Subject: booting kernel with raid and lvm
Posted by snozzled on Wed, 06 Aug 2008 11:45:11 GMT
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Hello all

I'm trying to boot the kernel from ovzkernel-2.6.18-92.1.1.el5.028stab057.2.x86_64.rpm on a Fedora9 system that is configured with lvm layered on software raid1. The kernel panics because it can't find the root partition:

Scanning logical volumes... No volume groups found

I've pulled down the config file for the binary kernel and as far as I can tell it has been compiled with lvm and RAID support, the absence of which is the usual culprit in this type of problem.

Any other suggestions? I've found some older documents that suggest it can be sensitive to the format used for identifying specific partitions i.e. UUID vs. /dev/mapper vs. /dev/VolGroup... paths in /etc/fstab and grub.conf, but it does not even seem to be getting far enough though the process for that to matter.

Thanks

Subject: Re: booting kernel with raid and lvm
Posted by khorenko on Wed, 06 Aug 2008 22:19:14 GMT
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Hello,

can you please post here:
0) kernel version which work fine on your node
1) /etc/grub.conf (or some other if you use other bootloader)
2) `lspci`, `lspci -n`
3) complete bootlog messages from kernel in 0) (from /var/log/messages)
4) with 99% probability we'll need complete bootlog messages for OpenVZ kernel. You can collect them with help of serial console.
http://wiki.openvz.org/Remote_console_setup#Serial_console

Thank you.

--
Konstantin

Subject: Re: booting kernel with raid and lvm
Posted by snozzled on Thu, 07 Aug 2008 09:08:45 GMT
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Right, finally tracked down the issue.

I rebuilt the initrd with a hand edited init file that made the lvm vgscan run in verbose mode. It showed the volumes were not being found because the partition they are on was showing up as 0 bytes long.

That lead me to suspect it was actually the ata driver that was at fault. I dismantled the initrd for the working F9 kernel too and compared it to the one used by the ovzkernel. That lead me to mkinitrd the ovz version --with= some additional modules which got the problem mostly fixed.

I still needed to hand edit the init file to load things in a slightly different order and to add a mdadm --run for a /dev/md that was not being detected properly.

The kernel now boots, but I guess I'm stuck rebuilding the initrd for it every time I need to upgrade. Still, it beats having to compile from scratch.

Subject: Re: booting kernel with raid and lvm
Posted by khorenko on Thu, 07 Aug 2008 16:05:12 GMT
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Hi again,

congratulation with the victory!

Can you please share your experience? This might help others if they faced a similar issue.

What was the native kernel that works fine?
What was the exact difference between initrd for that kernel and OpenVZ one?
What what did you explicitly do to get working initrd? (i think "init" scripts from initrd for FC9 kernel, unmodified for OpenVZ kernel and with your modifications - would be brilliant!)

Thank you!

--
Konstantin

Subject: Re: booting kernel with raid and lvm
Posted by rcdes on Mon, 25 Aug 2008 21:20:45 GMT
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I've got the same problem. Tested with virtualbox, 32 bit mode. Used latest available iso images.

Here is disk configuration, defined during install:

1. sda1, sdb1 -> md0, 500mb (RAID1) -> /boot

2. sda2, sdb2 -> md1, 500mb (RAID1) -> LVM -> vg
3. sda3, sdb3 (all free space) -> LVM -> vg

4. vg -> lvswap 1GB
5. vg -> lvroot 4GB -> /

Then install Fedora 9 with defaults, run update & reboot. Then convert lvswap & lvroot to mirror mode:

lvconvert -m 1 /dev/vg/lvroot /dev/sda3 /dev/sdb3 /dev/md1
lvconvert -m 1 /dev/vg/lvswap /dev/sda3 /dev/sdb3 /dev/md1

Seems to work. Then install OVZ from repo with yum. After reboot - problem with md.

Checking filesystems
fsck.ext3: Invalid argument when trying to open /dev/md0

Native fedora kernels (2.6.25) works fine.

(*) The same sequence for Centos 5.2 works with no problem.

Can anyone fix that problem?

PS. Seems, openvz.repo should be updated. There no info for 2.6.24 kernel. Tryed to add manually, but failed - yum shows only PAE-debug kernel.