



Bareos and its OPSI integration

www.bareos.org

Agenda

1. What is Bareos?
2. How to integrate Bareos into an OPSI environment?

What is Bareos?

Bareos

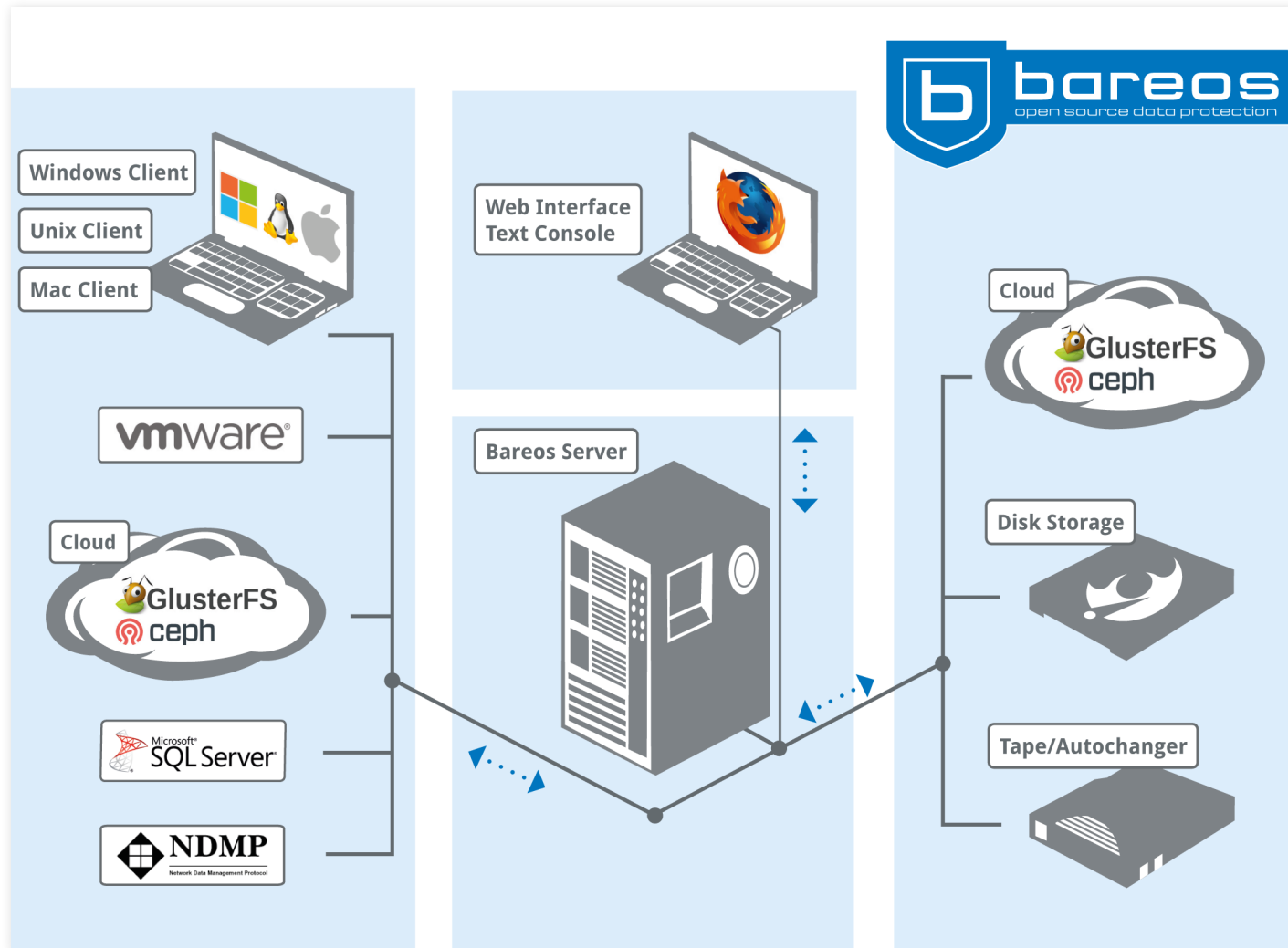
- Bareos: **B**ackup **A**rchiving **RE**covery **O**pen **S**ourced
- Network based multi-platform backup solution
- License: AGPL, 100% open source
- <https://github.com/bareos/>
- Core written in C/C++
- Forked from Bacula in 2010
- One major release every year
 - current: bareos-17.2.5

