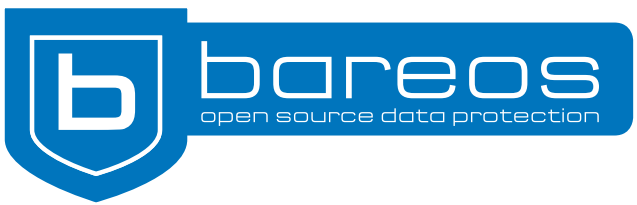
WELCOME TO THE BAREOS EXPERT CIRCLE 18.SEP.2025



- Agenda
  - Presentation with Q&A and Polls ~30 Minutes
  - Open Discussion ~30 Minutes

PRESENTATION

- High availability of a Bareos System
- Upcoming features in Bareos 25 (Nov 25)
  - Barri : Windows Desaster Recovery Image Tool
  - Hyper-V Plugin
  - Proxmox Plugin
  - Tapealert Handling

HIGH AVAILABILITY OF BAREOS

- System state of a Bareos system:
  - Configuration files
  - Database
  - Media

HA: CONFIGURATION FILES

- configuration files can be easily synchronized
  - rsync
  - scp
  - ansible, puppet etc.

HA: DATABASE

- Postgresql has its own way to allow HA setups
  - warm standby server with log shipping
  - streaming replication

HA: MEDIA

- take media offline (export)
- highly available storage system
- snapshots
- WORM media
- VTL with mirroring

QUESTIONS?

BARRI: THE BAREOS RECOVERY IMAGER

- Bareos Windows disaster recovery solution
- creates disaster recovery image **in running** Windows
- backs up mass storage devices via VSS snapshots

ARCHITECTURE

- Fd plugin `barri-fd` on Windows
- `barri-cli` on Windows
- Fd plugin `barri-fd` on Linux
- `barri-cli` on Linux

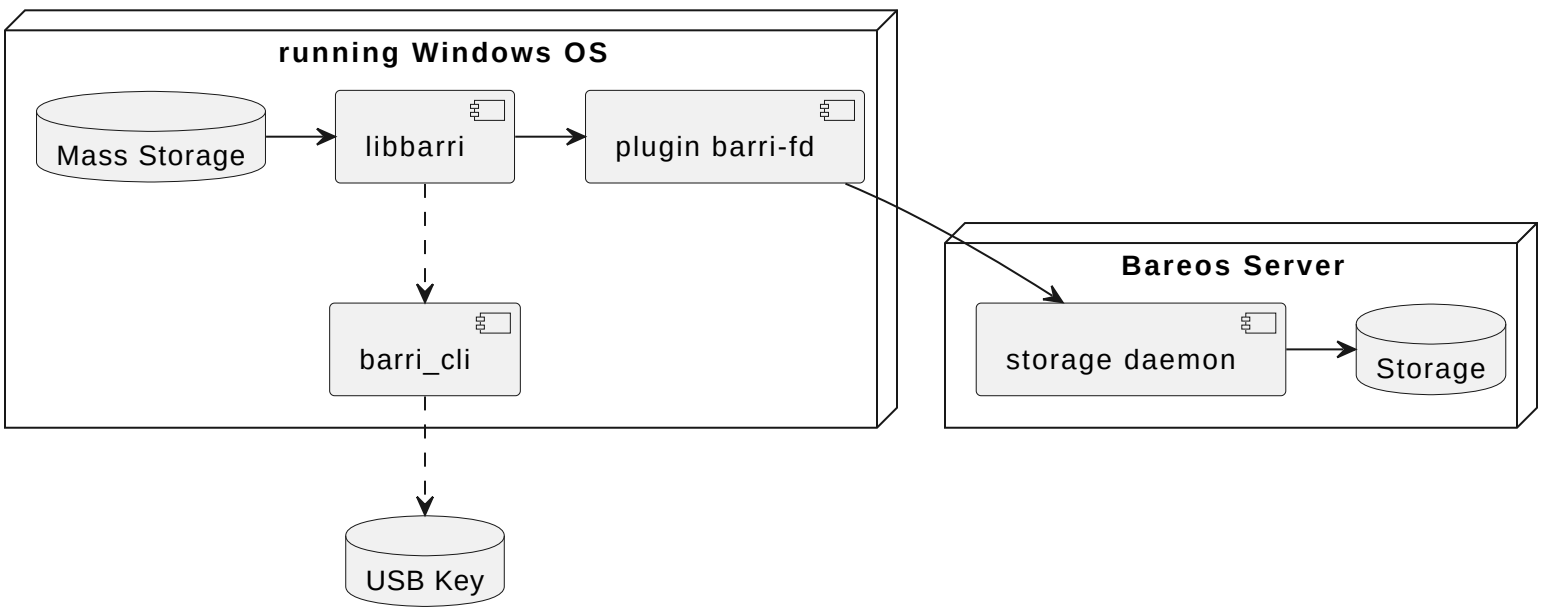
BACKUP OPERATION

- Fd plugin `barri-fd` on Windows starts backup
- creates vss snapshots of all windows filesystems
- backs up partition table and all filesystems
- **only used blocks** backed up from snapshotted fs
- stored into a virtual `.barri` file in Bareos

ALTERNATIVE BACKUP OPERATION VIA CLI

- Do backup via `barri-cli.exe` on Windows
- Write `.barri` file to external drive
- Data can be written to stdout
- e.g. through `zstd` for compression

BACKUP OPERATIONS



LINUX RECOVERY OPERATION WITH FD

- linux emergency recovery system
- filedaemon with the `barri-fd` on linux
- recovery the virtual `.barri` file
- write data back to mass storage devices

