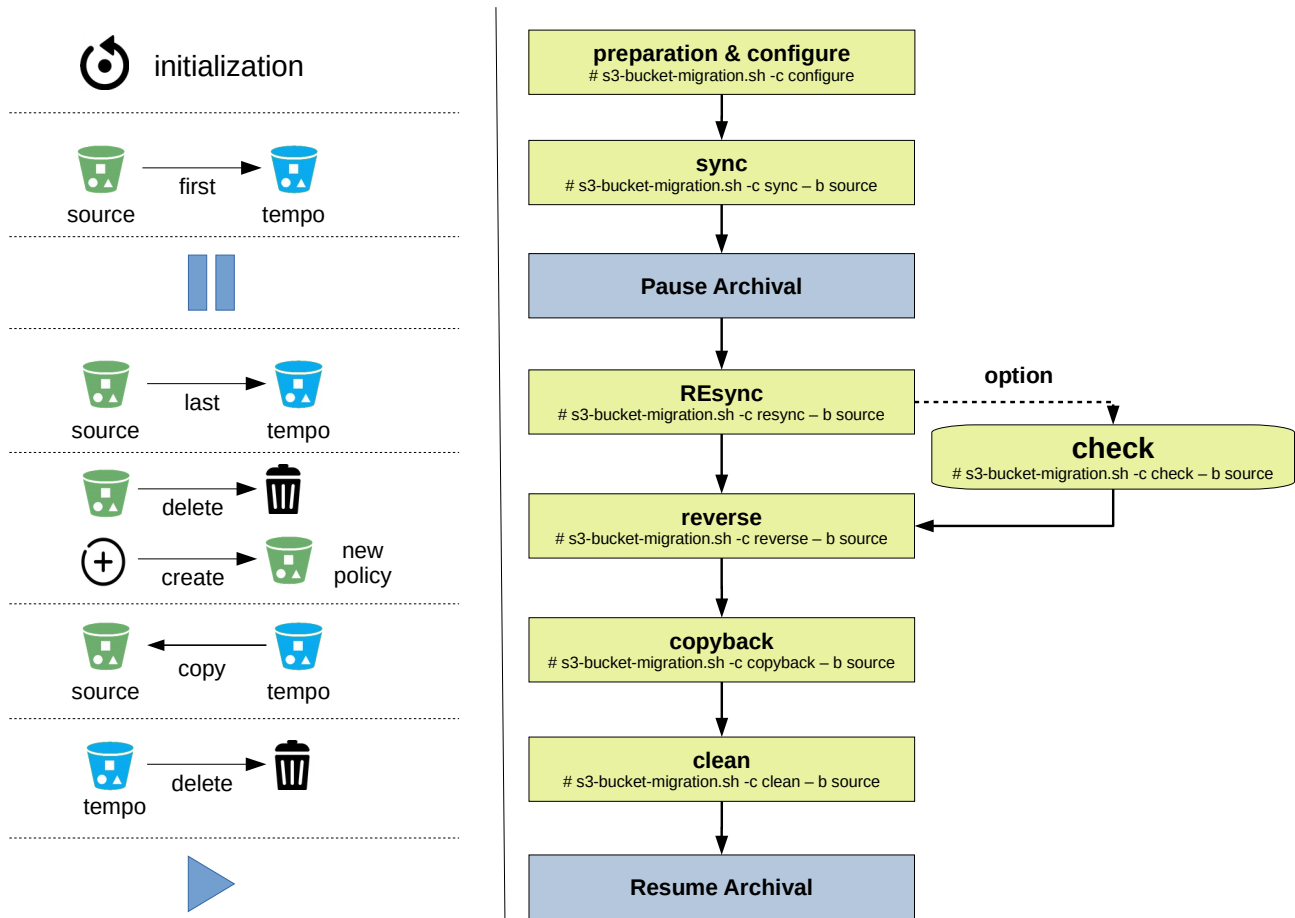# MIGRATION TOOL
for Rubrik + Cloudian buckets
v1.0b

1 Flowchart

The script "s3-bucket-migration.sh" follows the flowchart below :

2 Installation

You must download 2 files :

- the script : s3-bucket-migration.sh

- the package : rclone-linux-amd64.rpm

Then, proceed to the rpm installation :

```
[root@peter]# rpm -i ./rclone-linux-amd64.rpm
[root@peter]#
```

and run the script :

```
[root@peter]# ./s3-bucket-migration.sh -c configure
[root@peter]#
```

Notice : this script will use the Cloudian Admin API to purge the buckets, so you have to change the default password if needed.

