



EOS-Home Backup Prototype

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Current Status

- 16K users, 524M files, 49M of directories, 3PB of data
- Script based
 - Total backup
 - Incremental backup
- Restore process is tedious (a lot of manual work)

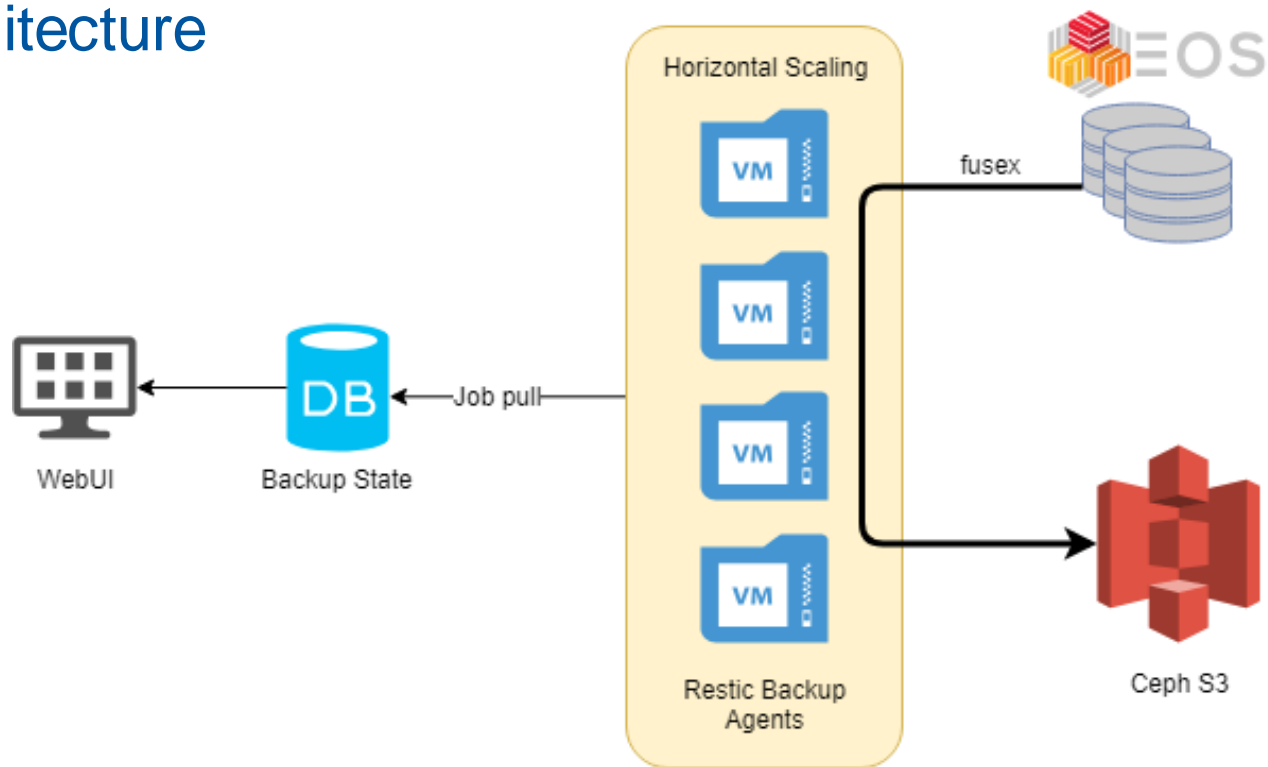


restic

- <https://github.com/restic/restic>
- Easy, fast and secure
- Repository, Snapshot based
- Multiple backends (local, sftp, S3, Swift, Backblaze B2, Azure, Google Cloud, rclone...)

```
restic -r <repo> init # Initialize repository
restic -r <repo> backup <path> # Backup a folder
restic -r <repo> snapshots # List snapshots
restic -r <repo> restore <snap_id> -t <target> # Restore
```