Multi-platform

Installation packages for

- bareos.org/bareos.com
 - CentOS, Debian, Fedora, openSUSE, RHEL, SLES, Ubuntu, Univention Corporate Server
 - Windows 32/64 bit
 - macOS
 - FreeBSD
 - UNIX: AIX, HP-UX, Solaris
- Included in following distributions
 - Arch Linux, Debian, FreeBSD, Gentoo, Ubuntu Universe

Network Backup with Bareos



Features

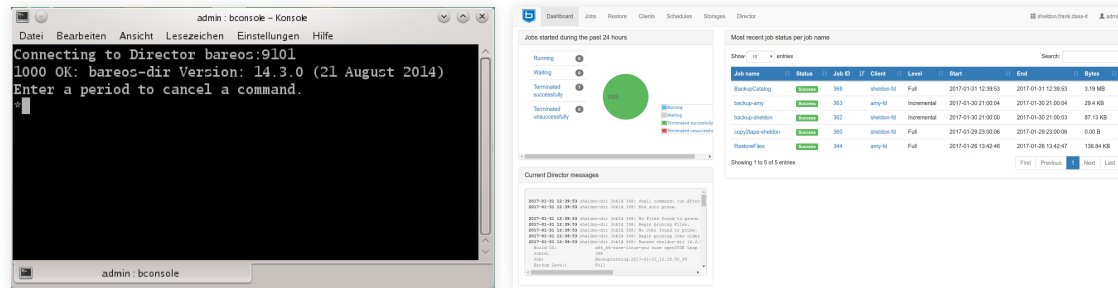
- All common features of a backup solution are supported
- Full, Differential and Incremental backups
- Always Incremental
- Backup Management
 - Volume Management
 - Retention periods
- Flexible Scheduling
- Flexible network setup
 - Director, Storage Daemon, File Daemon
- Quota support
- API / scripting
- Plugin Support
 - C/C++ and Python plugins

Features: Security

- Challenge-response authentication
- TLS
- Client: Data Encryption
- Tape: LTO encryption (hardware, keys stored in Bareos Catalog)
- Audit Log
- Secure Erase Command
- ACLs
- File Daemon: restricted mode

Features

- Different User Interfaces: bconsole, bareos-webui



ACL support

- Full multi-tenancy support
- Definitions of rules and roles
- Users can only access and see data according to role
- Prerequisite for WebUI as self-service-portal for restore

Webui: restore

The screenshot shows the Bareos WebUI interface for the restore process. The browser address bar indicates the URL is localhost/bareos-webui/restore/. The navigation menu includes Dashboard, Director, Filesets, Pools, Volumes, Storages, Clients, Jobs, and Restore. The user is logged in as user1.