3 Full example following the flowchart

This step is just to show you the syntax and all options available :

```
[root@peter]# ./s3-bucket-migration.sh

Error in the command line.
Use the format : ./s3-bucket-migration.sh -c <command> -b <bucketname>
<command> could be : configure , sync , resync , check , reverse , copyback , clean
```

Configuration of the s3 credentials and the s3 EndPoint :

```
[root@peter]# ./s3-bucket-migration.sh -c configure

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risks and be aware of the restrictions.


--- Creating the configuration file with the AccessKey and SecretKey to manage the buckets ---
Please provide the AccessKey for the migration : 00f3bd5a0917d56db876
Please provide the SecretKey for the migration : TNFT6VEZHj6lB0Bfd8eOyufY3+t+4Ty1xC2ptv7d
Please provide the s3 EndPoint for the migration (example : http://s3-region.domainname) : http://s3-region.demo
Configuration done.
 You can now proceed with the 'sync' command :  ./s3-bucket-migration.sh -c sync -b <bucketname>
[root@peter]#
```

First sync in order to copy the maximum of objects before a full re-sync :

```
[root@peter]# ./s3-bucket-migration.sh -c sync -b plaineco-rubrik-0

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--- Preparing to migrate the bucket :  plaineco-rubrik-0 ---
Do you want to continue (type : yes to continue,or anything else to abort) ? yes
OK, let's Go !
Checking the source bucket :  plaineco-rubrik-0
         0 2020-01-29 18:47:11        -1 blobstore
         0 2020-01-29 18:47:11        -1 snappables

=> Bucket  plaineco-rubrik-0  is available and readable. Continuing ...

Creating a new logfile :  plaineco-rubrik-0.log  in the current directory.
Creation of a temporary bucket to migrate firstly the data ... :  plaineco-rubrik-0-tempo

Bucket  plaineco-rubrik-0-tempo  is now available. Continuing ...
Operation done.
--- Synchronization from the bucket  plaineco-rubrik-0  to the bucket  plaineco-rubrik-0-tempo  : ---
Transferred:       13.841G / 13.841 GBytes, 100%, 47.289 MBytes/s, ETA 0s
Transferred:           92 / 92, 100%
Elapsed time:       4m59.7s
Please, change the ArchiveLocation parameter and force it in 'Pause mode'
Then, use the command re-sync :  ./s3-bucket-migration.sh -c resync -b plaineco-rubrik-0
[root@peter]#
```
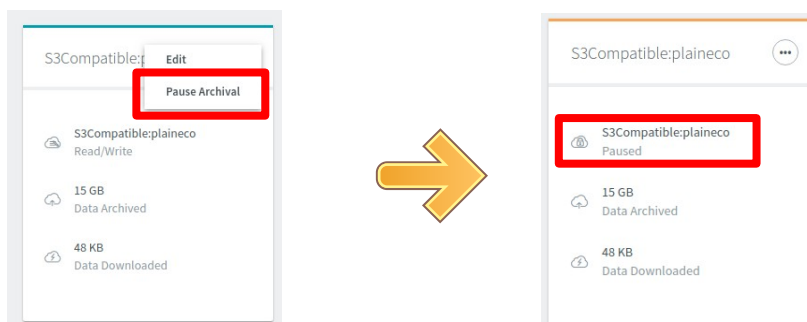
Then, you must go to the Rubrik GUI and force the "Pause Archival" mode on the ArchivalLocation before the full-resync (avoid upload of new objects during the full-resync) :

