

20 minutes talk, so I have a 4(*) slides only presentation

SLIDE #1

cvmfsreplica vs 0.9.1: a daemon for the CVMFS Stratum-1

Jose Caballero, member of the OSG Technology Investigation group

SLIDE #3

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/cvmfsreplica.conf
[REPLICA]
repositoriesconf = file:///var/log/cvmfsreplica/repositories.conf
log = file:///var/log/cvmfsreplica/cvmfsreplica.log
loglevel = TRACE
maximum_concurrent_snapshots = 3
```

SLIDE #2

```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
06.21.36.51 * * * * * root for x in `cd /srv/cvmfs;echo *`; do echo; if [ -f /srv/cvmfs/$x/cvmfspublished ]; then echo
"Starting $x at `date`";if ! cvmfs_server snapshot $x;then echo "ERROR from cvmfs_server"; fi;echo "Finished $x at
`date`";:;:;done >>var/log/cvmfs/cron.log 2>&1
# clean out orphaned temp files:
0 9 * * * root find /srv/cvmfs/*.*/*data/tmp -name "*" -mtime +2 2>/dev/null|xargs rm -f
```

SLIDE #4

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
[DEFAULT]
reportplugins = Email
report_email.smtp_server = my.email.server
report_email.admin_email = neo@matrix.net
acceptanceplugins = Updatedderez: Diskspace
diskspace.spool_size = 10000000000
diskspace.storage_size = 100000000000
diskspace.about_abort = True
postplugins = Cleanup
[CONFIG-OSG]
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
[CONFIG-EGE]
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report_email.admin_email = morpheus@matrix.net
acceptance.diskspace.report_email.smtp_server = my.email.server
timeout = 36000
```

(*) with some tricks

cvmfsreplica vs 0.9.1: a daemon for the CVMFS Stratum-1

Jose Caballero, member of the OSG Technology Investigation group

```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
```

```
06,21,36,51 * * * *    root    for r in `cd /srv/cvmfs;echo *.*`; do echo; if [ -f /srv/cvmfs/$r/.cvmfspublished ]; then echo  
"Starting $r at `date`;if ! cvmfs_server snapshot $r;then echo "ERROR from cvmfs_server"; fi;echo "Finished $r at `date`;fi;  
done >>/var/log/cvmfs/cron.log 2>&1
```

```
# clean out orphaned temp files:
```

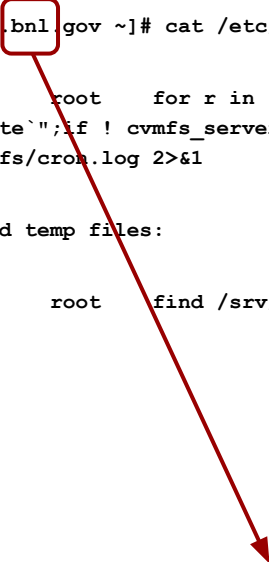
```
0 9 * * *                root    find /srv/cvmfs/*./data/txn -name "*.*" -mtime +2 2>/dev/null|xargs rm -f
```

```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
```

```
06,21,36,51 * * * * root    for r in `cd /srv/cvmfs;echo *.*`; do echo; if [ -f /srv/cvmfs/$r/.cvmfspublished ]; then echo  
"Starting $r at `date`; if ! cvmfs_server snapshot $r; then echo "ERROR from cvmfs_server"; fi; echo "Finished $r at `date`; fi;  
done >>/var/log/cvmfs/cron.log 2>&1
```

```
# clean out orphaned temp files:
```

```
0 9 * * *          root    find /srv/cvmfs/*./data/txn -name "*.*" -mtime +2 2>/dev/null|xargs rm -f
```