Client: bareos-debian-fd

Backups: (2) 2015-09-24 05:50:08 -

Merge all client filesets? Yes

Merge jobs? Yes

Restore to client: bareos-debian-fd

Restore job: RestoreFiles

Replace files on client? never

Restore location on client: /tmp/bareos-restores/

Select files to be restored

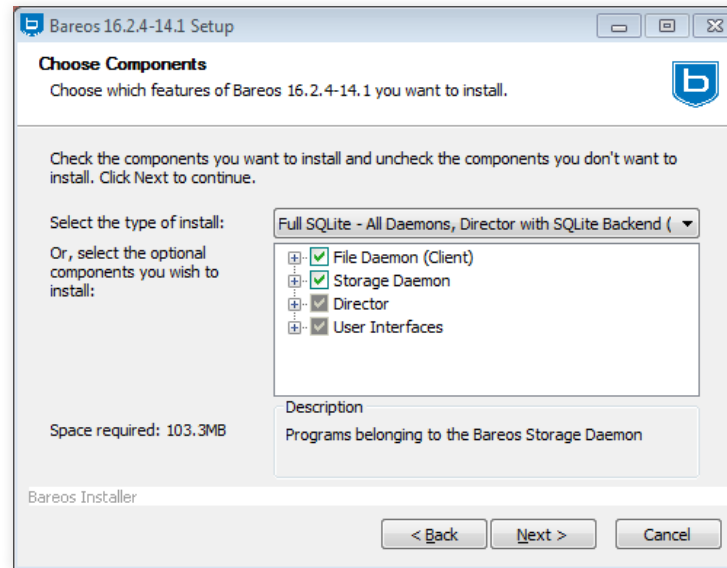
Name	Size	Date
/	0	Thu, 01 J
etc/	0	Thu, 01 J
bareos/	4096	Thu, 24 S
.rndpwd	522	Thu, 24 S
bareos-dir.conf	10661	Thu, 24 S
bareos-dir.d/	4096	Thu, 24 S
bareos-fd.conf	1475	Thu, 24 S
bareos-sd.conf	1924	Thu, 24 S
bareos-sd.d/	4096	Fri, 18 Se
bconsole.conf	200	Thu, 24 S
tray-monitor.conf	651	Thu, 24 S
usr/	0	Thu, 01 J
sbin/	12288	Thu, 24 S
var/	0	Thu, 01 J
lib/	0	Thu, 01 J

Restore

Bareos WebUI Version 15.2.0 © 2013 - 2015 Bareos GmbH & Co. KG, GNU Affero General Director: localhost-dir

How to integrate Bareos
into an OPSI environment?

Windows Installer



- FD, SD and Director can be selected
- configuration of the Windows Firewall
- NSIS installer
- silent install options
- OPSI package
- cross-compiled on Linux
 - <http://openbuildservice.org/>

Bareos Windows packages

- <http://download.bareos.org/bareos/release/17.2/>
 - winbareos-17.2.4-postvista-32-bit-r8.1.exe (NSIS)
 - winbareos-17.2.4-postvista-64-bit-r8.1.exe (NSIS)
 - debug/
 - winbareos-17.2.4-postvista-debug-32-bit-r8.1.exe
 - winbareos-17.2.4-postvista-debug-64-bit-r8.1.exe
 - opsi/ (*usable by opsi-package-updater*)
 - winbareos_17.2.4-8.1.opsi
 - winbareos_17.2.4-8.1.opsi.md5
 - winbareos_17.2.4-8.1.opsi.zsync
 - deb/all/
 - winbareos-opsi_17.2.4-8.1_all.deb
 - rpm/
 - winbareos-opsi-17.2.4-8.1.noarch.rpm
 - (*contains /var/lib/opsi/repository/winbareos_17.2.4-8.1.opsi*)

opsi-config-editor

- `opsi-package-manager --install --properties ask winbareos_17.2.4-8.1.opsi`
- set depot specific default values

The screenshot displays the opsi-config-editor application window. The main area shows a list of products with columns for Product-ID, Status, Report, and Version. The 'winbareos' product is highlighted, and its configuration properties are shown in the right-hand pane.

Property-Name	Property-Wert
auto config	true
director address	opsi.intern.bareos
director name	bareos-dir
director password	*****
filedaemon client address	desktop-idtqsug.intern.bareos
filedaemon full name	desktop-idtqsug.intern.bareos-fd
filedaemon full password	*****
filedaemon monitor name	desktop-idtqsug.intern.bareos-mon
filedaemon monitor password	*****
install architecture	system specific

Bareos OPSI packages properties

- auto_config
 - true: (re-)generate configuration from OPSI properties
- Bareos File Daemon
 - filedaemon_client_address
 - FQDN or IP. Default: HostID
 - Client -> OPSI via opsiservicecall()
 - filedaemon_full_name
 - Bareos File Daemon name. Default: HostID-fd
 - Client -> OPSI via opsiservicecall()
 - filedaemon_full_password

