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

pvcreate /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-i3 86-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.
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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,
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#  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 mmapped from different VEs hadled? 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.