

# Open World Forum 2013

- Bareos is a pure Open Source fork of the bacula.org project
- Agenda
  - Bareos introduction
  - New features
  - Open source strategy and community contribution

# Bareos Introduction

- Fork started in 2010, because
  - Most community contributions were rejected by bacula.org
  - Slow progress at bacula.org
  - New features mainly in Bacula Enterprise (Open Core like license, not freely available, not allowed to distribute code)
  - Bugfixes are kept back

# Bareos Introduction

- Bareos is 100% Open Source:
  - AGPL
  - Backward compatible to bacula.org backup data and most configuration
  - Big rename due to fact that Bacula is a Trademark.
  - Code cleanup and re-factoring

# Bacula vs. Bareos

- Bacula interest declining (google trends)



- Bareos interest growing (downloads per week)

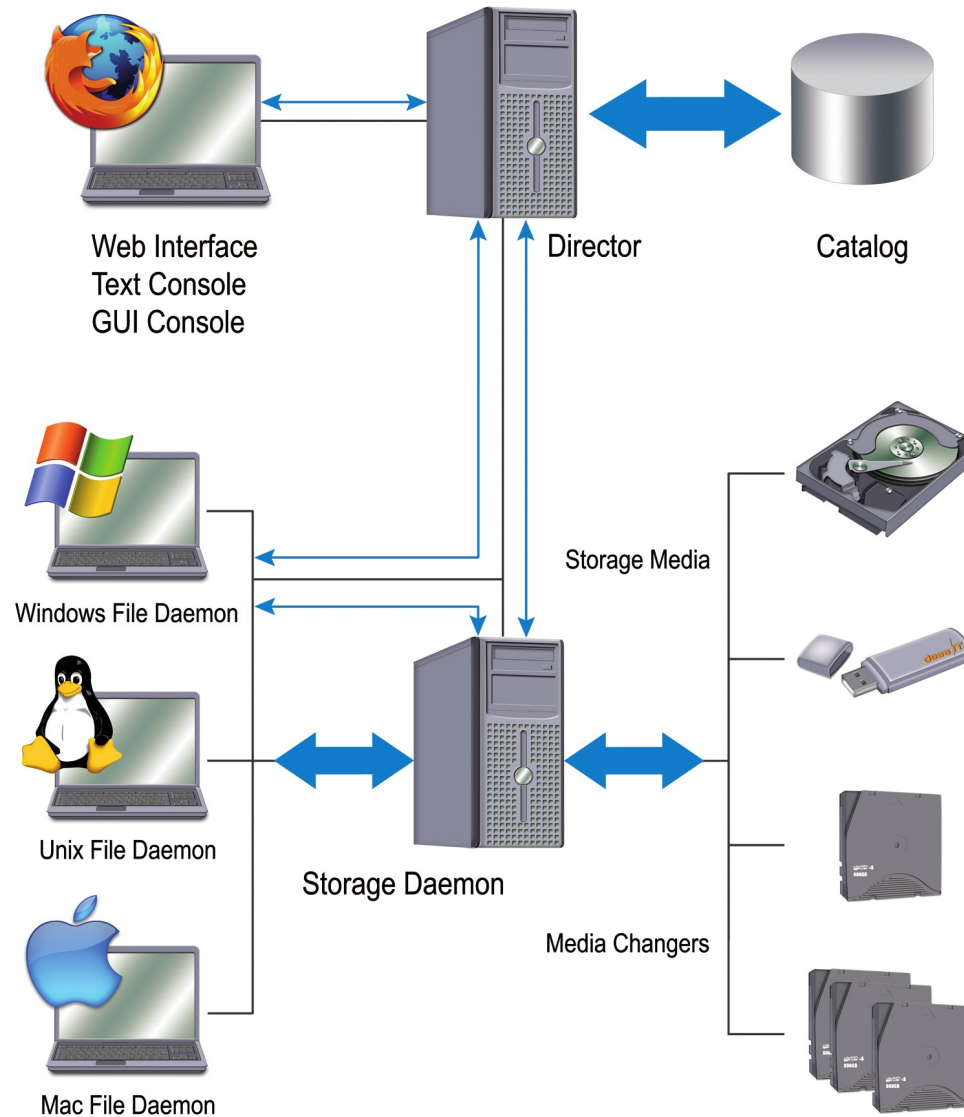


Bacula is a registered trademark of Kern Sibbald  
Bareos is a registered trademark of Bareos GmbH & Co. KG

# Bareos Overview

- All common sense features of a network backup system, like
- Multiplatform support: Linux, Unix, Windows, MacOS
- Scheduler with multi generation support (Full-, differential-, incremental, virtual full, accurate, ...)
- Inventory (“catalog”) in database (MySQL, Postgres)
- Restore via CLI or GUI on any client
- Encrypted data, transport, ACLs, ...
- Backup media: disk, tape, library, cloud
- Scripting interface for pre- and post - jobs

# Architecture Overview



# New Features Overview

- Support for hardware encryption with LTO (4 and upwards) and enterprise tape libraries
- Client-quota support
- Native NDMP Support
- Import/export for tape changer (e.g. export all tapes used by a certain job)
- Fileset shadowing deduplication
- Bandwidth limitation
- Windows Backup „all (local) drives“ option in fileset definition and Windows File daemon

# New Features Overview

- Out of the box standard configuration, which works reasonable in most environments
- New configuration / scheduler directive:
  - Last day of week in a month (e.g. last Friday)
  - Modulo scheduler (run every n days/weeks / months)
  - Select files by file size (e.g. exclude very large files)
  - Scheduler preview
- Console
  - Rerun jobid=id reruns a previous job with exact the same parameters again