Bareos OPSI packages properties

- Bareos Console
- director_address
 - FQDN of the Bareos Director.
- director_name
 - Name of the Bareos Director.
- director_password
- Bareos Director (only used by OPSI integration script)
 - jobdefs
 - fileset
 - ...

opsiclient

- <http://trac.dass-it.de/pub/browser/opsi/server/dass-opsi-tools>
- http://download.opensuse.org/repositories/home:/dassit:/opsi:/opsi-opsi-tools-*.noarch.rpm
- requires `python-json-rpc` from <http://json-rpc.org>

```
```\n$ opsiclient listClients --product winbareos\ndesktop-idtgsug.intern.bareos\n$ opsiclient info desktop-idtgsug.intern.bareos\ndesktop-idtgsug.intern.bareos:\n  IP: 10.20.240.227\n  MAC: 6e:60:3b:d5:02:95\n  inventory:\n  serial number: None\n  last seen: 2018-02-23 03:27:48\n  notes:\n  depot: opsi.intern.bareos\n  products:\n```\n```\n
```

# opsiclient

```
...
winbareos:
 installed (none)
 {
 'actionProgress': '',
 'actionRequest': 'none',
 'actionResult': 'successful',
 'actionSequence': -1,
 'clientId': 'desktop-idtgsug.intern.bareos',
 'installationStatus': 'installed',
 'lastAction': 'setup',
 'modificationTime': '2018-02-22 18:01:30',
 'packageVersion': '10.1',
 'productId': 'winbareos',
 'productType': 'LocalbootProduct',
 'productVersion': '17.2.5',
 'targetConfiguration': 'installed',
```

```
'type': 'ProductOnClient'
}
$ opsiclient update --help
update:
 --ip IP
 --mac MAC
 --description DESCRIPTION
 --notes NOTES
 --inventory INVENTORY
 --depot DEPOT
$ opsiclient --nagios clientLastSeen desktop-idtgsug.intern.bareos
CRITICAL - 2018-02-23 03:27:48 (5 days, 14:58:09.460010 ago)
$ opsiclient listInstalled winbareos
desktop-idtgsug.intern.bareos: 17.2.5-10.1 (proposed action=None)
```

```
$ opsiclient createBareosConfigFiles --defaultfileset
"Windows All Drives"
desktop-idtgsug.intern.bareos: OK`
```

# OPSI Integration Script

```
$ opsiclient createBareosConfigFiles --defaultfileset
"Windows All Drives"
desktop-idtgsug.intern.bareos: OK
```

- creates
  - /etc/bareos/bareos-dir.d/client/opsi-clients-generated.conf
  - /etc/bareos/bareos-dir.d/job/opsi-jobs-generated.conf

