Proxmox Backup Server

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IMT Mines Albi

Proxmox

- Logiciel libre avec option support payant
- 3 produits / service
- https://proxmox.com/en/proxmox-ve
- https://proxmox.com/en/proxmox-backup-server
- https://proxmox.com/en/proxmox-mail-gateway

Pricing PBS

- https://proxmox.com/en/proxmox-backup-server/pricing
- 449 / 898 / 1796 / 3592 EUR HT/an
- Community / basic / standard / premium
- https://forum.proxmox.com/

Proxmox et debian

- PVE et PBS : base debian + repo apt
- PVE 6.x PBS 1.x = debian 10
- PVE 7.x PBS 2.x = debian 11
- Proxmox EOL >= debian EOL
- https://pve.proxmox.com/wiki/FAQ

Repository Apt

- Si support payant alors acces au repo apt “enterprise” via clés a saisir dans la Web UI et reçues après paiement
- Sinon repo “no-subscription” (ou “test”)
- Entreprise plus conservateur en version que no-subscription
- https://pve.proxmox.com/wiki/Package_Repositories
- Installation via ISO ou via apt par dessus une debian

Mises à jour

- apt-get update && apt dist-upgrade
- Ou via web UI
- Changement de version majeure bien documentées
- Note : incluant mise à jour majeure ceph pour PVE
- https://pbs.proxmox.com/wiki/index.php/Upgrade_from_1.1_to_2.x
- https://pve.proxmox.com/wiki/Upgrade_from_6.x_to_7.0

Apports proxmox

- Kernel incluant ZFS
- Pour PVE qemu/KVM à jour
- Démons et command line PVE (perl) et PBS (rust) - systemd
- Fichiers de config flat file dans /etc/pve ou /etc/proxmox-backup-server
- Installeur graphique simple et efficace incluant ZFS
- Boot UEFI multi disque
- UI web port 8006 pour PVE et 8007 pour PBS

Roadmap

- https://pbs.proxmox.com/wiki/index.php/Roadmap
- Listes de diffusion publiques et revue de patch
- Utilisées par les salariés pour leur patch
- Patch communautaires acceptés (exemple OVS pour PVE contribué)
- Ajout progressif gestion de bandes

PBS en bref

- Sauvegarde déduplication / compression
- Pour block basé sur les bitmaps de qemu/KVM pour ne sauver que les blocks modifiés depuis le dernier backup
- Pour filesystem : peu efficace car lecture complete (pas d’optimisation mtime/ctime)
- Si VM eteinte ou KVM stop/start : relecture complete aussi
- Block : lié a PVE
- Filesystem : outil command line indépendant (linux récent)

Configuration PBS

```
root@backup2:~# cat /etc/proxmox-backup/datastore.cfg
datastore: datastore2
        path /mnt/datastore/datastore2
root@backup2:~# ls -l /etc/proxmox-backup/
total 36
-rw------- 1 root root   3243 Oct 13 10:26 authkey.key
-rw-r----- 1 root backup  800 Oct 13 10:26 authkey.pub
-rw-r----- 1 root backup 1679 Oct 13 10:26 csrf.key
-rw-r----- 1 root backup   54 Oct 13 10:37 datastore.cfg
-rw-r----- 1 root backup 3243 Oct 13 10:26 proxy.key
-rw-r----- 1 root backup 2159 Oct 13 10:26 proxy.pem
-rw-r----- 1 root backup  185 Oct 13 10:44 remote.cfg
-rw-r----- 1 root backup  137 Oct 13 10:45 sync.cfg
-rw-r--r-- 1 root root      0 Oct 13 10:30 tfa.json.lock
-rw-r----- 1 root backup   52 Oct 13 10:25 user.cfg
```

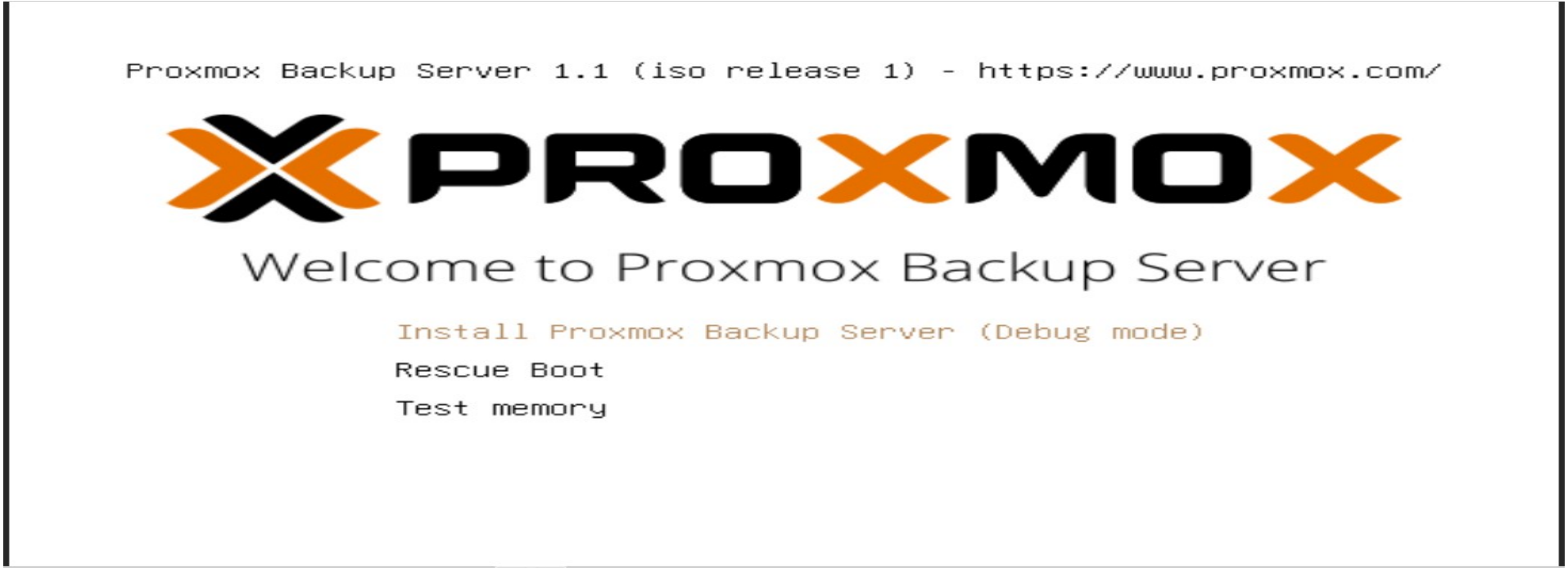
Configuration VM PVE

```
root@pollux:~# cat /etc/pve/qemu-server/8001.conf
agent: 1
bios: ovmf
boot: order=scsi0;ide2;net0
cores: 16
cpu: host
ide2: none,media=cdrom
machine: q35
memory: 65536
name: backup1
net0: virtio=56:CE:6E:89:F0:39,bridge=vmbr0
numa: 0
ostype: l26
scsi0: ssdbck1:vm-8001-disk-0,backup=0,discard=on,size=10000G,ssd=1
scsihw: virtio-scsi-pci
smbios1: uuid=e4cb598b-fb30-4ddb-be66-03511ed71576
sockets: 1
```