This is from BNL, but most probably other sites have similar setups.

```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
```

```
06,21,36,51 * * * *   root    for r in `cd /srv/cvmfs;echo *.*`; do echo; if [ -f /srv/cvmfs/$r/.cvmfspublished ]; then echo  
"Starting $r at `date`;if ! cvmfs_server snapshot $r;then echo "ERROR from cvmfs_server"; fi;echo "Finished $r at `date`;fi;  
done >>/var/log/cvmfs/cron.log 2>&1
```

```
# clean out orphaned temp files:
```


```
0 9 * * *           root    find /srv/cvmfs/*.*/*data/txn -name "*.*" -mtime +2 2>/dev/null|xargs rm -f
```



It is a cron. To start/stop the process you need to edit a file and add/delete #'s.

cvmfsreplica vs 0.9.1: a **daemon** for the CVMFS Stratum-1

Jose Caballero, member of the OSG Technology Investigation group



This proposal is for a daemon,
so the main process can be
started/stop from command line.

```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
```

```
06,21,36,51 * * * * root    for r in `cd /srv/cvmfs;echo *.*`; do echo; if [ -f /srv/cvmfs/$r/.cvmfspublished ]; then echo  
"Starting $r at `date`;if ! cvmfs_server snapshot $r;then echo "ERROR from cvmfs_server"; fi;echo "Finished $r at `date`;fi;  
done >>/var/log/cvmfs/cron.log 2>&1
```

```
# clean out orphaned temp files:
```

```
0 9 * * *          root    find /srv/cvmfs/*./data/txn -name "*.*" -mtime +2 2>/dev/null|xargs rm -f
```

Fixed frequency.

Cannot be too short, because then 2 snapshots for the same repo could happen at the same time (we saw it).

Cannot be too long because then the delay between the new content being published and being available at the clients is unacceptable.

Minimum time unit is minutes.

```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
```

```
06,21,36,51 * * * *   root    for r in `cd /srv/cvmfs; echo * *`; do echo: if [ -f /srv/cvmfs/$r/.cvmfspublished ]; then echo  
"Starting $r at `date`; if ! cvmfs_server snapshot $r; then echo "ERROR from cvmfs_server"; fi; echo "Finished $r at `date`; fi;  
done >>/var/log/cvmfs/cron.log 2>&1
```

```
# clean out orphaned temp files:
```

```
0 9 * * *             root    find /srv/cvmfs/*./data/txn -name "*. *" -mtime +2 2>/dev/null|xargs rm -f
```



Poor logging capabilities.


```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
```

```
06,21,36,51 * * * *    root    for r in `cd /srv/cvmfs;echo *.*`; do echo; if [ -f /srv/cvmfs/$r/.cvmfspublished ]; then echo  
"Starting $r at `date`";if ! cvmfs_server snapshot $r;then echo "ERROR from cvmfs_server"; fi;echo "Finished $r at `date`";fi;  
done >>/var/log/cvmfs/cron.log 2>&1
```

```
# clean out orphaned temp files:
```

```
0 9 * * *                root    find /srv/cvmfs/*./data/txn -name "*.*" -mtime +2 2>/dev/null|xargs rm -f
```

To clean files left behind after failed snapshots (for example).