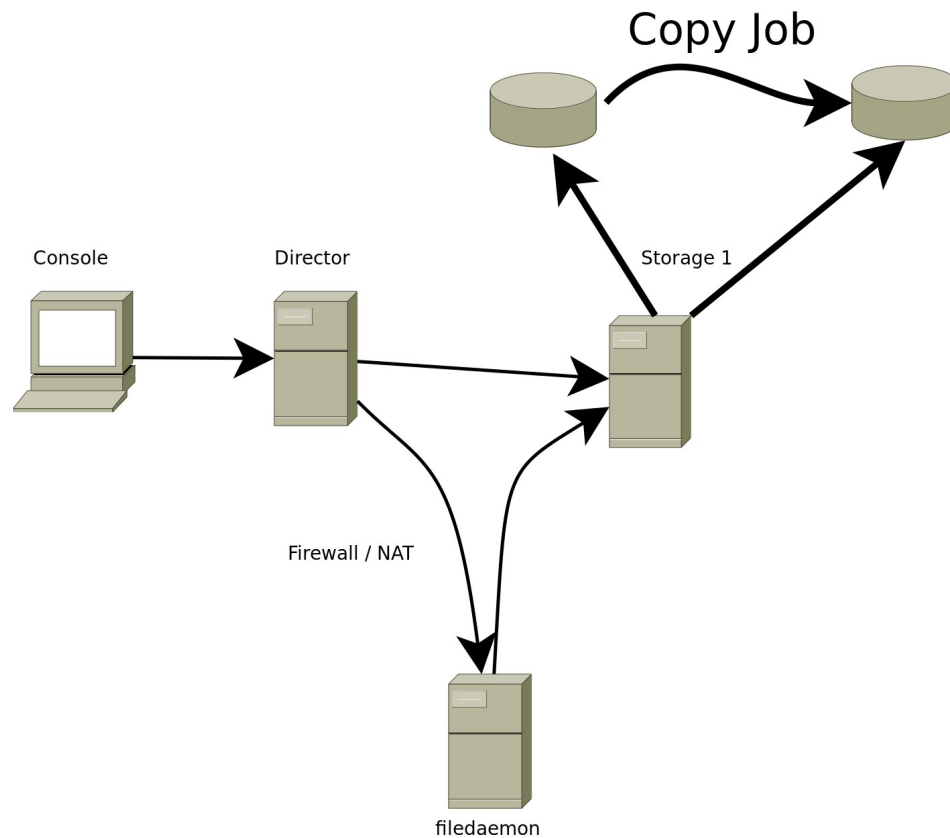
# New Features Overview

- Dynamic loading of catalog backends
- Repacking using Open Build Server
  - All packages out of one source / specfile
  - Fedora, CentOS, RedHat Enterprise Linux
  - OpenSuse, Suse Linux Enterprise Server
  - Debian, Ubuntu, Univention Corporate Server
  - Windows Installer Packages with lean redesign of cross compile makefiles, silent install possible



