Difficulté

Difficile

**Restoring a Proxmox from its snapshots (zfs file system)**

Pour résoudre le problème de mismatch hostid entre l'OS et rpool essager:

```
# rm /etc/hostid
# zgenhostid
# zpool set multihost=on rpool
# zpool set multihost=off rpool
# zpool status rpool
```

Old stuff not working any more!!
See https://forum.proxmox.com/threads/proxmox-virtual-environment-backup-und-recovery-mit-proxmox-backup-server.89207/#post-406609 for another method

Source: https://www.youtube.com/watch?v=6ayd2NHkBXk&t=931s 

# Configuration:

Proxmox5, running only 2 mirrored SSDs à 240Go (pool zfs RAID1).
In this case Proxox runs on dataset rpool/ROOT/pve-1 and the VMs are on datasets rpool/data/VM#######.
Restoring the Proxmox is restoring “pve-1” and restoring the VMs.

# Preparing tasks:

- stop the VMs
- if you can, make a snapshot of the entire pool “rpool” to get the current state of the OS and of the VMs and e.g. sending the snapshot to a FreeNAS if the necessary storage capacity is not available with a USB disk. From the Proxmox:

```
# zfs snapshot -r rpool@complete
# zfs send -Rpv rpool@complete | ssh root@FreeNAS.domain.tld zfs recv -vF pool/backup/Proxmox
```

# Restore:

## Starting point:

- A fresh installed new Proxmox as zfs RAID1
- The Proxmox installation usb stick.

The Proxmox OS and the VMs can be restored independently from each other.
As the restoring is made from a usb device containing the snapshots, I think that the easier way is to restore only the OS in a first time and the VMs in a second time after the system is running again. In this case a simple usb stick is sufficient.

### Step 1:

Getting the snapshot of rpool/ROOT/pve-1 on the usb stick:

- plug the stick into the FreeNAS, create a “restore” pool and send the snapshot on it:

```
root@FreeNAS $ zfs send -pv
pool/backup/Proxmox/rpool/ROOT/pve-1@complete | zfs recv restore/pve-1
```

### Step 2

- Plug the restore USB stick
- Then start a normal installation of Proxmox with the installation stick.
- When the screen about the condition of use is displayed, press Ctrl-Alt-F1 to swith into the shell an press Ctrl-C to stop the installer.
  From this state, there is enough OS in live modus to manage zfs. *This trick is magic, isn't it???*
  😎

 the keyboard has the US layout!

- ```
  zpool import
  ```

  shows the pool recreated during the new install and the pool for restore from the USB stick.

- ```
  zpool import -f rpool
  ```

```
$ zfs list
```

shows the datasets created during the fresh installation of Proxmox, present on the RAID1 pool.

## Step 3:

- The next step will be get dataset “rpool/ROOT/pve-1” and mountpoint “/” available for the data to be restored:

```
$ zfs rename rpool/ROOT/pve-1 rpool/ROOT/pve-2
$ zfs get mountpoint rpool/ROOT/pve-2
NAME              PROPERTY    VALUE      SOURCE
rpool/ROOT/pve-2  mountpoint  /          local      ### this confirms
that rpool/ROOT/pve-2 is mounted on "/"
$ zfs set mountpoint=/rpool/ROOT/pve-2 rpool/ROOT/pve-2 ### or the
mountpoint you want
$ zfs get mountpoint rpool/ROOT/pve-2
NAME              PROPERTY    VALUE               SOURCE
rpool/ROOT/pve-2  mountpoint  /rpool/ROOT/pve-2  local          ### =>
OK
```

- import the pool “restore”.

```
$ zpool import restore
```

- Have a look to the datasets and cehck that the snapshot for restoration is present:

```
$ zfs list
$ zfs list -t snap
```

- Now we copy the data from the “restore” pool into a new created rpool/ROOT/pve-1 and set its mountpoint on “/”

```
$ zfs send -pv restore/rpool/ROOT/pve-1@complete | zfs recv -dvF
rpool/ROOT
```

The transfer of data should be visible.

- When this is over:

```
$ zfs set mountpoint=/ rpool/ROOT/pve-1     ##### It is possible that
"/" is already mounted because Proxmox have already done the mounting
automatically.
$ zfs get mountpoint rpool/ROOT/pve-1  ## will confirm
```

- Remove the restore stick:

```
$ zpool export restore
```

- Have a look and reboot:

```
$ zfs list
```

```
$ exit
```

### Step 4:

I had some minor issues at the reboot:

- device (= the “old” dataset for pve-1) no found but the boot process didn't stop here. In case of problems, use the function “boot rescue” of the USB-stick for installation
- zfs: the first boot stops because the import of dataset “pve-1” must be forced by hand (“-f”) the fist time because of having been mounted on another system (= the previous used temporary OS for restoring).
- nfs: nfs was not working and there were some error messages during the boot. Another reboot solved it. 😎

After the OS runs:

```
# update-grub2
```

and reboot to solve the error messages at boot up.

## Restoring the VMs

Restore the disks of the VMs:
From the FreeNAS:

```
# zfs send -pv pool/backup/Proxmox/rpool/data/vm-100-disk-0@complete | ssh root@proxmox.domain.tld zfs recv rpool/data/vm-100-disk-0
```

and so on...