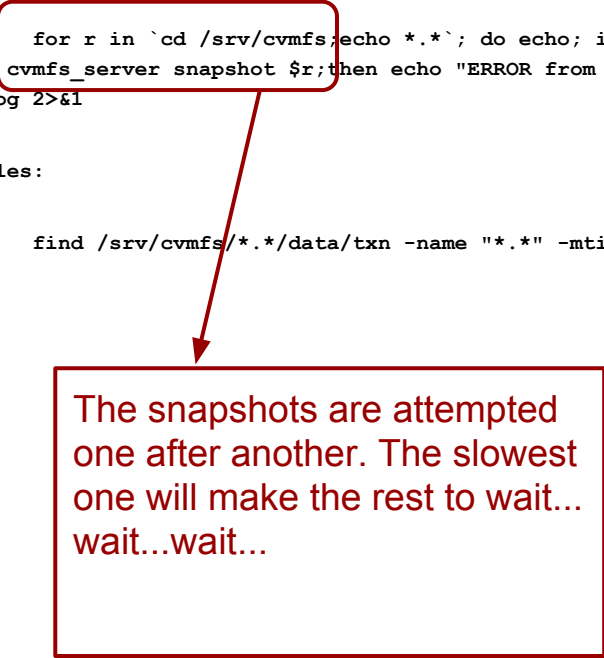
Pays attention to the age of the files to minimize the risk of deleting files for ongoing replications. But that risk is not eliminated completely.

```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
```

```
06,21,36,51 * * * *   root    for r in `cd /srv/cvmfs;echo *.*`; do echo; if [ -f /srv/cvmfs/$r/.cvmfspublished ]; then echo  
"Starting $r at `date`;if ! cvmfs_server snapshot $r;then echo "ERROR from cvmfs_server"; fi;echo "Finished $r at `date`;fi;  
done >>/var/log/cvmfs/cron.log 2>&1
```

```
# clean out orphaned temp files:
```

```
0 9 * * *             root    find /srv/cvmfs/*./data/txn -name "*. *" -mtime +2 2>/dev/null|xargs rm -f
```



The snapshots are attempted one after another. The slowest one will make the rest to wait... wait...wait...

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/cvmfsreplica.conf
```

```
[REPLICA]
```

```
repositoriesconf = file:///etc/cvmfsreplica/repositories.conf
```

```
log = file:///var/log/cvmfsreplica/cvmfsreplica.log
```

```
loglevel = TRACE
```

```
maximum_concurrent_snapshots = 3
```

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
```

```
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserser, Diskspace
diskspace.spool_size = 100000000000
diskspace.storage_size = 100000000000
diskspace.shoud_abort = True
postplugins = Cleanup
```

```
[CONFIG-OSG]
```

```
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
```

```
[CONFIG-EGI]
```

```
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```

```
[root@host-172-8-0-92 ~]# cat /etc/cvmsfsreplica/cvmsfsreplica.conf
```

```
[REPLICA]
```

```
repositoriesconf = file:///etc/cvmsfsreplica/repositories.conf
```

```
log = file:///var/log/cvmsfsreplica/cvmsfsreplica.log
```

```
loglevel = TRACE
```

```
maximum_concurrent_snapshots = 3
```

.INI format.

The standard for python configuration files.

Detailed explanation can be found in the official documentation:

<https://docs.python.org/2/library/configparser.html>

```
[root@host-172-8-0-92 ~]# cat /etc/cvmsfsreplica/cvmsfsreplica.conf
```


```
[REPLICA]
```

```
repositoriesconf = file:///etc/cvmsfsreplica/repositories.conf
```

```
log = file:///var/log/cvmsfsreplica/cvmsfsreplica.log
```

```
loglevel = TRACE
```

```
maximum_concurrent_snapshots = 3
```



Can decide how many replication processes could happen at the same time.

```
[root@host-172-8-0-92 ~]# cat /etc/cvmsfsreplica/cvmsfsreplica.conf
```

```
[REPLICA]
```

```
repositoriesconf = file:///etc/cvmsfsreplica/repositories.conf
```

```
log = file:///var/log/cvmsfsreplica/cvmsfsreplica.log
```

```
loglevel = TRACE
```

```
maximum_concurrent_snapshots = 3
```

Better logging.
Configurable from minimum
(WARNING/ERROR/CRITICAL) to
maximum (TRACE) verbosity.

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserser, Diskspace
diskspace.spool_size = 100000000000
diskspace.storage_size = 100000000000
diskspace.shoud_abort = True
postplugins = Cleanup
```

```
[CONFIG-OSG]
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
```

```
[CONFIG-EGI]
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
```

Each repository may have different configuration.

Some repos are updated more frequently than others (for example).