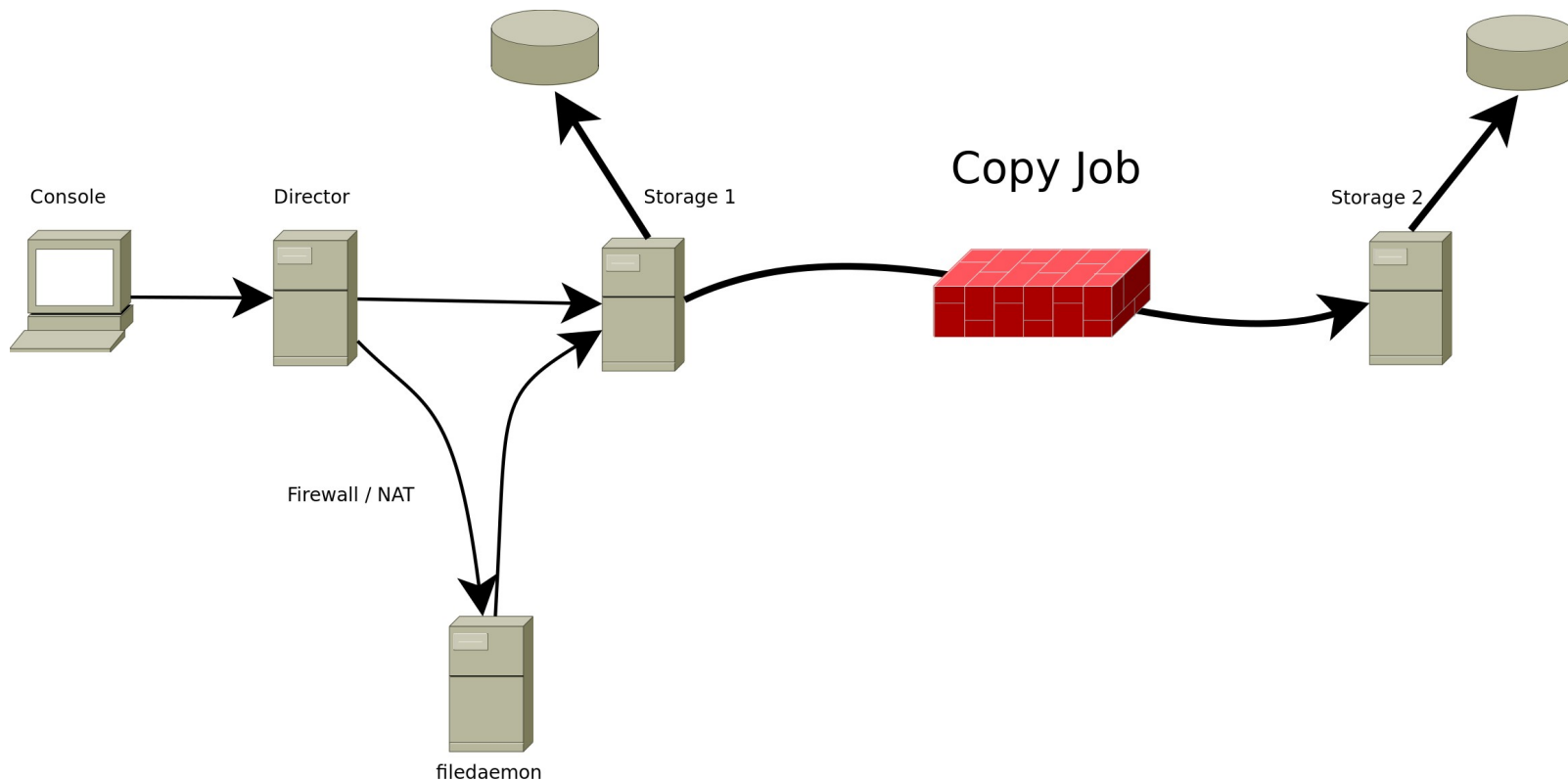
# 13.2: Backup Replication

- Until now: replication only within the same storage daemon possible



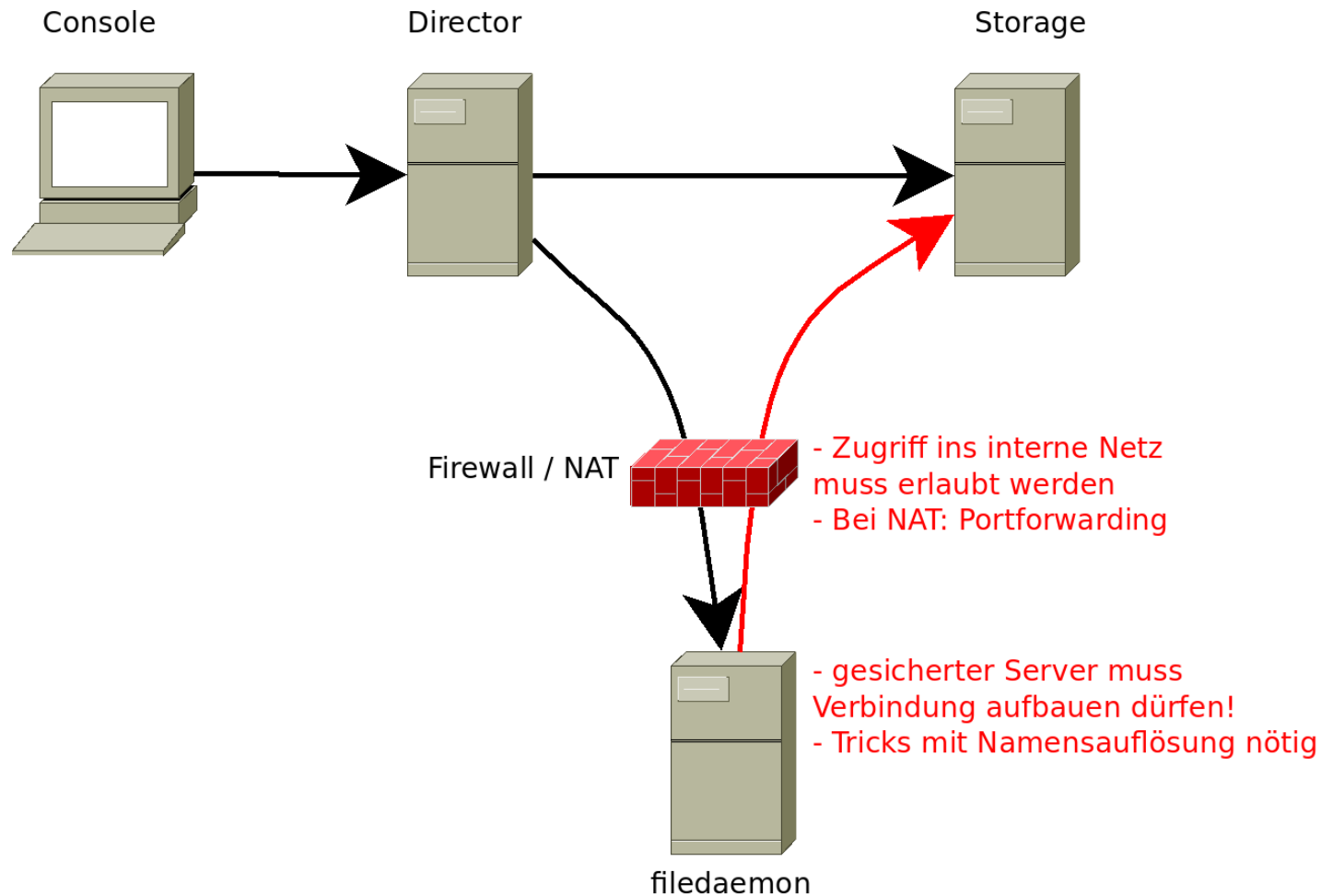
## 13.2: Backup Replikation

- With new SD to SD communication:



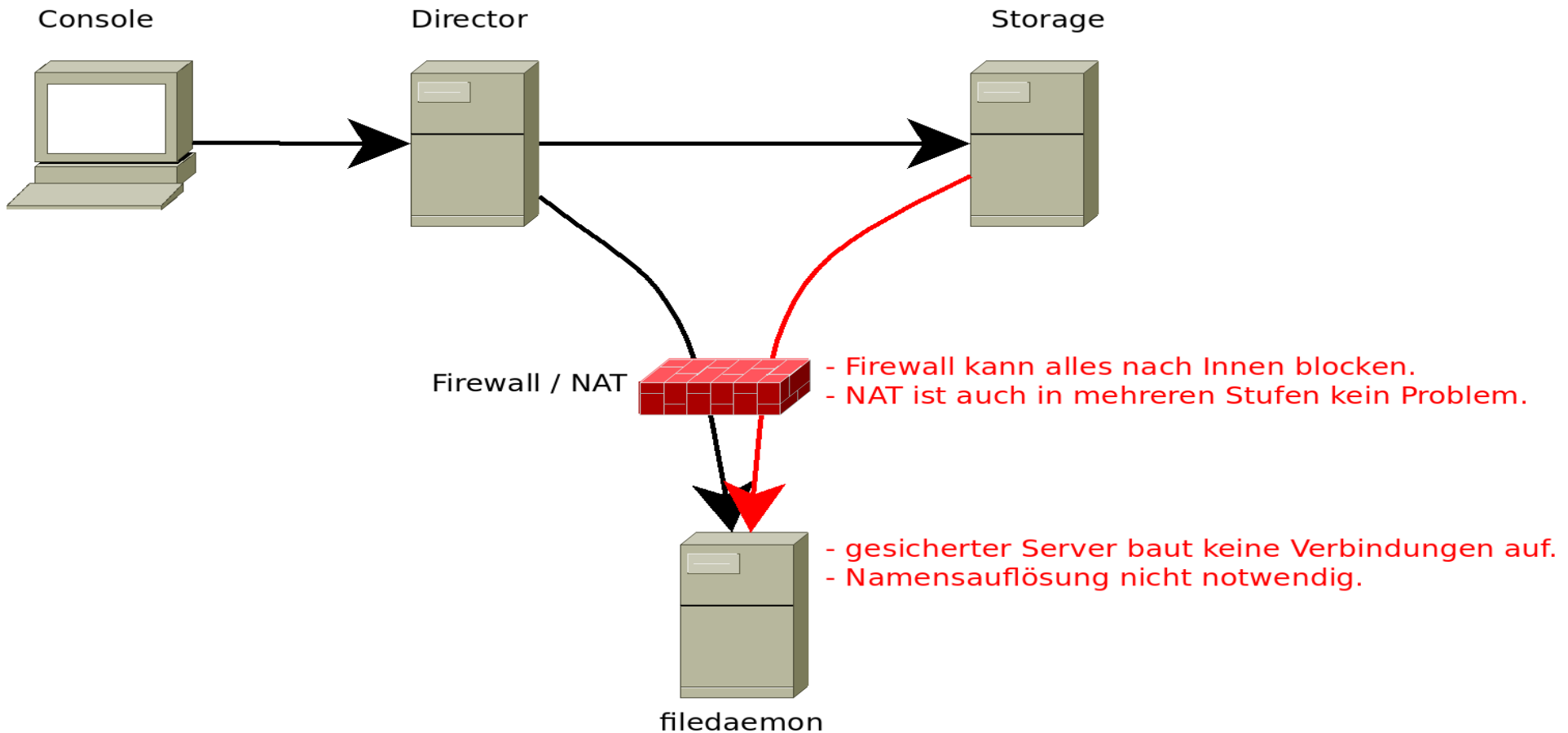
# Backup DMZ Clients (old)

Kommunikation bisher:



# Backup DMZ Clients (13.2)

## Kommunikation mit "Passive Client":



# Roadmap

- Next stable Release 13.2 in Q4/2013
- Upcoming releases 2014
  - Configuration API
  - Python ready plugin interface
  - VMWare API support
  - MSSQL Plugin with Point in Time Recovery (PIT)

# Opensource Development

- Source code hosted on Github
  - Ability to fork code and make own changes to the code and feed back enhancements via pull-requests to forked upstream.
  - Proper code review in the future where we will try to get more people involved in the development. Due to ability to fork the code people can also develop on their own and receive code review that way and we can pull in changes when we approve them.

# Code Contributions

- When code doesn't get merged people can continue their own development and when things look more promising and people find the other code better things can always be merged later on.
- A source fork is not bad but just shows a vibrant community.



# Build Process

- Combined tools
- GIT repository, fully automated process after checkin:
  - Regression tests
  - Documentation
  - Package and repository builds
  - Continuous Integration tests for supported platforms
  - Nightly builds repository published
  - Virtual images preconfigured, ready to test created out of nightly builds repository

# Build Process: Tools

- Regression tests (~80 original Bacula Tests → ~130 Bareos regression tests)

Login

All Dashboards

Monday, September 16 2013 08:17:46 UTC

Bareos

Dashboard

Calendar

Previous

Current

Project

No file changed as of Sunday, September 15 2013 - 22:00 UTC

Show Filters

Advanced View

Auto-refresh

Help

Nightly

| Site                                                  | Build Name                                   | Update | Configure |      | Build |      | Test    |                 |                   | Build Time  |
|-------------------------------------------------------|----------------------------------------------|--------|-----------|------|-------|------|---------|-----------------|-------------------|-------------|
|                                                       |                                              | Files  | Error     | Warn | Error | Warn | Not Run | Fail            | Pass              |             |
| dassIT-bareos-regression-bacula-regression-sles10-32  | 13.3.0-01Aug13-mysql-suse-10                 | 0      | 0         | 0    | 3     | 5    | 0       | 0               | 130               | 8 hours ago |
| PlanetsCommunications-bareos-iapetus                  | 13.3.0-01Aug13-postgresql-SunOS-solaris-5.11 | 0      | 0         | 0    | 0     | 10   | 0       | 0 <sub>.1</sub> | 113 <sup>+1</sup> | 1 hour ago  |
| dassIT-bareos-regression-bacula-regression-centos5-32 | 13.3.0-01Aug13-sqlite3-centos-5.9            | 0      | 0         | 0    | 0     | 17   | 0       | 0 <sub>.1</sub> | 130 <sup>+1</sup> | 6 hours ago |
| PlanetsCommunications-bareos-iapetus                  | 13.3.0-01Aug13-sqlite3-SunOS-solaris-5.11    | 0      | 0         | 0    | 0     | 10   | 0       | 0               | 113               | 2 hours ago |
| dassIT-bareos-regression-bacula-regression-centos5-64 | 13.3.0-01Aug13-mysql-centos-5.9              | 0      | 0         | 0    | 0     | 17   | 0       | 1               | 129               | 4 hours ago |
| dassIT-bareos-regression-bacula-regression-centos5-32 | 13.3.0-01Aug13-mysql-centos-5.9              | 0      | 0         | 0    | 0     | 17   | 0       | 1               | 129               | 3 hours ago |
| dassIT-bareos-regression-bacula-regression-centos6-64 | 13.3.0-01Aug13-mysql-centos-6.3              | 0      | 0         | 0    | 0     | 17   | 0       | 1               | 129               | 8 hours ago |
| dassIT-bareos-regression-bacula-regression-centos6-32 | 13.3.0-01Aug13-mysql-centos-6.3              | 0      | 0         | 0    | 0     | 17   | 0       | 1               | 129               | 6 hours ago |
| dassIT-bareos-regression-bacula-regression-sles11-32  | 13.3.0-01Aug13-mysql-suse-11                 | 0      | 0         | 0    | 3     | 17   | 0       | 1 <sup>+1</sup> | 129 <sub>.1</sub> | 6 hours ago |
| dassIT-bareos-regression-bacula-regression-centos5-64 | 13.3.0-01Aug13-postgresql-centos-5.9         | 0      | 0         | 0    | 0     | 18   | 0       | 1               | 129               | 3 hours ago |