Configuration PBS dans PVE

```
root@pollux:~# tail -8 /etc/pve/storage.cfg
pbs: backup1
        datastore datastore1
        server 172.16.1.151
        content backup
        fingerprint xx:xx:xx:...
        prune-backups keep-all=1
        username root@pam
```

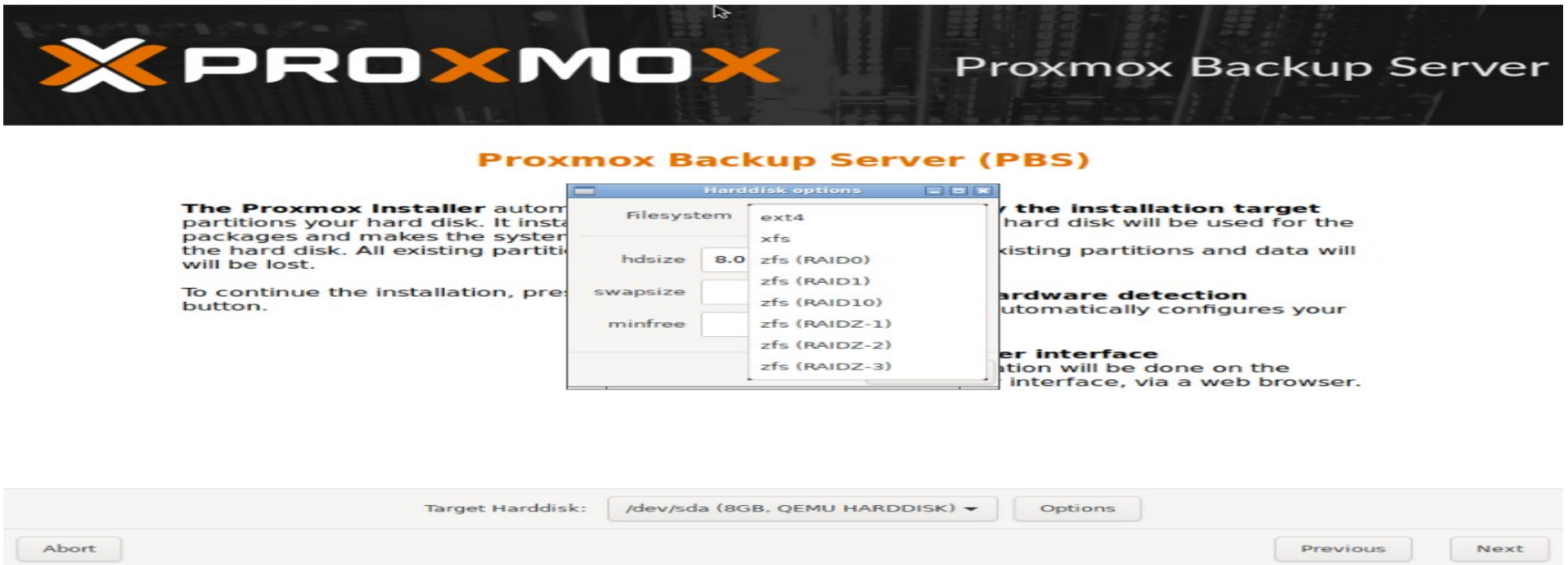
Installation ISO PBS



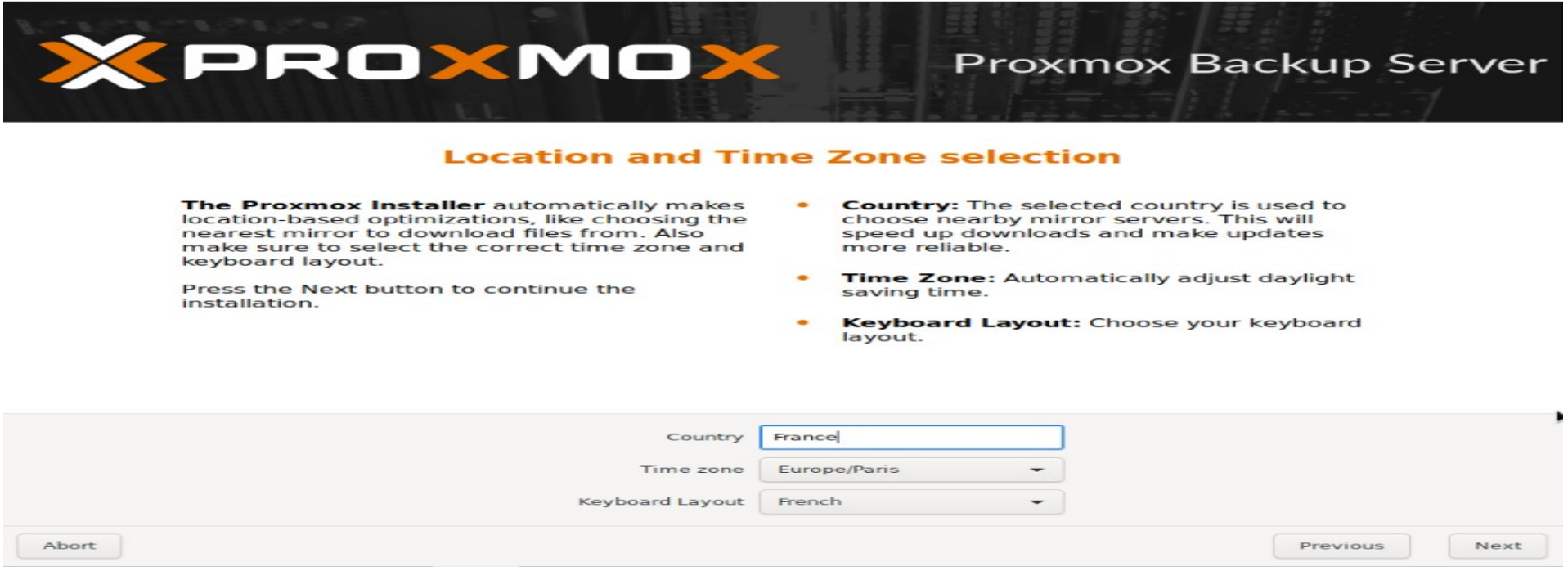
Installation ISO PBS EULA

Installation ISO PBS disque

Installation ISO PBS FS