You can always take advantage of the [DEFAULTS] section for common setups.


```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
```

```
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserser, Diskspace
diskspace.spool_size = 100000000000
diskspace.storage_size = 100000000000
diskspace.shoud_abort = True
postplugins = Cleanup
```

```
[CONFIG-OSG]
```

```
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
```

Replication process can be enabled/disabled repo by repo.

```
[CONFIG-EGI]
```

```
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserver, Diskspace
diskspace.spool_size = 100000000000
diskspace.storage_size = 100000000000
diskspace.shoud_abort = True
postplugins = Cleanup
```

```
[CONFIG-OSG]
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
```

```
[CONFIG-EGI]
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```

The waiting time applies after previous snapshot was done (or attempted), not a fixed frequency.

There is no risk of 2 snapshots for the same repo to happen at the same time.


Therefore, it can retry after a few seconds only. When new content is published at the server, it will be replicated almost immediately.

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserser, Diskspace
diskspace.spool_size = 100000000000
diskspace.storage_size = 100000000000
diskspace.shoud_abort = True
postplugins = Cleanup
```

```
[CONFIG-OSG]
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
```

```
[CONFIG-EGI]
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```



Snapshot can be tried more than once before giving up, with an exponential backoff algorithm.

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf

[DEFAULT]
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserser, Diskspace
diskspace.spool_size = 100000000000
diskspace.storage_size = 100000000000
diskspace.shoud_abort = True
postplugins = Cleanup

[CONFIG-OSG]
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3

[CONFIG-EGI]
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```

Can impose a time limit.
To be use with caution.

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
```

```
reportplugins = Email  
report.email.smtp_server = my.email.server  
report.email.admin_email = neo@matrix.net  
acceptanceplugins = Updatedserver, Diskspace  
diskspace.spool_size = 100000000000  
diskspace.storage_size = 100000000000  
diskspace.shoud_abort = True  
postplugins = Cleanup
```

```
[CONFIG-OSG]
```

```
enabled = False  
repositoryname = config-osg.opensciencegrid.org  
interval = 5  
ntrials = 3
```

```
[CONFIG-EGI]
```

```
enabled = True  
repositoryname = config-egi.egi.eu  
interval = 10  
ntrials = 2  
acceptance.diskspace.reportplugins = Email  
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net  
acceptance.diskspace.report.email.smtp_server = my.email.server  
timeout = 36000
```

Report plugins:
to notify what happened
(specially when something
went wrong).

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
```

```
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserver, Diskspace
diskspace.spool_size = 100000000000
diskspace.storage_size = 1000000000000
diskspace.shoud_abort = True
postplugins = Cleanup
```

```
[CONFIG-OSG]
```

```
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
```

```
[CONFIG-EGI]
```

```
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```

Acceptance plugins:
to check if the snapshot should be tried or not.
We can check if new content has been published. Or
if there is enough disk space at the replica host.

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
```

```
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserver, Diskspace
diskspace.spool_size = 100000000000
diskspace.storage_size = 100000000000
diskspace.shoud_abort = True
postplugins = Cleanup
```

```
[CONFIG-OSG]
```

```
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
```

```
[CONFIG-EGI]
```

```
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```

Acceptance plugins:

Some Acceptance plugins can also stop the thread for that repo if makes no sense to keep looping.

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf

[DEFAULT]
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserver, Diskspace
Diskspace.spool_size = 100000000000
Diskspace.storage_size = 100000000000
diskspace.shoud_abort = True
postplugins = Cleanup

[CONFIG-OSG]
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3

[CONFIG-EGI]
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```

The Report plugins can be set also to be called from within the Acceptance plugins.
For example, to notify different people when the new content has been rejected.


```
[root@host-172-8-0-92 ~]# cat /etc/cvmfsreplica/repositories.conf
```

```
[DEFAULT]
reportplugins = Email
report.email.smtp_server = my.email.server
report.email.admin_email = neo@matrix.net
acceptanceplugins = Updatedserver, Diskspace
Diskspace.spool_size = 100000000000
Diskspace.storage_size = 1000000000000
diskspace.shoud abort = True
postplugins = Cleanup
```

```
[CONFIG-OSG]
enabled = False
repositoryname = config-osg.opensciencegrid.org
interval = 5
ntrials = 3
```

```
[CONFIG-EGI]
enabled = True
repositoryname = config-egi.egi.eu
interval = 10
ntrials = 2
acceptance.diskspace.reportplugins = Email
acceptance.diskspace.report.email.admin_email = morpheus@matrix.net
acceptance.diskspace.report.email.smtp_server = my.email.server
timeout = 36000
```