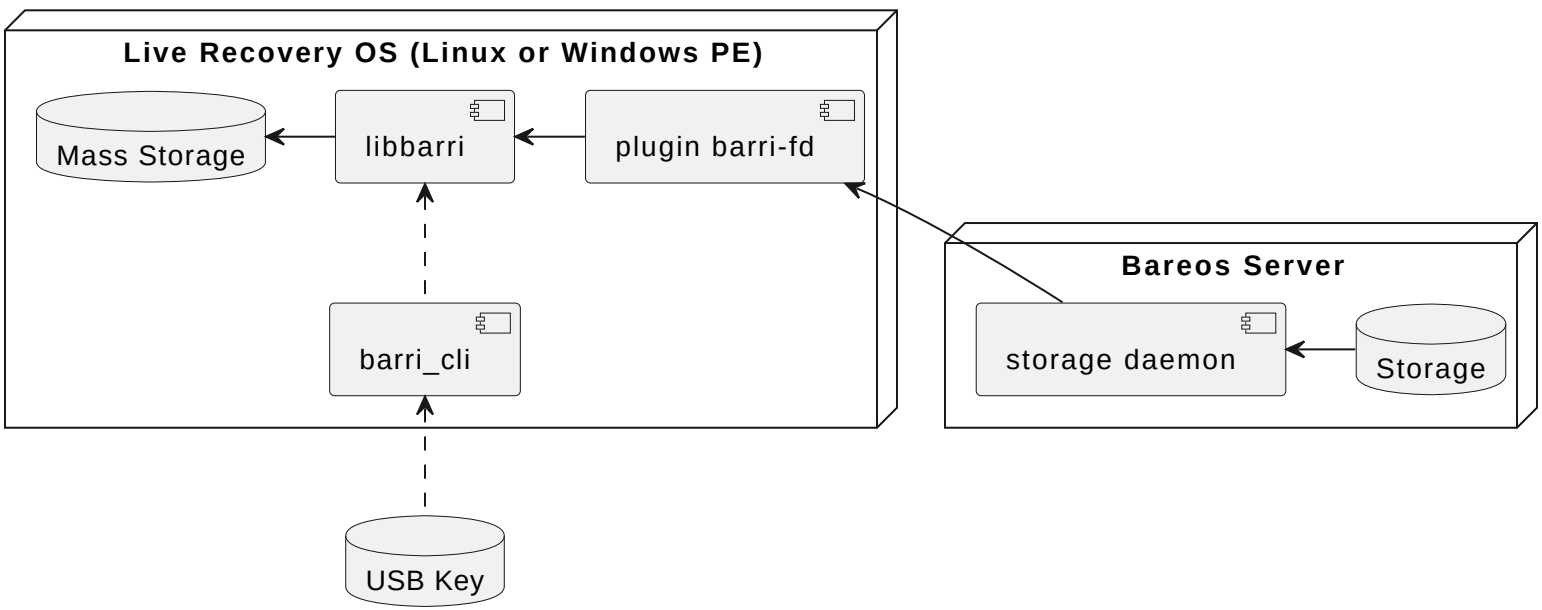
LINUX RESTORE OPERATION WITH BARRI-CLI

- linux emergency recovery system
- recover via `barri-cli` on linux
- read `.barri` file from external drive
- can read from stdin
- write data to devices
- optional: write to individual disk files

WINDOWS: RESTORE OPTIONS WITH BARRI-CLI

- recover via Windows PE system
- required if storage driver not available on linux
- recover via `barri-cli.exe` on windows
- read `.barri` file from file or stdin
  - write data to devices
  - write to individual disk files
  - write data to `.vhdx` files for hyper-v

RESTORE OPERATIONS



BARRI PERFORMANCE

- Windows Laptop with 256 GiB Disk and fast USB Stick
- Image creation compress via zstd: 2:00 Minutes

```
barri-cli.exe save --ignore-disks 1 | zstd -o dump.barri.zstd
```

- Image recovery from WinPE uncompress via zstd: 2:55 Minutes

```
zstd -d --stdout dump.barri.zstd | barri-cli.exe restore --disks 0
```

QUESTIONS?

HYPER-V PLUGIN

- Backup Virtual Machines running on Hyper-V
- Full and Incremental Backups
- Can recover directly to VM
- Can also recover single disks (. vhdx)
- Supports resilient change tracking

QUESTIONS?

PROXMOX PLUGIN

- Full backup of Proxmox guests
- VM and container guests
- restore
  - direct to guest (VM/CT)
  - to disk, recover through Proxmox GUI

QUESTIONS?

TAPEALERT SD PLUGIN

- Tapealert is a standard for tapedrives and robots
- Tapealert Flags can be read via scsi bus
- Information about the status of tapedrives and robots
- Can contain info, warnings and error messages
- Examples: Drive Temperature, Drive Voltage, Expired Cleaning Tape

TAPEALERT SD PLUGIN

- tapealert status is read at many occasions
- whenever tapealert flags are set, these info is logged
- easier to understand what problem exists in the system
- possibly react according to tapealert status

TAPEALERT SD PLUGIN

```
12-Sep 10:12 bareos-sd: Warning: Tapealert on device "tape"
  with volume "A00014L4" from jobid 12: [21] Clean Periodic
The tape drive is due for routine cleaning:
1. Wait for the current operation to finish.
2. Then use a cleaning cartridge.
Check the tape drive users manual for device specific cleaning
  instructions.
Possible cause: The drive is ready for a periodic clean
```

QUESTIONS?

THANK YOU VERY MUCH!

- Documentation: docs.bareos.org
- Mailinglist: bareos-users@googlegroups.com
- x.com/bareos_backup
- Sourcecode: github.com/bareos/bareos
- subscription, support, consulting available via: www.bareos.com
- philipp.storz@bareos.com

OPEN DISCUSSION