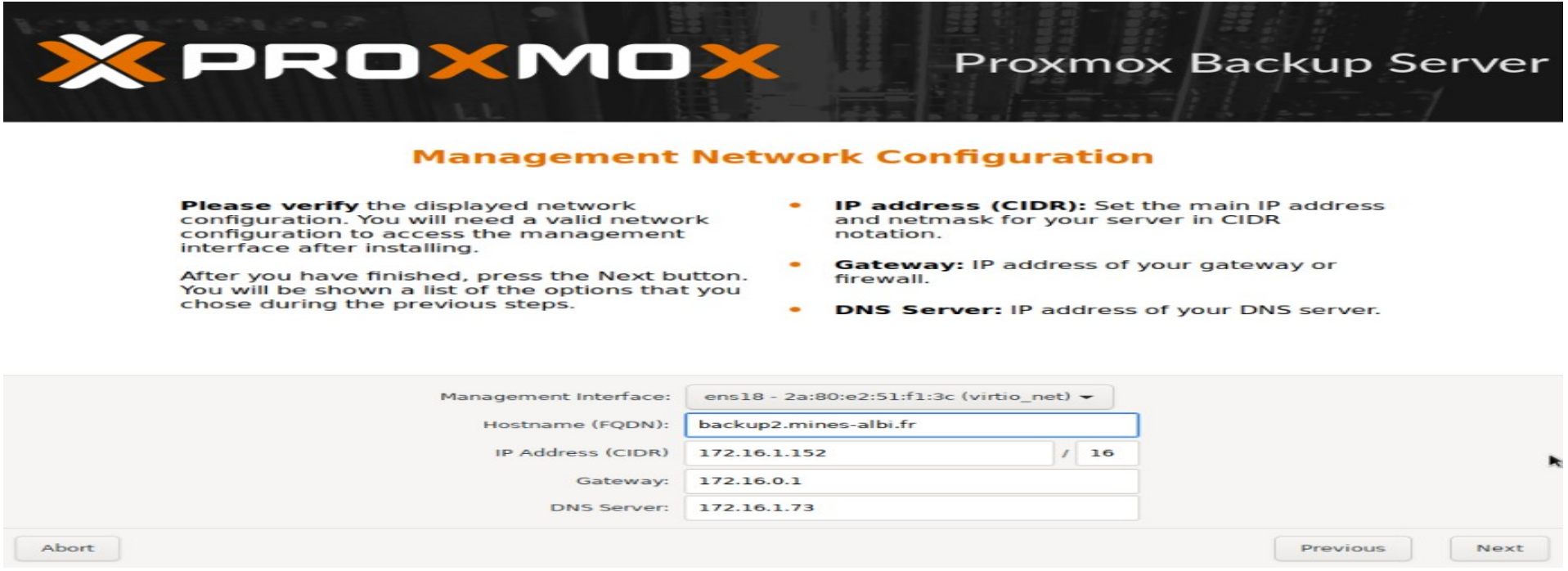


Installation ISO PBS Locale

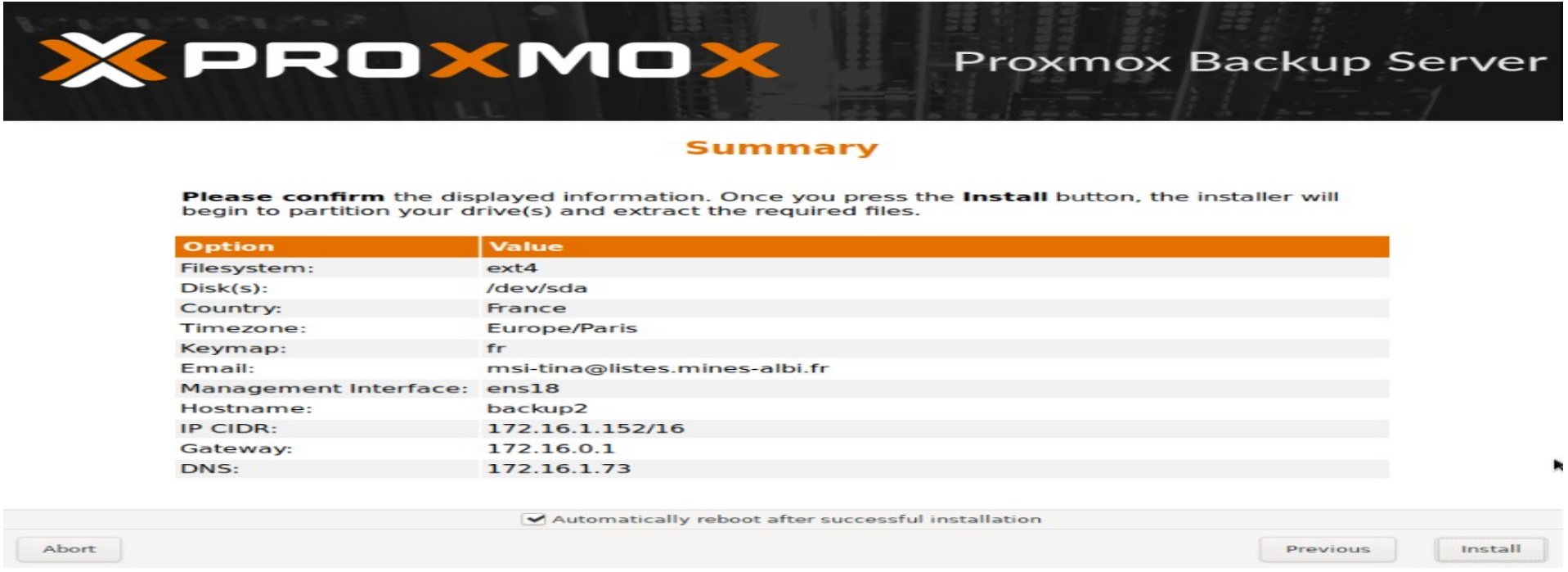


Installation ISO PBS login

Installation ISO PBS IP



Installation ISO PBS résumé



Installation ISO PBS pub

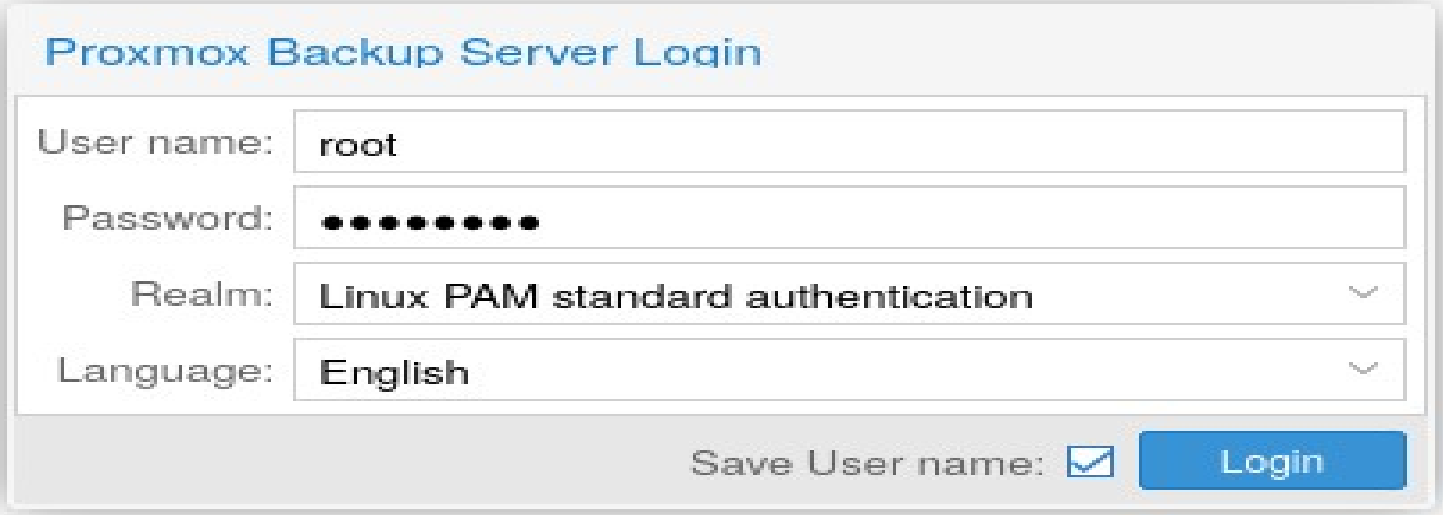
Installation ISO PBS pub 2

Installation ISO PBS pub 3

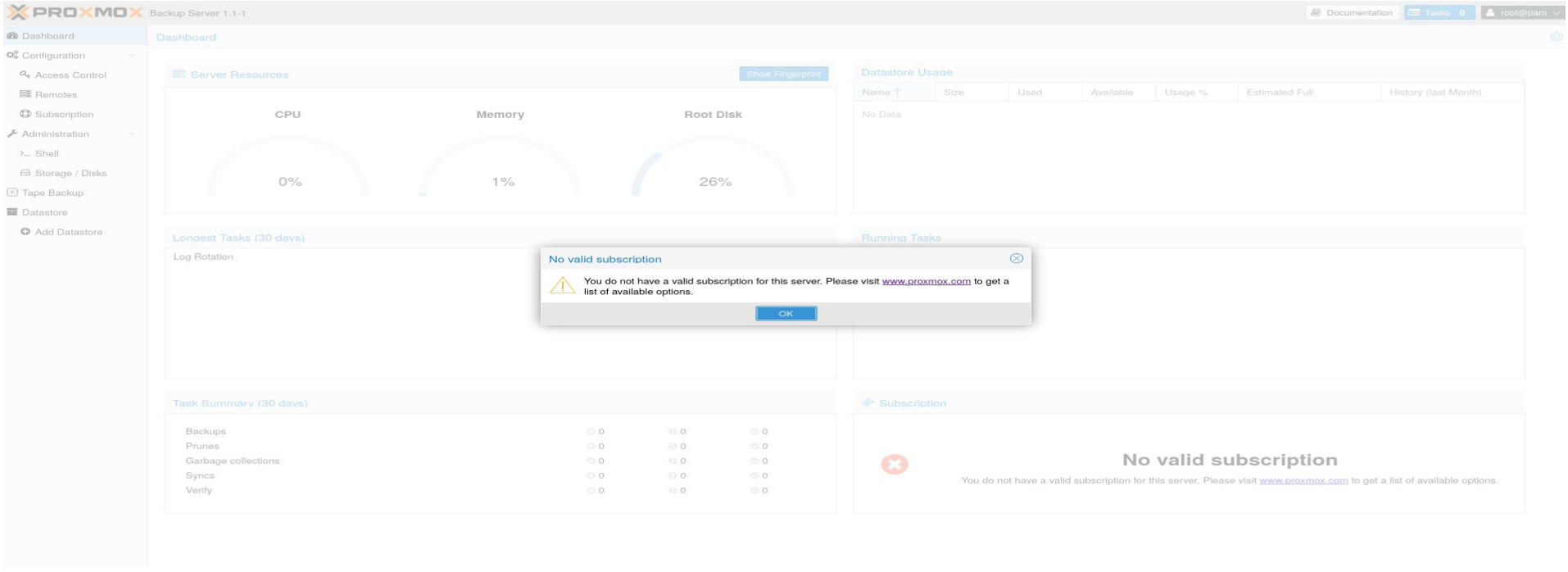
PBS post install

```
root@backup2:~# df -h
Filesystem              Size  Used Avail Use% Mounted on
udev                    5.9G     0  5.9G   0% /dev
tmpfs                   1.2G   17M  1.2G   2% /run
/dev/mapper/pbs-root    5.6G  1.5G  3.9G  28% /
tmpfs                   5.9G     0  5.9G   0% /dev/shm
tmpfs                   5.0M     0  5.0M   0% /run/lock
tmpfs                   5.9G     0  5.9G   0% /sys/fs/cgroup
/dev/sda2               511M  312K  511M   1% /boot/efi
tmpfs                   1.2G     0  1.2G   0% /run/user/0
```