Post plugins:
to perform actions after the snapshot
was done, or attempted.
For example, to delete orphan files.

cvmfsreplica vs 0.9.1: a daemon for the CVMFS Stratum-1

Jose Caballero, member of the OSG Technology Investigation group

There is room for improvements, new ideas, to fix whatever we don't like, etc.

- New Report plugins: to write to a file, to a DB, to contact some external monitoring system, etc
- New Acceptance plugins: to check if repo is a whitelist/blacklist, to inspect new content in advance, etc.
- Some client CLI suite to query, remotely, what is going on at the Stratum-1.
- Are .INI files OK for configuration?
- Do we need other type of plugins?
- ...?

20 minutes talk, so I have a 4(*) slides only presentation

SLIDE #1

cvmfsreplica vs 0.9.1: a daemon for the CVMFS Stratum-1

Jose Caballero, member of the OSG Technology Investigation group

SLIDE #2

```
[root@cvmfs-replica.bnl.gov ~]# cat /etc/cron.d/cvmfs
06,21,36,51 * * * * root    for x in `od /srv/cvmfs:echo *.`; do echo; if [ -f /srv/cvmfs/$x.cvmfspublished ]; then echo
"Starting $x at `date`"; if ! cvmfs_server snapshot $x; then echo "ERROR from cvmfs_server"; fi; echo "Finished $x at
`date`"; fi; done >>/var/log/cvmfs/cron.log 2>&1

# clean out orphaned temp files:
0 9 * * *          root    find /srv/cvmfs/*.* /data/tmp -name "*" -mtime +2 2>/dev/null|xargs rm -f
```

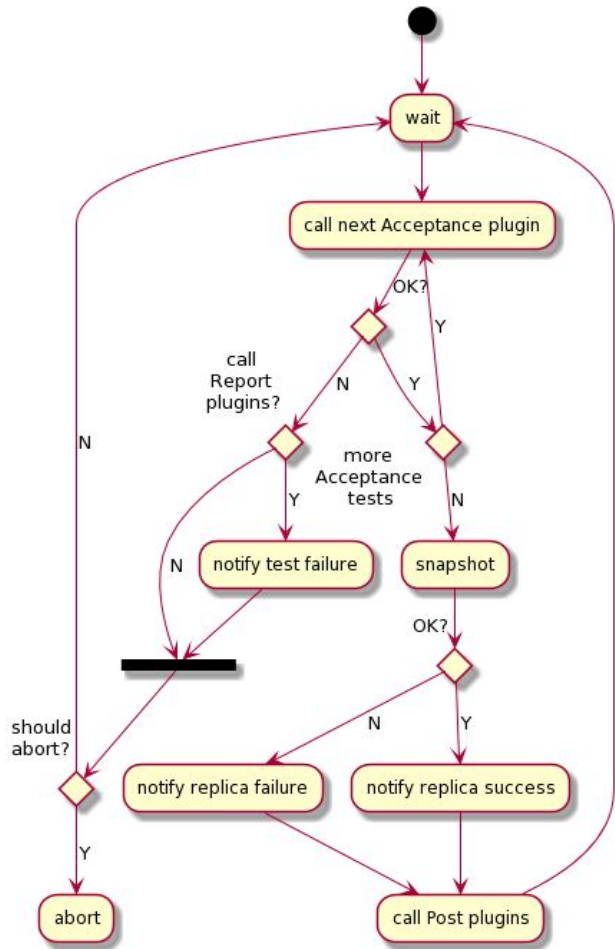
SLIDE #3

```
[root@host-172-8-0-92 ~]# cat /etc/cvmfs
[REPLICA]
repositoriesconf = file:///etc/cvmfsreplica
log = file:///var/log/cvmfsreplica/cvmfs
loglevel = TRACE
maximum_concurrent_snapshots = 3
```

```
timeout = 36000
```