```
$ echo "reload" | bconsole
Connecting to Director localhost:9101
1000 OK: bareos-dir Version: 17.2.5 (14 Feb 2018)
Enter a period to cancel a command.
reload
reloaded
```

# Disaster Recovery (DR)

- Bareos main purpose is to backup and restore files
- DR has additional requirements, like booting, hard disk preparation, ...
- **Linux:** Bareos utilize the excellent tool <http://relax-and-recover.org/>
- **VMware:** Bareos VMware Plugin can backup and restore VMware virtual machines
- **Windows:** WIP: we plan to develop a solution together with <https://www.uib.de/> that utilizes the OPSI boot image to restore the backup

# opsiconf.org



opsi 6./7.3.2018  
conf.org

home konferenz workshops locations sponsoring

opsi – Client Management –  
Konferenz in Mainz:  
06. / 07. März 2018

Anmeldung beendet

Community Prozess – Continuous Integration – Best Practice und Anwendungsbeispiele  
opsi-Roadmap 4.1 und die Zukunft.

# osbconf.org



Open Source Backup CONFERENCE

HOME CALL FOR PAPERS LOCATION EVENING EVENT CONTACT ABOUT ARCHIV TICKETS

OPEN SOURCE BACKUP CONFERENCE

GET YOUR TICKET

WHEN 26.09.2018

WHERE Cologne, Germany  
Dorint Hotel An der Messe Köln

**Open Source Backup Conference**

Core theme of the OSBConf is the development and application of open source software solutions for data backup - covering latest developments, conveying strategic knowledge and presenting empirical reports. The conference agenda includes strategic presentations, best practices, case studies and technical talks on open source backup solutions such as BAREOS, REAR and AMANDA. The annual congress provides an ideal opportunity for backup specialists to meet up, exchange views and establish ties with other community members. Influential representatives, decision makers and developers from the international open source community seize the opportunity to exchange ideas with other members of the open source community, to initiate future-oriented projects and to gain practical experience.



# Bareos Packages

Private instance of <http://openbuildservice.org/>

Bareos Build Service > Projects > bareos:bareos-16.2 > Status Monitor joergs | Home Project | Logout

Overview Repositories **Monitor** Requests Users Subprojects Advanced

Filter: Status: Packagename: Repository: Architecture: Last time results:

	CentOS_5		CentOS_6		CentOS_7	Debian_7.0		Debian_8.0		SLE_11_SP4		SLE_12_SP1	win_cross	xUbuntu_12.04		xUbuntu_14.04	
	i586	x86_64	i586	x86_64	x86_64	i586	x86_64	i586	x86_64	i586	x86_64	x86_64	x86_64	i586	x86_64	i586	x86_64
bareos	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded		succeeded	succeeded	succeeded	succeeded
bareos-docs									succeeded								
bareos-vadp-dumper					succeeded				succeeded		succeeded	succeeded					
bareos-vmware-plugin					succeeded				succeeded		succeeded	succeeded					
bareos-vmware-vix-disklib					succeeded				succeeded		succeeded	succeeded					
bareos-webui					succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded		succeeded	succeeded	succeeded	succeeded
libfastlz	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded		succeeded	succeeded	succeeded	succeeded
libjansson	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded		succeeded	succeeded	succeeded	succeeded
lzo	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded	succeeded		succeeded	succeeded	succeeded	succeeded
mingw-debugsrc													succeeded				
mingw32-winbareos													succeeded				
mingw64-winbareos													succeeded				
python-py											succeeded						
python-pyvmomi											succeeded	succeeded					
python-requests											succeeded						
python-six											succeeded						
winbareos-nsi													succeeded				
winbareos-opsi													succeeded				

# Bareos Packages

- <http://download.bareos.org/bareos/release/latest/>
- **bareos**, bareos-bat, bareos-bconsole, bareos-client, bareos-common, bareos-database-common, bareos-database-mysql, **bareos-database-postgresql**, bareos-database-sqlite3, bareos-database-tools, bareos-director, bareos-director-python-plugin, **bareos-filedaemon**, bareos-filedaemon-ceph-plugin, bareos-filedaemon-glusterfs-plugin, bareos-filedaemon-ldap-python-plugin, bareos-filedaemon-python-plugin, bareos-storage, bareos-storage-ceph, bareos-storage-glusterfs, bareos-storage-python-plugin, bareos-storage-tape, bareos-tools, bareos-traymonitor, bareos-vadp-dumper, bareos-vmware-plugin, bareos-vmware-vix-disklib, **bareos-webui**, libfastlz

# Console ACL configuration

```
Console {
 Name = user1
 Password = secret
 Command ACL = !delete, *all*
 Catalog ACL = MyCatalog
 Client ACL = client1-fd, client2-fd
 FileSet ACL = Linux.*
 Job ACL = backup-client1, restore-client1, backup-client2
 Plugin Options ACL = *all*
 Pool ACL = *all*
 Schedule ACL = *all*
 Storage ACL = *all*
 Where ACL = *all*
}
```