
Subject: I find a Copy On Write Solution for openVZ
Posted by [themoonseeker](#) on Fri, 22 Sep 2006 18:07:14 GMT
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Hi,

Finally, after many tests i have found a Copy On Write solution for openVZ. Let me show you :

1 : install lvm

`apt-get install lvm2`

2 : create a LVM physical volume

`pvccreate /dev/hde8`

3 : Create a LVM group

`vgcreate openvz /dev/hde8`

4 : Create a volume and format it in ext3

`lvcreate -L200M -n vps-core openvz`
`mkfs -t ext3 /dev/openvz/vps-core`

5 : Create VPS 201 area and mount the logical volume

`mkdir -p /mnt/201/root /mnt/201/private`
`mount /dev/openvz/vps-core /mnt/201`

6 : Populate the 201 area

`cd /var/lib/vz/template/cache/`
`wget http://download.openvz.org/template/precreated/debian-3.1-i386-minimal.tar.gz`
`cd /mnt/201/private/`
`tar zxvf /var/lib/vz/template/cache/debian-3.1-i386-minimal.tar.gz /mnt/201/private/`

7 : Unmount the logical volume (for a snapshot)

`umount /mnt/201/`

8 : Create the 201 config file

```
echo "# Copyright (C) 2000-2006 SWsoft. All rights reserved.  
# This program is free software; you can redistribute it and/or modify  
# it under the terms of the GNU General Public License as published by  
# the Free Software Foundation; either version 2 of the License, or  
# (at your option) any later version.
```

```
#
# This program is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even the implied warranty of
# MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
# GNU General Public License for more details.
#
# You should have received a copy of the GNU General Public License
# along with this program; if not, write to the Free Software
# Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
#
```

```
ONBOOT="no"
```

```
# UBC parameters (in form of barrier:limit)
```

```
# Primary parameters
```

```
AVNUMPROC="15:15"
```

```
NUMPROC="40:40"
```

```
NUMTCPSOCK="40:40"
```

```
NUMOTHERSOCK="40:40"
```

```
VMGUARPAGES="1725:2147483647"
```

```
# Secondary parameters
```

```
KMEMSIZE="1740800:1847296"
```

```
TCPSNDBUF="159744:262144"
```

```
TCPRCVBUF="159744:262144"
```

```
OTHERSOCKBUF="61440:163840"
```

```
DGRAMRCVBUF="32768:32768"
```

```
OOMGUARPAGES="1725:2147483647"
```

```
# Auxiliary parameters
```

```
LOCKEDPAGES="4:4"
```

```
SHMPAGES="1152:1152"
```

```
PRIVVMPAGES="7680:8448"
```

```
NUMFILE="512:512"
```

```
NUMFLOCK="50:60"
```

```
NUMPTY="4:4"
```

```
NUMSIGINFO="256:256"
```

```
DCACHESIZE="196608:202752"
```

```
PHYSPAGES="0:2147483647"
```

```
NUMIPTENT="16:16"
```

```
# Disk quota parameters (in form of softlimit:hardlimit)
```

```
DISKSPACE="512000:512000"
```

```
DISKINODES="80000:88000"
```

```
QUOTATIME="0"
```

```
# CPU fair sheduler parameter
```

```
CPUUNITS="250"
```

```
VE_ROOT="/mnt/201/root"
VE_PRIVATE="/mnt/201/private"
OSTEMPLATE="debian-3.1-i386-minimal" >> /etc/vz/conf/201.conf
```

9 : create the 202 conf file

```
cp /etc/vz/conf/201.conf /etc/vz/conf/202.conf
```

```
vi /etc/vz/conf/202.conf
```

replace :

```
VE_ROOT="/mnt/201/root"
VE_PRIVATE="/mnt/201/private"
```

with this

```
VE_ROOT="/mnt/202/root"
VE_PRIVATE="/mnt/202/private"
```

10 : Create the snapshot

```
lvcreate -s -L100M -n vps202 /dev/openvz/vps-core
```

11 : Mount the 201 core

```
mount /dev/openvz/vps-core /mnt/201
```

12 : Mount the 202 copy on write

```
mkdir -p /mnt/202
mount /dev/openvz/vps202 /mnt/202/
```

13 : And finally start the two vps

```
vzctl start 201
vzctl start 202
```

Now let me show the memory saved :

```
themoonseeker:~# lvs
LV   VG   Attr  LSize  Origin  Snap%  Move Log Copy%
vps-core openvz owi-a- 200.00M
vps202  openvz swi-ao 100.00M vps-core 0.95
```

I'd like to use this solution for a virtual network editor.

What do you think about this solution? especially about stability and performance?

Thanks!

Subject: Re: I find a Copy On Write Solution for openVZ
Posted by [themoonseeker](#) on Mon, 25 Sep 2006 08:29:29 GMT
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Any notices or suggestions!?!?

Subject: Re: I find a Copy On Write Solution for openVZ
Posted by [HaroldB](#) on Mon, 25 Sep 2006 10:02:45 GMT
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Hi, your solution seems pretty clean and simple. Are first level quotas handled OK? Since the VZFS is the major selling point/advantage of commercial VZ, I am not sure if the OVZ developers will be able to say this is a good idea.

Subject: Re: I find a Copy On Write Solution for openVZ
Posted by [szocske](#) on Mon, 25 Sep 2006 12:50:50 GMT
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I must read up a lot on LVM to make sense of all this, but I have a question upfront: How are .so files and data mmaped from different VEs handled? Does the kernel know when the processes from different VEs are accessing the same file?
Or is this only a measure to save disk space?

I don't care about quotas, so I'll definitely try this.

My ideal setup would be a master-slaves environment: one VE has everything mounted rw, the rest sees the same files but read only, except for /etc, /var and /home, which are separate for each.
