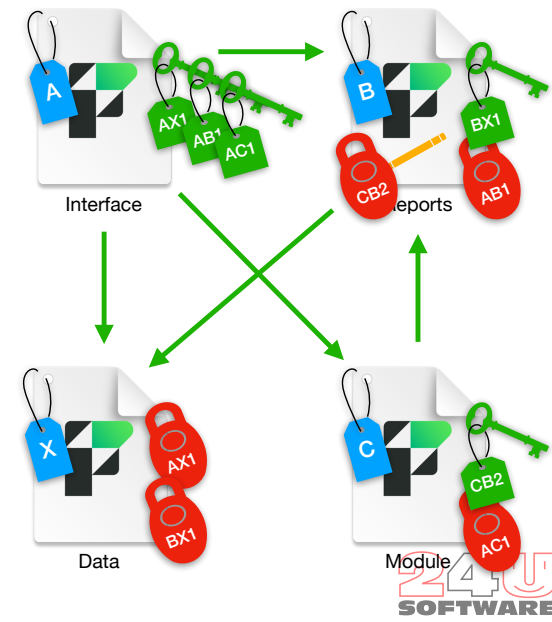
## Production



## Development

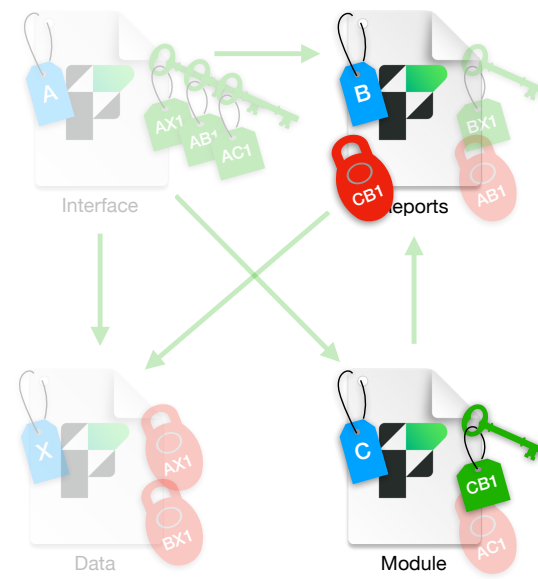


## Production

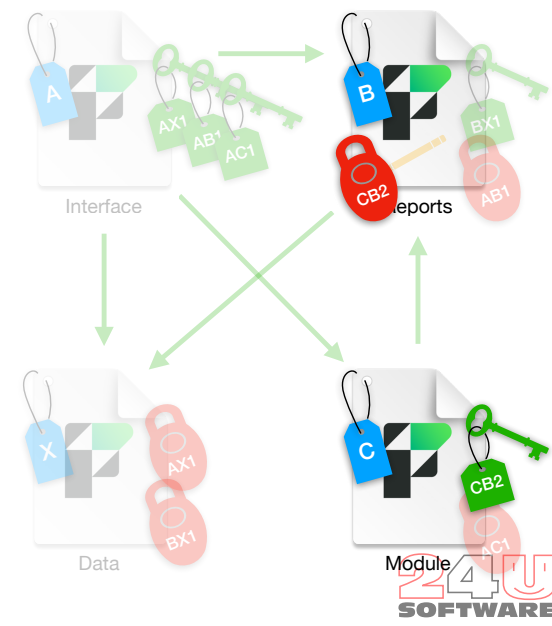




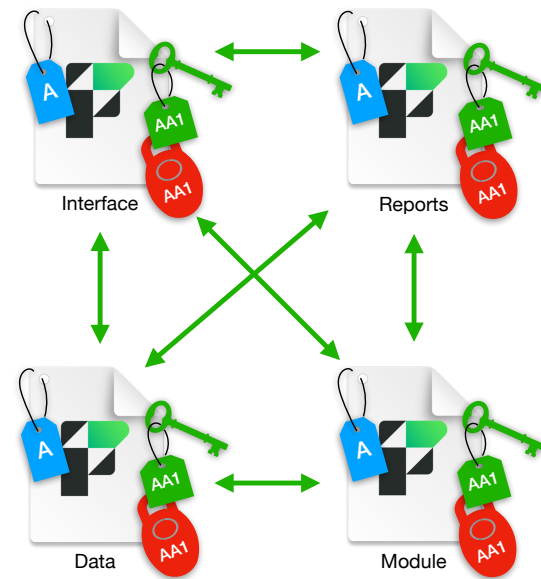
## Development



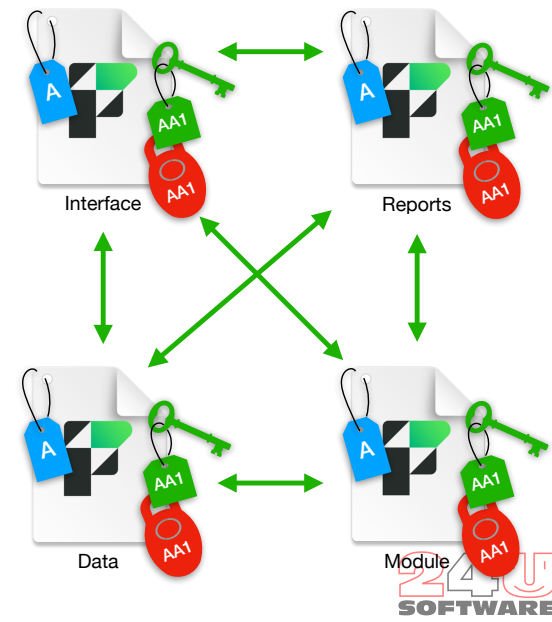
## Production



## Development



## Production



## Notes

- A newly created file contains a reference to itself in the File Access list. This enables a data source in this file to refer to itself and copied or cloned files to work with each other, both without needing to add references manually to the File Access list. You can remove this self authorization to prevent this type of access.
- If you rename an authorized file and the file is currently open, the new name appears next to the original name in the **File Access** list. For example, if you renamed the file SalesReport to ExecReport, then **ExecReport;SalesReport** appears in the list.
- A protected file retains its list of authorized files if the file is cloned, so you don't have to repeat this process.

This is helpful because you don't have to repeat the authorization process. However, if you duplicate or clone a protected file, each file will also have the same ID. **If you use both files in the same multifile custom app, you must reset the ID in one of the files so that each file has a unique ID.** To reset the protected file's unique ID, click **Reset All**, then click **Yes**. After resetting, you will need to reauthorize all files that are authorized to access the protected file and any protected files that file was authorized to access.

**Important** Resetting the ID cannot be undone by clicking **Cancel** in the Advanced Security Settings dialog box.