PBS web login



PBS Web UI


PROXMOX Backup Server 1.1-1
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Tasks 0
root@pam
Dashboard
Configuration
Access Control
Remotes
Subscription
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Show Fingerprint
CPU
Memory
Root Disk
0%
1%
26%
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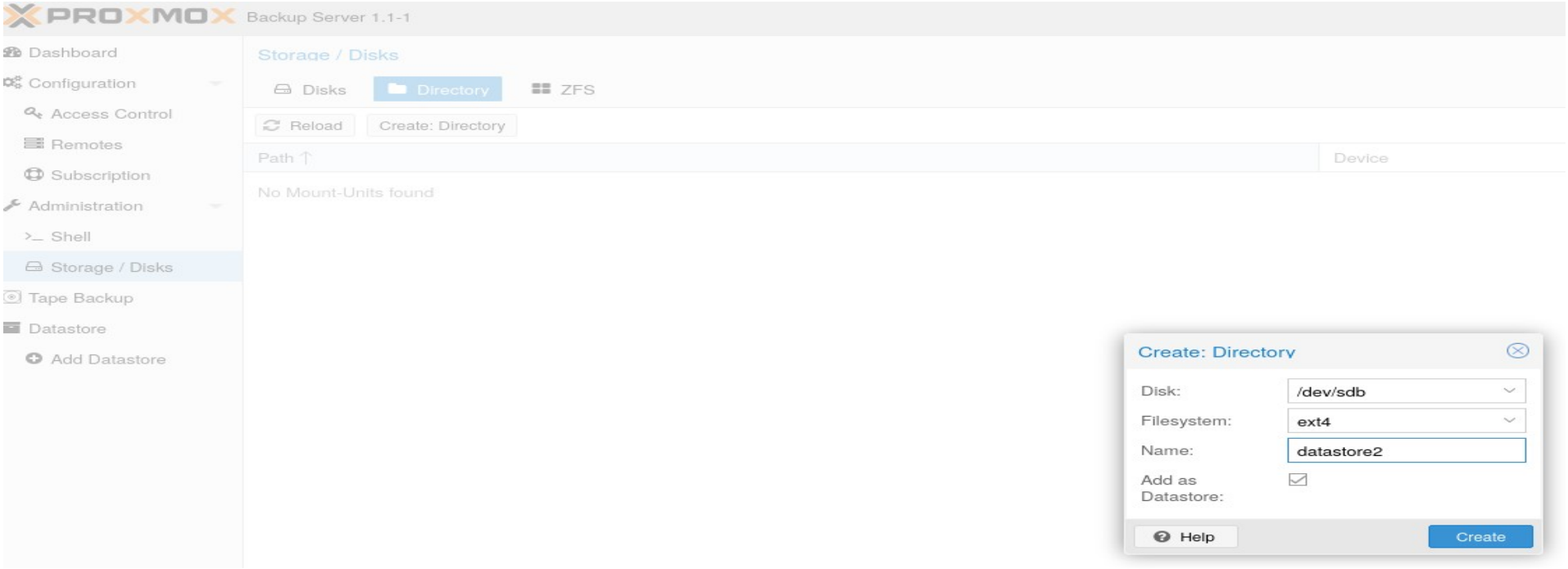
Name
Size
Used
Available
Usage %
Estimated Full
History (last Month)
No Data
Longest Tasks (30 days)
Log Rotation
Running Tasks
No valid subscription
You do not have a valid subscription for this server. Please visit www.proxmox.com to get a list of available options.
OK
Task Summary (30 days)
Backups
Prunes
Garbage collections
Syncs
Verify
Subscription
No valid subscription
You do not have a valid subscription for this server. Please visit www.proxmox.com to get a list of available options.