# Build Process: Tools

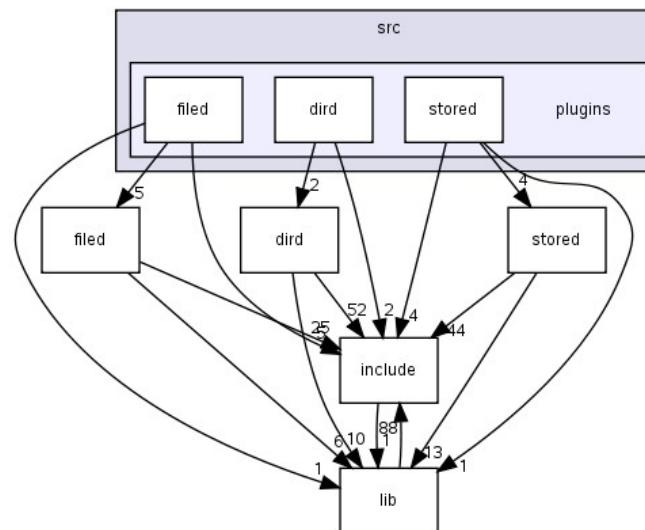
- Combined tools
  - GIT
  - Travis
  - Doxygen

bareos

| Main Page | Related Pages | Namespaces | Classes | Files |
|-----------|---------------|------------|---------|-------|
| bareos    | src           | plugins    |         |       |

## plugins Directory Reference

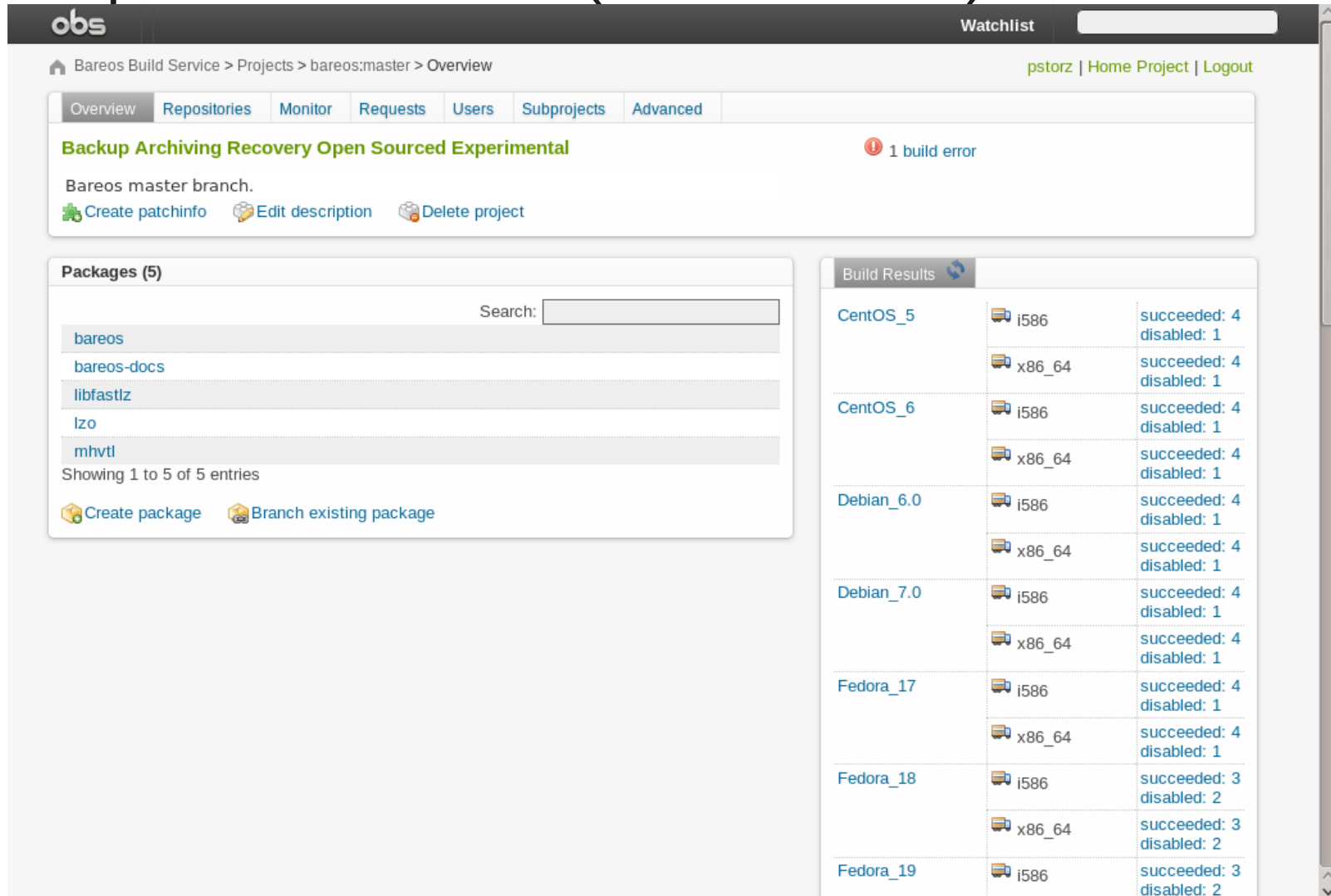
Directory dependency graph for plugins:



## Directories

# Build Process: Tools

## – Open Build Server (own instance)



The screenshot shows the Open Build Service (OBS) web interface. The top navigation bar includes the OBS logo, a Watchlist, and a search bar. The main header shows the current path: Bareos Build Service > Projects > bareos:master > Overview. The user is logged in as pstorz, with links to Home Project and Logout.

The Overview tab is selected, showing the project name "Backup Archiving Recovery Open Sourced Experimental" and a status of "1 build error". Below this, there are links to "Create patchinfo", "Edit description", and "Delete project".

The "Packages (5)" section lists the following packages:

- bareos
- bareos-docs
- libfastlz
- lzo
- mhvtl

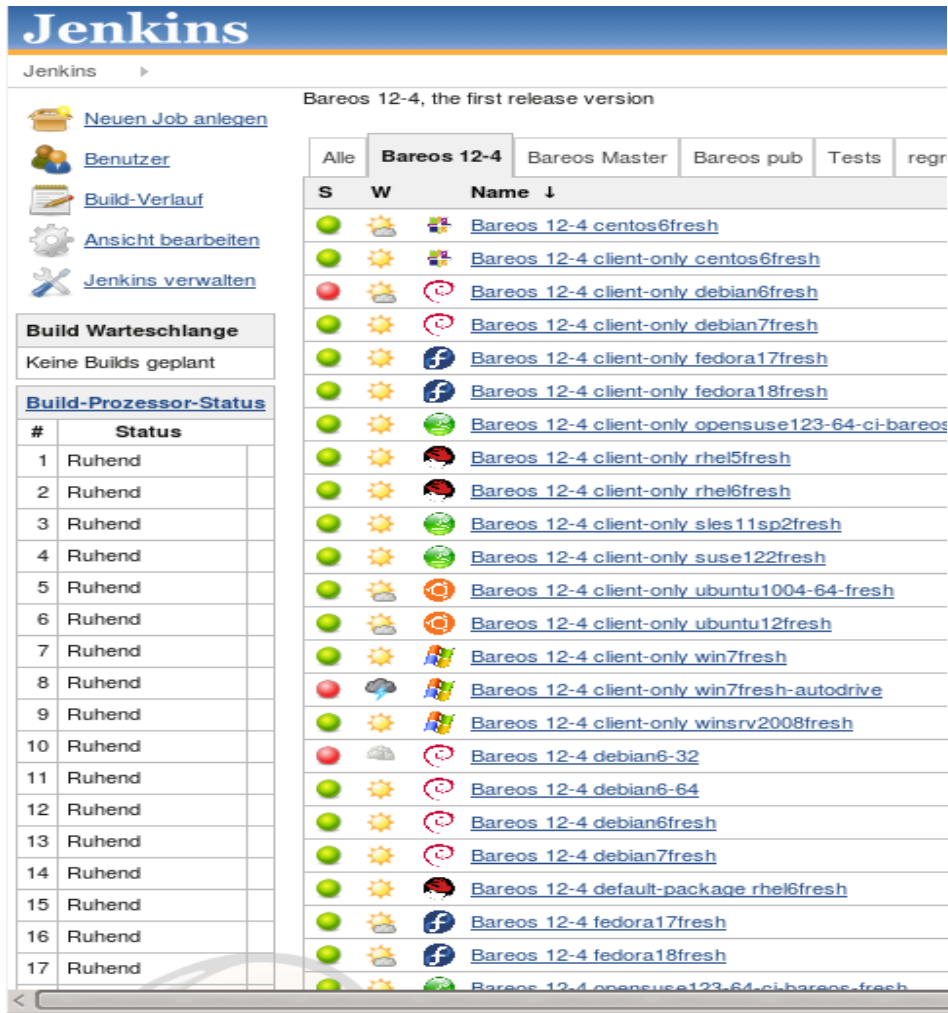
Showing 1 to 5 of 5 entries. Links for "Create package" and "Branch existing package" are provided.

The "Build Results" section shows a table of build results for various operating systems and architectures:

| OS         | Architecture | Build Status                |
|------------|--------------|-----------------------------|
| CentOS_5   | i586         | succeeded: 4<br>disabled: 1 |
|            | x86_64       | succeeded: 4<br>disabled: 1 |
| CentOS_6   | i586         | succeeded: 4<br>disabled: 1 |
|            | x86_64       | succeeded: 4<br>disabled: 1 |
| Debian_6.0 | i586         | succeeded: 4<br>disabled: 1 |
|            | x86_64       | succeeded: 4<br>disabled: 1 |
| Debian_7.0 | i586         | succeeded: 4<br>disabled: 1 |
|            | x86_64       | succeeded: 4<br>disabled: 1 |
| Fedora_17  | i586         | succeeded: 4<br>disabled: 1 |
|            | x86_64       | succeeded: 4<br>disabled: 1 |
| Fedora_18  | i586         | succeeded: 3<br>disabled: 2 |
|            | x86_64       | succeeded: 3<br>disabled: 2 |
| Fedora_19  | i586         | succeeded: 3<br>disabled: 2 |

# Build Process: Tools

- Jenkins CI tests, install packages on each supported distribution **Project Bareos.org\_nightly\_Debian**



**Jenkins**

Jenkins >

[Neuen Job anlegen](#)

[Benutzer](#)