**4 slides
+
plus backup slides**

(*) with some tricks



cvmfsreplica.conf variables:

repositoriesconf	path to the configuration file with the repository-by-repository settings
log	Destination where to send logging output. Valid values: <A filesystem path, starting with file://> stdout syslog DEFAULT value is file:///var/log/cvmfsreplica/cvmfsreplica.log In case of using a file that is not the default, set properly the /etc/logrotate. d/cvmfsreplica file
loglevel	Logging LEVEL. Valid values: DEBUG INFO WARNING [DEFAULT] ERROR CRITICAL
maximum_concurrent_snapshots	the maximum number of replication process that will be allow to run simultaneously

repositories.conf variables:

enabled	True or False
repositoryname	name of the repository to be replicated. Matches /cvmfs/<repository>/
interval	time, in seconds, between replication cycles
ntrials	number of times to try replicating the repository in case of failures
timeout	number of seconds until timing out the replication process. Use with caution, as the replication can naturally take a long time. Optional.

repositories.conf variables:

There are several types of plugins, optional, that can be used to perform different type of actions. Some of these plugins may have their own set of custom attributes.

Nomenclature to set these attributes is always like this

```
<type_of_plugin>.<plugin_name>.<attribute>
```

where strings are always lower case.

There are currently 3 types of plugins, described below:

reportplugins

list of plugins to notify/report/alert/... when something goes wrong

acceptanceplugins

list of plugins to decide if the replications should actually be attempted or not

postplugins

list of plugins to run after the replication was done (or attempted).

Useful, for example, to clean up files.

repositories.conf variables:

Report plugin Email:

sends an email no notify failures

report.email.admin_email

email address to send messages when replication fails.
Multiple addresses can be set split by comma

report.email.smtp_server

SMTP server.

repositories.conf variables:

Acceptance plugin Updatedserver:

checks if the server was updated after last replication attempt.

Acceptance plugin Diskspace:

checks if there is enough disk space for the SPOOL and STORAGE directories

diskspace.spool_size

minimum size needed for the SPOOL directory, in bytes

diskspace.storage_size

minimum size needed for the STORAGE directory, in bytes

diskspace.should_abort

specifies is the thread for that repository should be stopped in case the diskspace test fails.
Values=True|False
Default is True

repositories.conf variables:

Post plugin Cleanup:

cleans some files

repositories.conf variables:

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repositories.conf variables:

The acceptance plugins can also, when they fail, invoke report plugins.

The nomenclature to set the report plugins for this case is similar to the general case, but adding string

```
"acceptance.<name_of_the_acceptance_plugin>."
```

at the beginning of the option name.

For example, to allow acceptance plugin "Diskspace" to notify failures via email:

```
acceptance.diskspace.reportplugins = Email  
acceptance.diskspace.report.email.admin_email = neo@matrix.net  
acceptance.diskspace.report.email.smtp_server = my.email.server
```

Plugins interfaces:

```
class RepositoryPluginReportInterface(object):
```

```
    def notifyfailure(self, custommsg=None):  
        raise NotImplementedError
```

```
    def notifysuccess(self):  
        raise NotImplementedError
```

```
class RepositoryPluginAcceptanceInterface(object):
```

```
    def verify(self):  
        raise NotImplementedError
```

```
    def _notify_failure(self, msg):  
        raise NotImplementedError
```

```
class RepositoryPluginPostInterface(object):
```

```
    def run(self):  
        raise NotImplementedError
```