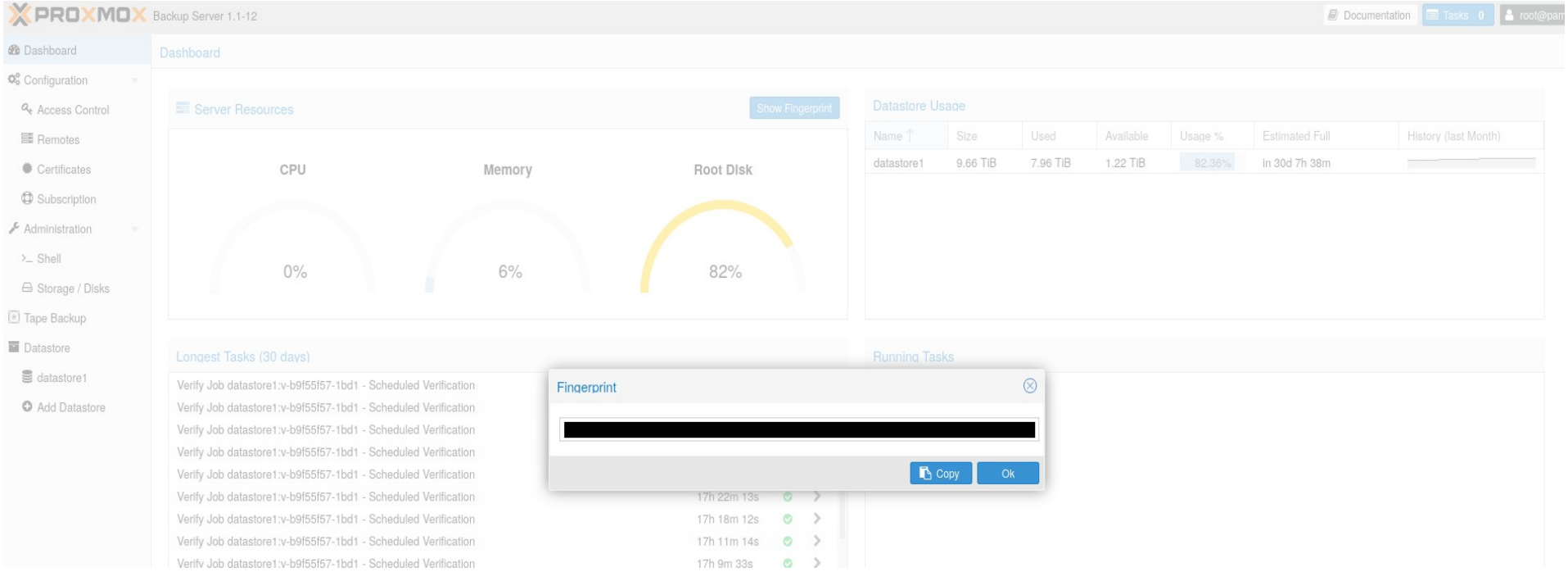
PBS ajout disque



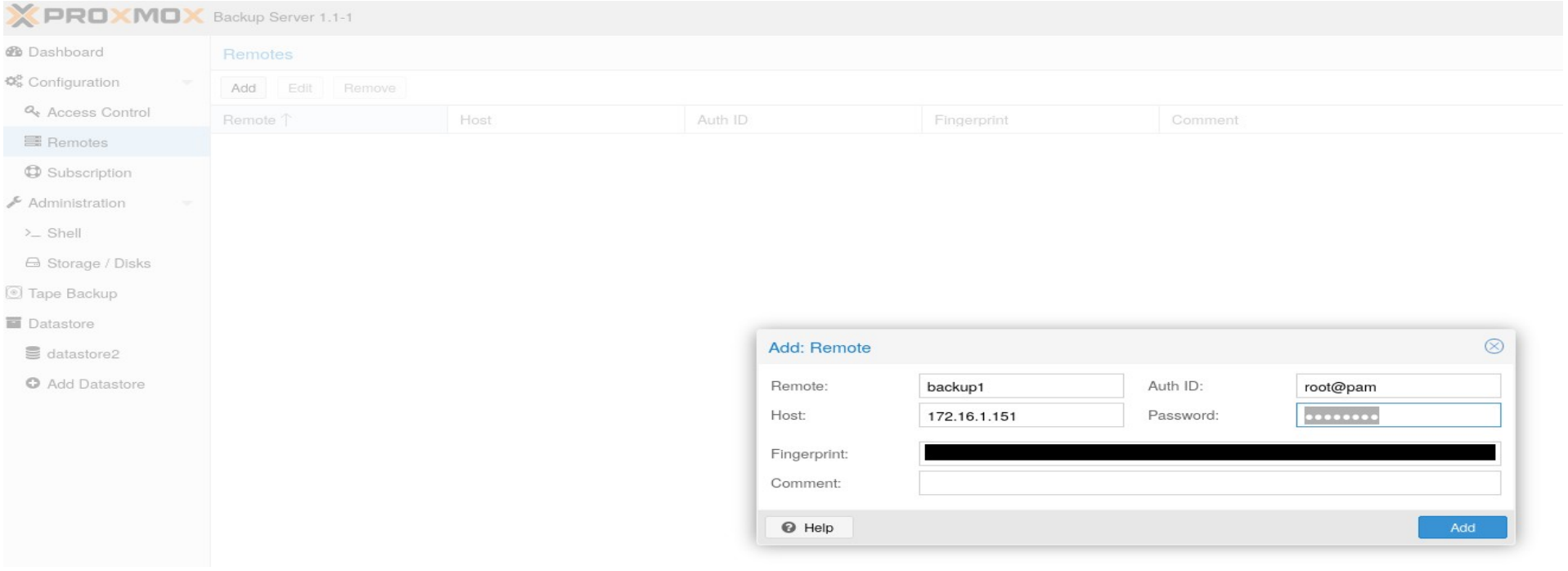
PBS édition repo apt

```
root@backup2:~# apt-get update
Get:1 http://security.debian.org buster/updates InRelease [65.4 kB]
Get:2 http://ftp.fr.debian.org/debian buster InRelease [122 kB]
Get:3 http://ftp.fr.debian.org/debian buster-updates InRelease [51.9 kB]
Get:4 http://security.debian.org buster/updates/main amd64 Packages [307 kB]
Err:5 https://enterprise.proxmox.com/debian/pbs buster InRelease
  401  Unauthorized [IP: 51.91.38.34 443]
Get:6 http://security.debian.org buster/updates/main Translation-en [161 kB]
Get:7 http://ftp.fr.debian.org/debian buster/main amd64 Packages [7,906 kB]
Get:8 http://ftp.fr.debian.org/debian buster/main Translation-en [5,968 kB]
Get:9 http://ftp.fr.debian.org/debian buster/contrib amd64 Packages [50.1 kB]
Get:10 http://ftp.fr.debian.org/debian buster/contrib Translation-en [44.2 kB]
Get:11 http://ftp.fr.debian.org/debian buster-updates/main amd64 Packages [15.2 kB]
Get:12 http://ftp.fr.debian.org/debian buster-updates/main Translation-en [13.9 kB]
Reading package lists... Done
E: Failed to fetch https://enterprise.proxmox.com/debian/pbs/dists/buster/InRelease  401  Unauthorized [IP: 51.91.38.34 443]
E: The repository 'https://enterprise.proxmox.com/debian/pbs buster InRelease' is not signed.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
root@backup2:~# cat /etc/apt/sources.list.d/pbs-enterprise.list
deb https://enterprise.proxmox.com/debian/pbs buster pbs-enterprise
root@backup2:~# vi /etc/apt/sources.list.d/pbs-enterprise.list
root@backup2:~# cat /etc/apt/sources.list.d/pbs-enterprise.list
#deb https://enterprise.proxmox.com/debian/pbs buster pbs-enterprise
root@backup2:~# echo "deb http://download.proxmox.com/debian/pbs buster pbs-no-subscription" > /etc/apt/sources.list.d/pbs-install-repo.list
root@backup2:~# apt-get update
Hit:1 http://security.debian.org buster/updates InRelease
Get:2 http://download.proxmox.com/debian/pbs buster InRelease [3,065 B]
Get:3 http://download.proxmox.com/debian/pbs buster/pbs-no-subscription amd64 Packages [139 kB]
Hit:4 http://ftp.fr.debian.org/debian buster InRelease
Hit:5 http://ftp.fr.debian.org/debian buster-updates InRelease
Fetched 143 kB in 2s (87.8 kB/s)
Reading package lists... Done
root@backup2:~#
```