[Build-Verlauf](#)

[Ansicht bearbeiten](#)

[Jenkins verwalten](#)

**Build Warteschlange**

Keine Builds geplant

**Build-Prozessor-Status**

| #  | Status |
|----|--------|
| 1  | Ruhend |
| 2  | Ruhend |
| 3  | Ruhend |
| 4  | Ruhend |
| 5  | Ruhend |
| 6  | Ruhend |
| 7  | Ruhend |
| 8  | Ruhend |
| 9  | Ruhend |
| 10 | Ruhend |
| 11 | Ruhend |
| 12 | Ruhend |
| 13 | Ruhend |
| 14 | Ruhend |
| 15 | Ruhend |
| 16 | Ruhend |
| 17 | Ruhend |

Bareos 12-4, the first release version

| Alle | Bareos 12-4 | Bareos Master                                                    | Bareos pub | Tests | regre |
|------|-------------|------------------------------------------------------------------|------------|-------|-------|
| S    | W           | Name ↓                                                           |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 centos6fresh</a>                         |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only centos6fresh</a>             |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only debian6fresh</a>             |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only debian7fresh</a>             |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only fedora17fresh</a>            |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only fedora18fresh</a>            |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only opensuse123-64-ci-bareos</a> |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only rhel5fresh</a>               |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only rhel6fresh</a>               |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only sles11sp2fresh</a>           |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only suse122fresh</a>             |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only ubuntu1004-64-fresh</a>      |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only ubuntu12fresh</a>            |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only win7fresh</a>                |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only win7fresh-autodrive</a>      |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 client-only winsrv2008fresh</a>          |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 debian6-32</a>                           |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 debian6-64</a>                           |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 debian6fresh</a>                         |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 debian7fresh</a>                         |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 default-package rhel6fresh</a>           |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 fedora17fresh</a>                        |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 fedora18fresh</a>                        |            |       |       |
| ●    | ☀           | <a href="#">Bareos 12-4 opensuse123-64-ci-bareos-fresh</a>       |            |       |       |

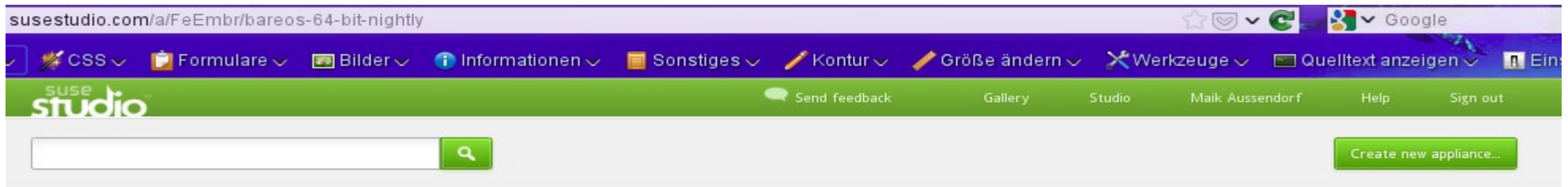
Prototype with new scripting framework and matrix for client-only and databases


| Configuration Matrix |                    |    | void | mysql | postgresql | sqlite3 |
|----------------------|--------------------|----|------|-------|------------|---------|
| 6.0                  | bareos-client-only | 32 | ●    | ●     | ●          | ●       |
|                      |                    | 64 | ●    | ●     | ●          | ●       |
|                      | bareos-all-daemons | 32 | ●    | ●     | ●          | ●       |
|                      |                    | 64 | ●    | ●     | ●          | ●       |
| 7.0                  | bareos-client-only | 32 | ●    | ●     | ●          | ●       |
|                      |                    | 64 | ●    | ●     | ●          | ●       |
|                      | bareos-all-daemons | 32 | ●    | ●     | ●          | ●       |
|                      |                    | 64 | ●    | ●     | ●          | ●       |

|                                          |                                              |                       |  |
|------------------------------------------|----------------------------------------------|-----------------------|--|
| 9 Tage 0 Stunden - <a href="#">#42</a>   | 9 Tage 12 Stunden - <a href="#">#41</a>      | 12 Minuten            |  |
| 3 Monate 4 Tage - <a href="#">#25</a>    | 6 Monate 7 Tage - <a href="#">#20</a>        | 9 Minuten 18 Sekunden |  |
| 6 Tage 19 Stunden - <a href="#">#178</a> | 1 Monat 4 Tage - <a href="#">ssh problem</a> | 12 Minuten            |  |
| 6 Tage 17 Stunden - <a href="#">#42</a>  | 1 Monat 1 Tag - <a href="#">ssh</a>          | 7 Minuten 55 Sekunden |  |
| 6 Tage 19 Stunden - <a href="#">#79</a>  | Unbekannt                                    | 3 Minuten 56 Sekunden |  |
| 6 Tage 18 Stunden - <a href="#">#194</a> | 9 Tage 13 Stunden - <a href="#">#191</a>     | 11 Minuten            |  |
| 6 Tage 18 Stunden - <a href="#">#210</a> | 6 Tage 19 Stunden - <a href="#">#209</a>     | 14 Minuten            |  |
| 6 Tage 19 Stunden - <a href="#">#72</a>  | 1 Monat 16 Tage - <a href="#">#45</a>        | 20 Minuten            |  |

# Build Process: Tools

- Suse Studio: builds pre-configured appliances





## bareos 64 bit nightly

Published by [Philipp Storz](#) Based on [openSUSE 12.3](#) 64-bit x86 Homepage at <http://www.bareos.com>

**bareos** (Backup Archiving REcovery Open Sourced) is a open source backup solution.

The server part of bareos can run on virtually **any \*NIX System, Linux, \*BSD and Solaris**.

The client part of bareos runs also on **Mac OS** and on **Windows**.

Forked from the bacula project in 2010, we have many new features while still being **100% open source software**.


