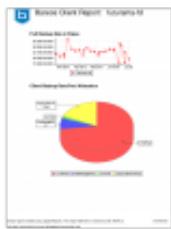# Project Ideas

Here we gather some ideas that could be of interest for contributors. Interested in one of those or have other suggestions? Just join our mailinglists, discuss or propose and start contributing. It's Open Source!

You would like to see a certain feature coming, are not able to develop it yourself, but want to contribute financially instead? Just take a look at the co-funding-page over at bareos.com and pick a project you would like to support.

Reporting Templates

Want to have nice looking graphs of backup jobs, number of files backed up, time needed for jobs and all kind of statistics?

There is a lot of information inside the database and waiting for some dataminers to start working on reporting interfaces to make this information visible to the administrators and IT managers.

This could be a standalone reporting application, smartphone/tablet app or just templates or graph definitions for common used reporting tools like Crystal Reports or the open source standard reporting tool Jaspersoft.

We already have a whitepaper about reporting with Jasper.

Postgres Plugin

OK, there is bpipe, pg_dump command and some other stuff but Postgres has an own backup mechanism, that offers hot-backups and point-in-time (PIT) recovery, compare http://www.postgres ql.org/docs/9.4/static/continuous-archiving.html.

To make use of this feature a Python-plugin would be a great idea. Here are some outlines for such a plugin:

- Bareos FD and Python Postgres plugin must be installed on each Postgres Server that should go into backup
- Generally perform basebackup and WAL file backups continuosly
- Full Backup takes basebackup + wal files created during basebackup

- Incremental backup fetches new and modified wal files since last incremental (full, if no incremental backup was taken after last full) backup
- Each backup creates a recovery.conf file in the backup with basic information needed for recovery, among them
    - earliest and latest possible timestamp for recovery (default is latest possible)
    - other settings needed, to initiate immediate recovery
- Restore Options
    - Files only
        - The files including the basebackup, wal files, postgres configuration files will be restored to the original place or any other place on a bareos client.
        - The restore locaction can be set as with any other Bareos restore job
        - The DBA may than process this files (i.e. edit the recovery.conf file and proceed with recovery)
    - Posgres recovery
        - Will be initiated by giving "recovery:" in the where-paramater of the backup job (or plugin option)
        - Files will be restored to the original locations as above
        - recovery.conf as created during backup will be written to the right place
        - Postgres will be started in recovery mode from the plugin, Posgres will then evaluate recovery.conf and start the recovery process
        - Options to the recovery process can be appended to the where string
            - recovery_target_name: timestamp-name for point-in-time (pit) recovery
            - recovery_target_time: timestamp for pit recovery
            - recovery_target_xid: transaction id for pit.
            - eventually others or generic way to specifiy any options for recovery
        - Alternative instead of restoring all wal files
            - only restore database files without wal files and recocery.conf
            - recovery.conf sets restore_command = to a commandline that is capable of restoring a named file from Bareos. To achieve this, additional scripting work is needed.
            - Advantage: Postgres triggers restore of only needed files from Bareos for the given recovery task.
- Documentation inside doc.bareos.org
    - Working sample commands for use case
        - file only restore
        - postgres recovery to latest possible time
        - postgres recovery to a given timestamp
- Working sample configuration

There is already an open source project called Barman, which implements these ideas and more but design is a little bit different. Any suggestions how to ingegrate Barman with Bareos are also appreciated.

Interested in starting work on this? Just get in contact on the mailinglist.