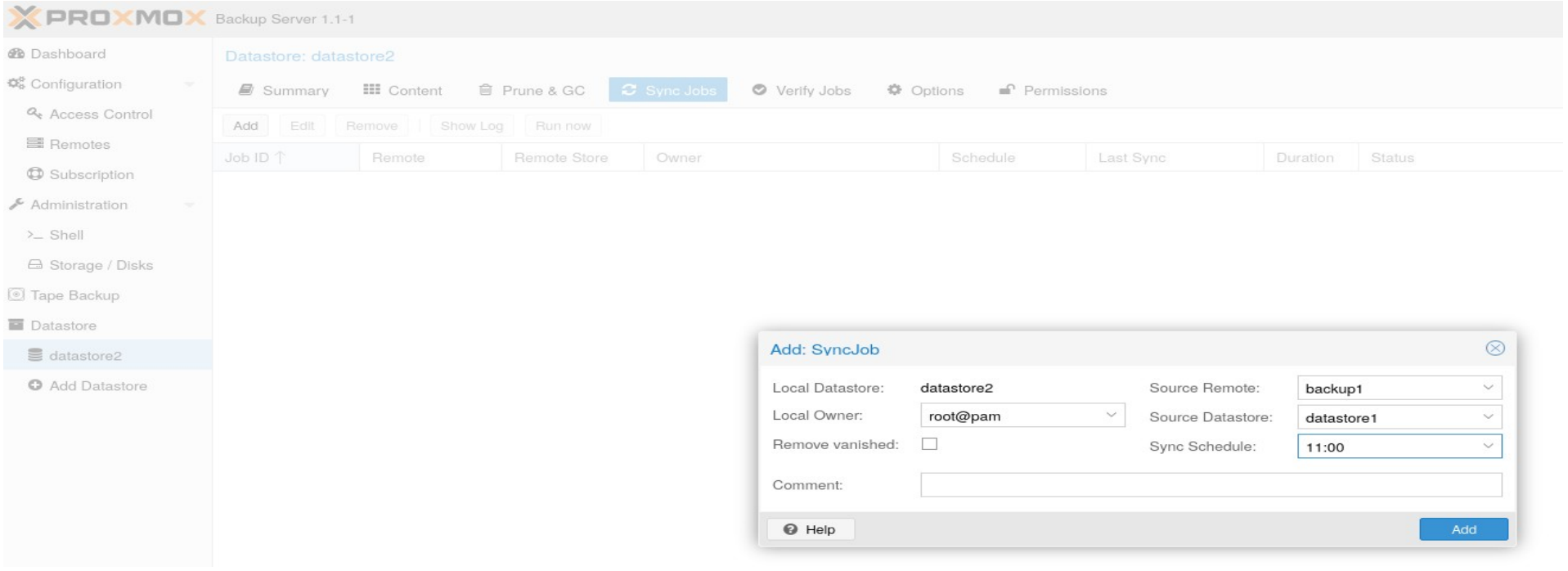
PBS fingerprint



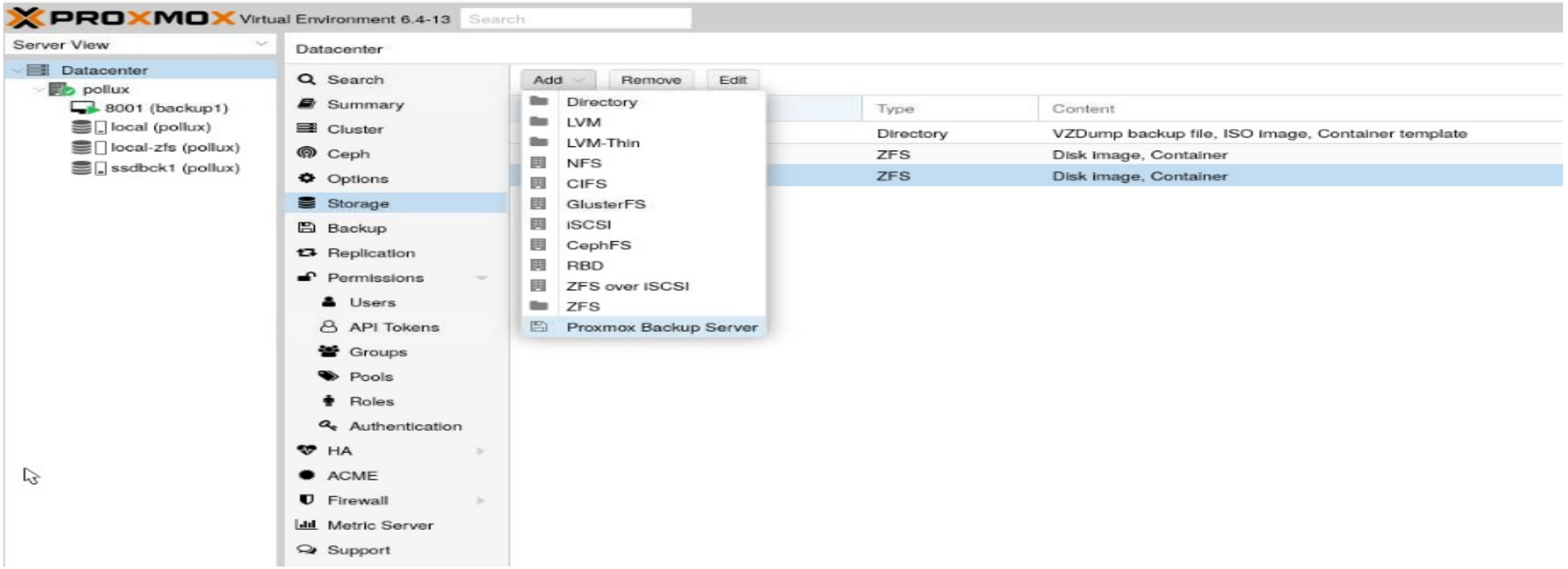
PBS ajout remote



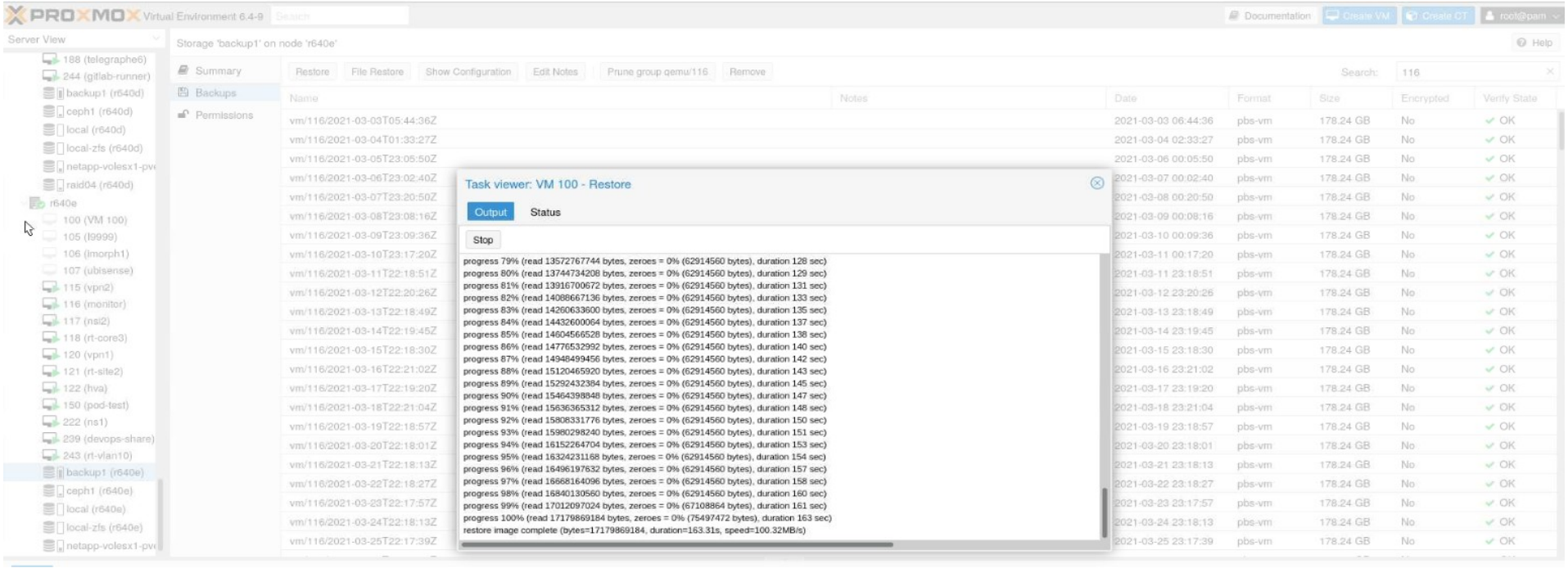
PBS ajout sync job



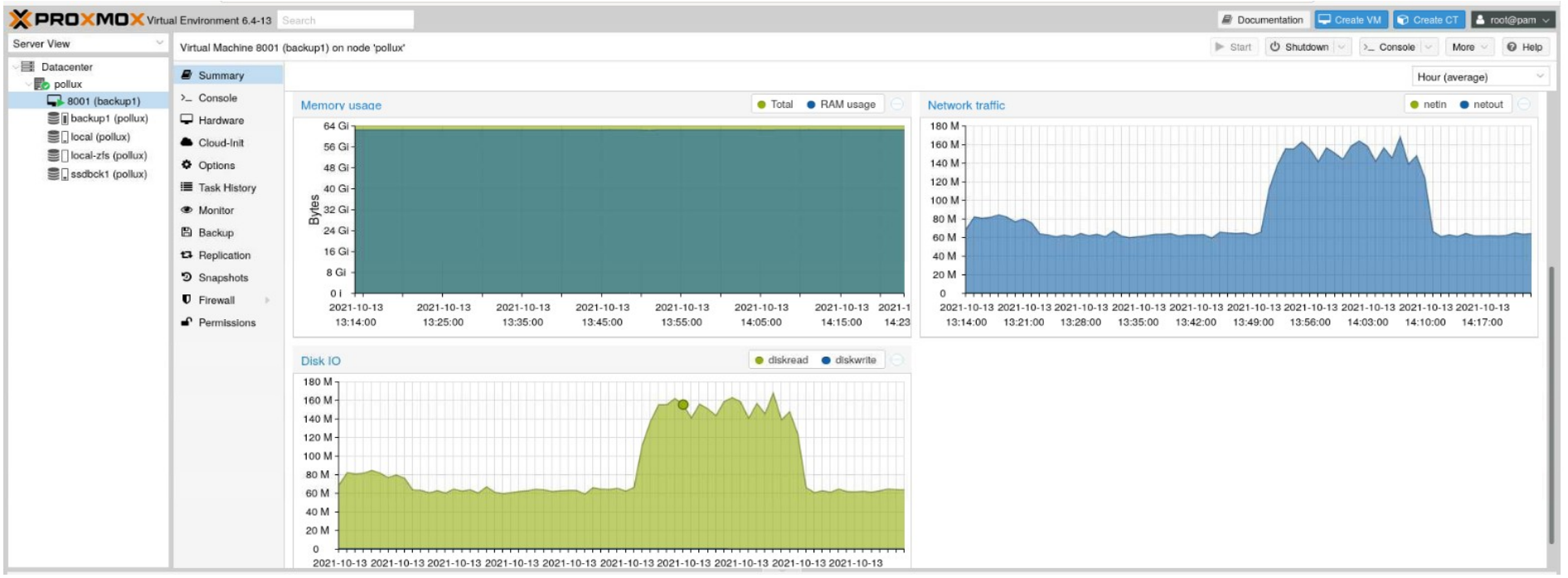
PVE PBS ajout



PVE PBS restore



PVE PBS load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64 Gi
56 Gi
48 Gi
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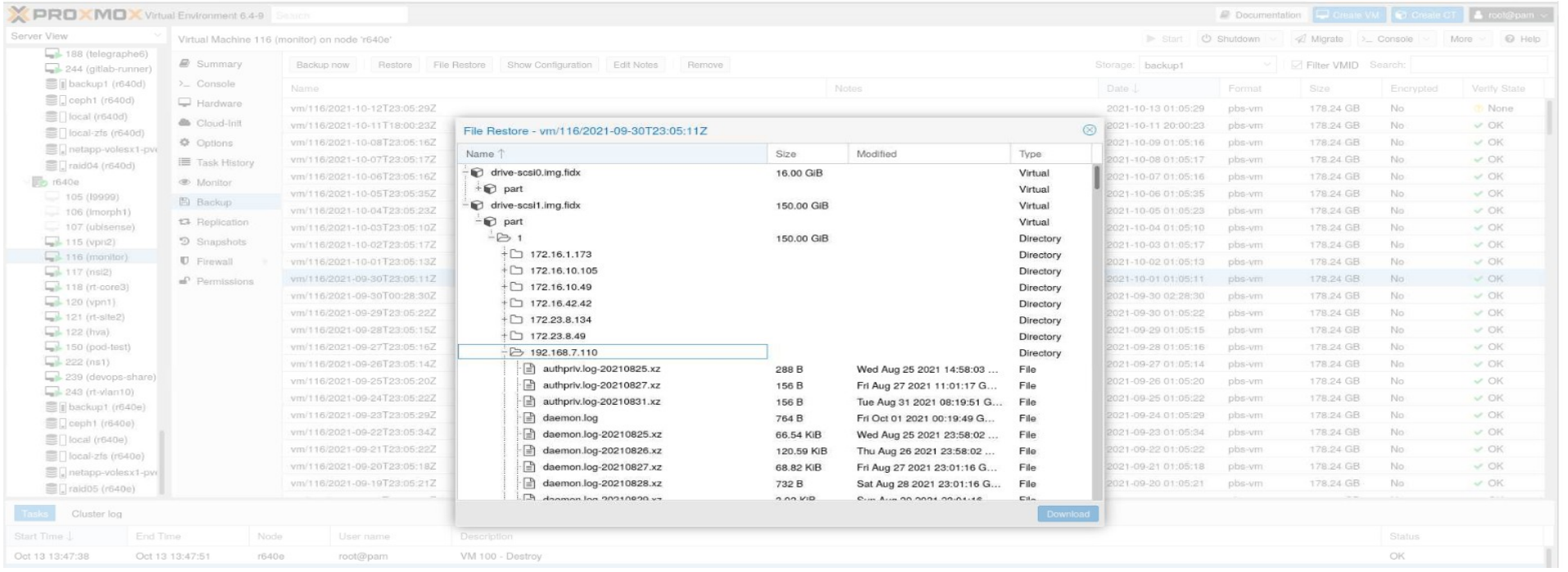
24 Gi
16 Gi
8 Gi
0 i
2021-10-13 13:14:00
2021-10-13 13:25:00
2021-10-13 13:35:00
2021-10-13 13:45:00
2021-10-13 13:55:00
2021-10-13 14:05:00
2021-10-13 14:15:00
Network traffic
netin
netout
180 M
160 M
140 M
120 M
100 M
80 M
60 M
40 M
20 M
0
2021-10-13 13:14:00
2021-10-13 13:21:00
2021-10-13 13:28:00
2021-10-13 13:35:00
2021-10-13 13:42:00
2021-10-13 13:49:00
2021-10-13 13:56:00
2021-10-13 14:03:00
2021-10-13 14:10:00
2021-10-13 14:17:00
Disk IO
diskread
diskwrite
180 M
160 M
140 M
120 M
100 M
80 M
60 M
40 M
20 M
0
2021-10-13 2021-10-13 2021-10-13 2021-10-13 2021-10-13 2021-10-13 2021-10-13 2021-10-13 2021-10-13 2021-10-13

PVE PBS File Restore



PVE PVS IMT Mines Albi

- Pour la virtualisation migration de netapp + VMware + TINA sur Dell M1000
- Vers PVE ceph et ZFS + PBS + 5x Dell R640E 512G RAM 10x2.5 SATA
- (et 4 lames FX2 pour CPU+RAM)
- Environ 200 VM, reste 35 a migrer ce jour
- Disques VM autour de 3 TB utiles
- 8 TB dans PBS (février-octobre 2021 quotidien sans aucun pruning)

Test kopia.io

- Cible : portables de nos usagers Windows/Mac/Linux
- Dedup / compression / chiffrement
- Client CLI mais aussi client lourd electron (non administrateur, background)
- Serveur “Repository Server”
- Capable de piloter les clients
- Langage go, projet d’un developpeur google sur son temps libre
- Conflit de message entre utilisation nextcloud et backup classique