This appliance contains a preconfigured installation using the latest packages of our **master** branch and it includes a **ready-to-use virtual tapelibrary**.


For more info, see [www.bareos.org](http://www.bareos.org) and [www.bareos.com](http://www.bareos.com)


0 comments

### Download

Downloaded 204 times Cloned 6 times


 Media


 Virtual

 Cloud

### Open Virtualization Format (OVF)

The **OVF format** is an open standard for packaging and distributing virtual appliances. It is not tied to any particular hypervisor or system architecture.

 OVF Image, 703 MB, x86\_64  
MD5: 3d9c3f8497c9c11134758317371e1809




VMware / VirtualBox / KVM image

### Version 2013.10.0304

Updated about 7 hours ago

[Clone appliance...](#)

### Testdrive



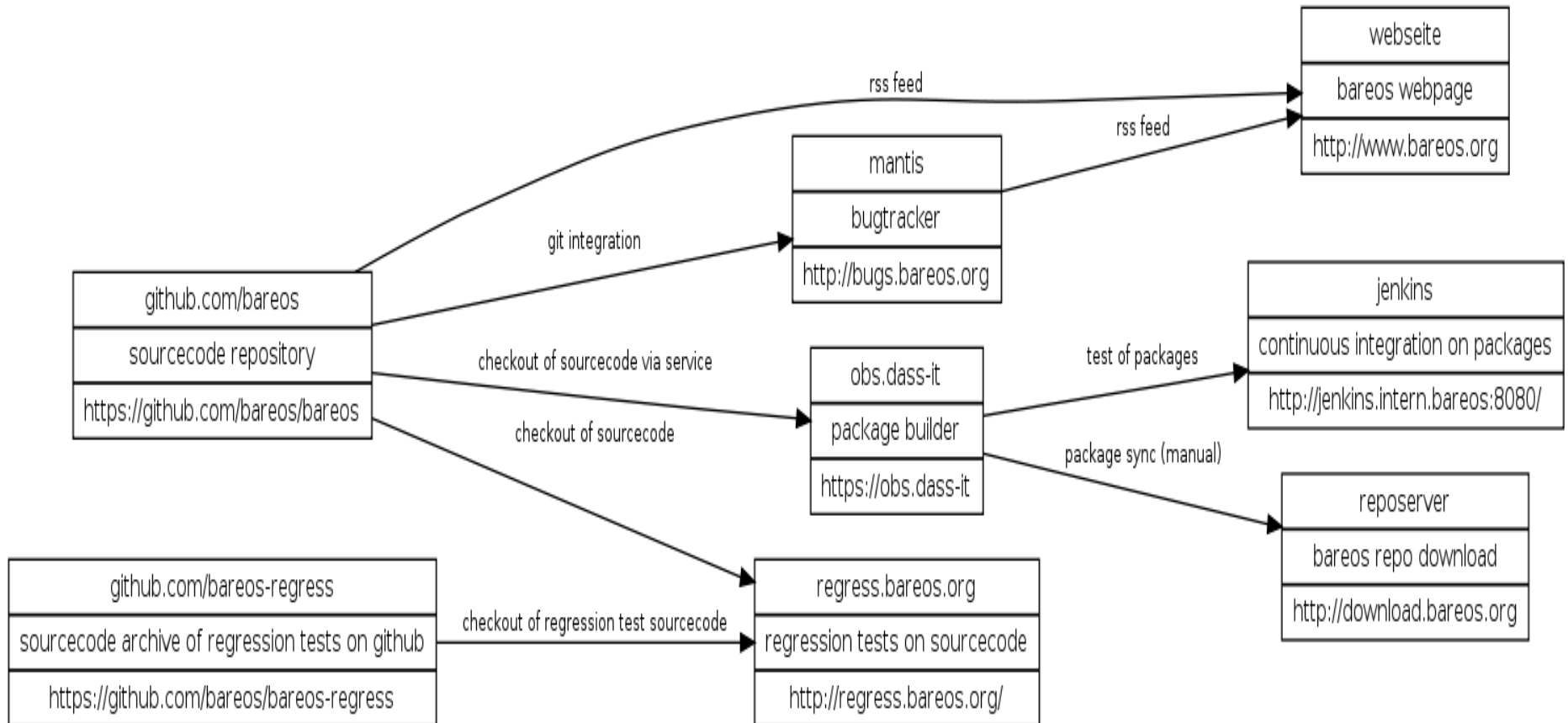
### Tags

[Open](#), [Recovery](#), [Backup](#), [Sourced](#), [Archiving](#)

### Older releases

- [Version 2013.10.0204](#) – 1 days old
- [Version 2013.10.0104](#) – 2 days old
- [Version 2013.09.3004](#) – 3 days old
- [Version 2013.09.2804](#) – 5 days old
- [Version 2013.09.2704](#) – 6 days old
- [Version 2013.09.2104](#) – 12 days old
- [Version 2013.09.2004](#) – 13 days old
- [Version 2013.09.1804](#) – 15 days old
- [Version 2013.09.1704](#) – 16 days old
- [Version 2013.09.1604](#) – 17 days old
- [Version 2013.09.1504](#) – 18 days old

# Build Process



# Contribute

- Things to do (examples)
  - Application Backup Plugins
    - IMAP (single mailbox restore, ...)
    - MS Exchange (single mail restore)
    - Databases
  - Windows end user client: plug and play restore, eventually as context menu for explorer
  - Web GUI
  - Reporting
  - ....



# Project Funding

- Company behind: Bareos GmbH & Co. KG
  - Privately held by developers and project founders
  - Subscription and support model built on 100% open source
  - Growing partner network for on site services and reselling subscriptions

# Contact and links

- Community, Documentation, Download:  
<http://www.bareos.org>
- Subscription, Support, References, Partner:  
<http://www.bareos.com>
- GIT:  
<https://github.com/bareos>
- Bug- and feature- tracker Mantis:  
<https://bugs.bareos.org>