Architecture



Pending

0

Running

0

Completed

320

Failed

16

Show

100

entries

Search:

	Id	User	Instance	Status	Started	Finished	Duration	Worker	Snapshots	Info
Enabled	1		home-a	Backup Completed	30-01-2019 11:12:26	30-01-2019 11:12:32	0 minutes	cbox-restic-2.cern.ch:27351	3	N(0/0) C(0/2) U(22/0) - 1.171 KiB
Enabled	2		home-a	Backup Completed	30-01-2019 10:41:36	30-01-2019 10:41:58	0 minutes	cbox-restic.cern.ch:11981	4	N(0/0) C(0/2) U(122/0) - 840 B
Enabled	3		home-a	Backup Completed	30-01-2019 11:58:38	30-01-2019 12:00:07	1 minute	cbox-restic-2.cern.ch:27351	3	N(0/0) C(2/2) U(8172/0) - 45.248 KiB
Enabled	4		home-a	Backup Completed	30-01-2019 12:32:37	30-01-2019 12:32:44	0 minutes	cbox-restic.cern.ch:11981	4	N(0/0) C(0/2) U(45/0) - 840 B
Enabled	5		home-a	Backup Completed	30-01-2019 12:13:20	30-01-2019 12:13:27	0 minutes	cbox-restic-2.cern.ch:26881	3	N(0/0) C(0/2) U(0/0) - 837 B
Enabled	6		home-a	Backup Completed	30-01-2019 11:40:32	30-01-2019 11:40:45	0 minutes	cbox-restic-2.cern.ch:26879	3	N(5/0) C(8/2) U(175/0) - 2.797 MiB
Enabled	7		home-a	Backup Completed	30-01-2019 10:41:03	30-01-2019 10:41:12	0 minutes	cbox-restic.cern.ch:11979	4	N(2/0) C(3/2) U(32/0) - 8.878 KiB
Enabled	8		home-a	Backup Completed	30-01-2019 11:12:44	30-01-2019 11:17:13	4 minutes	cbox-restic.cern.ch:11981	4	N(8/0) C(1/2) U(22727/0) - 1.695 MiB
Enabled	9		home-a	Backup Completed	30-01-2019 12:08:23	30-01-2019 12:08:30	0 minutes	cbox-restic-2.cern.ch:26879	3	N(0/0) C(0/2) U(9/0) - 837 B
Enabled	10		home-a	Backup Completed	30-01-2019 13:38:13	30-01-2019 13:38:25	0 minutes	cbox-restic.cern.ch:11979	4	N(0/0) C(0/2) U(1/0) - 840 B
Enabled	11		home-a	Backup Completed	30-01-2019 12:08:09	30-01-2019 12:08:17	0 minutes	cbox-restic-3.cern.ch:7003	3	N(0/0) C(0/2) U(25/0) - 839 B
Enabled	12		home-a	Backup Completed	30-01-2019 10:41:55	30-01-2019 10:42:59	1 minute	cbox-restic-3.cern.ch:7003	5	N(0/0) C(0/2) U(1799/0) - 839 B
Enabled	13		home-a	Backup Completed	30-01-2019 10:56:21	30-01-2019 10:56:41	0 minutes	cbox-restic-3.cern.ch:8090	3	N(0/0) C(0/2) U(1122/0) - 1.170 KiB

Restore

- Flexible

```
restic [...] restore <snap_id> -t <dir> # full restore
restic [...] restore -i|-e <pat> <snap_id> -t <dir> # partial restore
restic [...] mount <mount_point> # fuse mount
```

- Easy to access repository information (--json)
- Integrate restore procedures in end-user tools
 - CERNBox Web?

Conclusion

- WIP Prototype
- Initial results are promising:
 - 200 accounts (~5M files) in 1h using 3 VMs (9 backup agents, incremental* backup)
 - No optimizations done yet.

Thanks.
Q/A