Full and last re-sync when no new uploads are performed by Rubrik (Pause mode) :

```
[root@peter]# ./s3-bucket-migration.sh -c resync -b plaineco-rubrik-0

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--- RE-Synchronization from the bucket  plaineco-rubrik-0  to the bucket  plaineco-rubrik-0-tempo  : ---
Do you want to continue (type : yes to continue,or anything else to abort) ? yes
OK, let's Go !
Transferred:             0 / 0 Bytes, -, 0 Bytes/s, ETA -
Checks:                 92 / 92, 100%
Elapsed time:       600ms
Resync done.


 Quick check if there are differences...
2020/01/29 18:57:08 NOTICE: S3 bucket plaineco-rubrik-0-tempo: 0 differences found
2020/01/29 18:57:08 NOTICE: S3 bucket plaineco-rubrik-0-tempo: 92 matching files
Checking the content of the bucket is possible by using the command :
 ./s3-bucket-migration.sh -c check -b plaineco-rubrik-0

Re-Sync is finished. You can adjust the protection policy on Cloudian - default policy will be selected
Please use reverse command. ./s3-bucket-migration.sh -c reverse -b plaineco-rubrik-0
[root@peter]#
```

Please, be sure that the Cloudian default protection policy is the new policy you want to apply for the new buckets. Example, before : RF3 and new : Erasure Coding 3+2

Optionnaly, you can force a MD5 Hash on all objects before the reverse operation :

```
[root@peter]# ./s3-bucket-migration.sh -c check -b plaineco-rubrik-0

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--- Check the content of the buckets ---
Do you want to continue (type : yes to continue,or anything else to abort) ? yes
OK, let's Go !
MD5 calculations for  plaineco-rubrik-0  and  plaineco-rubrik-0-tempo
This might take long time and might use a lot of ressources ... depending on the structure of the buckets
Done. All checksums are in the log file :  plaineco-rubrik-0.log

 to continue with the process, you can adjust the protection policy on Cloudian - default policy will be selected
Then, use reverse command. ./s3-bucket-migration.sh -c reverse -b plaineco-rubrik-0
[root@peter]#
```

Purge the source bucket and remove it, then create a new one matching the same name :

```
[root@peter]# ./s3-bucket-migration.sh -c reverse -b plaineco-rubrik-0

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--- Reverse the operations from the bucket :  plaineco-rubrik-0-tempo  ---
Do you want to continue (type : yes to continue,or anything else to abort) ? yes
OK, let's Go !
Purging the bucket :  plaineco-rubrik-0
Need to connect to the cluster by using SSH and root access...
root@s3-region.demo's password:
Bucket: plaineco-rubrik-0 purged.Creating a new bucket :  plaineco-rubrik-0
Delete is finished, if there is no error, please Go Forward :-) ...
Then, use the command :  ./s3-bucket-migration.sh -c copyback -b plaineco-rubrik-0
[root@peter]#
```

Copy all objects from the bucket "tempo" to the new bucket created with the new policy :

```
[root@peter]# ./s3-bucket-migration.sh -c copyback -b plaineco-rubrik-0

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--- Copy-back from the bucket :  plaineco-rubrik-0-tempo  to the bucket :  plaineco-rubrik-0  ---
Do you want to continue (type : yes to continue,or anything else to abort) ? yes
OK, let's Go !
Copy-back in progress ...
Transferred:        13.841G / 13.841 GBytes, 100%, 54.451 MBytes/s, ETA 0s
Transferred:           92 / 92, 100%
Elapsed time:      4m20.2s


 Quick check if there are differences...
2020/01/29 19:04:26 NOTICE: S3 bucket plaineco-rubrik-0-tempo: 0 differences found
2020/01/29 19:04:26 NOTICE: S3 bucket plaineco-rubrik-0-tempo: 92 matching files
Done.
Then, use the command :  ./s3-bucket-migration.sh -c clean -b plaineco-rubrik-0
[root@peter]#
```

Clean the non-necessary objects and bucket ('tempo') :

```
[root@peter]# ./s3-bucket-migration.sh -c clean -b plaineco-rubrik-0

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--- Cleanup and deletion of non-necessary objects + bucket... ---
Do you want to continue (type : yes to continue,or anything else to abort) ? yes
OK, let's Go !
Purging the bucket :  plaineco-rubrik-0-tempo
Need to connect to the cluster by using SSH and root access...
root@s3-region.demo's password:
Bucket: plaineco-rubrik-0-tempo purged.Job done. Nothing else to do.
Please resume the ArchivalLocation matching the current migration
[root@peter]#
```

Last step, you must resume the archival on the ArchivalLocation (Rubrik GUI) :