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)
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:
Kommunikation bisher:

- Zugriff ins interne Netz muss erlaubt werden
- Bei NAT: Portforwarding
- gesicherter Server muss Verbindung aufbauen dürfen!
- Tricks mit Namensauflösung nötig

Bacula is a registered trademark of Kern Sibbald
Bareos is a registered trademark of Bareos GmbH & Co. KG
Backup DMZ Clients (13.2)

Kommunikation mit "Passive Client":

- Firewall kann alles nach Innen blocken.
- NAT ist auch in mehreren Stufen kein Problem.
- gesicherter Server baut keine Verbindungen auf.
- Namensauflösung nicht notwendig.
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)
Build Process: Tools

- Combined tools
  - GIT
  - Travis
  - Doxygen
Build Process: Tools

- Open Build Server (own instance)
Build Process: Tools

- Jenkins CI tests, install packages on each supported distribution

Project Bareos.org_nightly_Debian

Prototype with new scripting framework and matrix for client-only and databases
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 MacOS 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 tape library.

For more info, see www.bareos.org and www.bareos.com

Download

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.
Build Process

github.com/bareos
sourcecode repository
https://github.com/bareos/bareos

github.com/bareos-regress
sourcecode archive of regression tests on github
https://github.com/bareos/bareos-regress

rss feed
mantis
bugtracker
http://bugs.bareos.org

rss feed
obs.dass-it
package builder
https://obs.dass-it

check out of sourcecode
jenkins
continuous integration on packages
http://jenkins.intern.bareos:8080/

test of packages
package sync (manual)
reposerver
bareos repo download
http://download.bareos.org

check out of regression test sourcecode
regress.bareos.org
regression tests on sourcecode
http://regress.bareos.org/

website
bareos webpage
http://www.bareos.org
Contribute

- Thinks 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