
Subject: CentOS forums claim OpenVZ containers/host as unsupported, so...

Posted by [falcon74](#) on Thu, 27 Jan 2011 11:16:59 GMT

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Am pretty new to OpenVZ (and container based virtualization in general), so bear with what may be some silly questions.

My concerns...

1. For every package that doesn't come as part of the pre-built container templates, what options do I have to install those additional packages ?
2. Pure CentOS users can get lot of non-official s/w packages from EPEL & RPMforge. Is similar luxury available for use within OpenVZ CentOS based container ? Or do I need to download source and build such software packages ?
3. How much of a real difference exists, from a developer (who needs to compile / build software from source) and a user, between pure CentOS, and Container CentOS ?
4. What other surprises can I expect due to the difference between pure CentOS and OpenVZ modified CentOS ?
5. Finally, my intent is to use OpenVZ on 64-bit commodity servers (Athlon II X2 250 / dual-channel 4G DDR3 @1333MHz / 500GB 7200rpm SATA on Desktop mobo). Are there any specific gotchas for 64-bit ? I read an old post (circa 2009) citing issues with certain tools on CentOS 5.x, on 64-bit platf.

thanks,
F74

Subject: Re: CentOS forums claim OpenVZ containers/host as unsupported, so...

Posted by [Ales](#) on Fri, 28 Jan 2011 02:48:14 GMT

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Well, here are some quick answers:

- 1) once you run the prebuilt container, it behaves very similar to a real server. Basically, you enter the container and install anything you want as you would on a normal server, ie. using yum, apt, compile from source, etc.
- 2) see above. CentOS based container can use EPEL, RPMForge or any other repository
- 3) the main difference is that you can't install any kernel modules from within the container. There are other differences, depending on what you want to do...
- 4) best thing you could do is to try for yourself...

5) we are using 64-bit versions of CentOS with OpenVZ and have no problems

Subject: Re: CentOS forums claim OpenVZ containers/host as unsupported, so...
Posted by [falcon74](#) on Fri, 28 Jan 2011 03:14:07 GMT

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Thanks @Ales. Those are pretty reassuring set of answers. I guess it's time to give it a spin.

Subject: Re: CentOS forums claim OpenVZ containers/host as unsupported, so...
Posted by [pyite](#) on Sun, 13 Feb 2011 05:03:14 GMT

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Looks like you got some good advice already, I'll just add to a couple of the replies:

3 & 4: apart from the kernel module issues, the biggest difference is how the memory (and other) limitations work.

Because of the many fine-tuning options, OpenVZ can cause software to fail in unusual ways that are unlikely to happen on a real server (e.g. running out of TCP receive buffers or kernel memory). It is possible to get some unusual failure conditions, especially with software like Java. Also, top will show that there is no swap space inside the VM, which is a little weird at first for some people. The hardware node handles the decision of when to use swap, it is invisible to the VM's.

There are many pages that discuss these issues, search for "user_beancounters" (aka ubc) and on your VZ machine try this with a 132 column terminal: cat /proc/user_beancounters

At first, I would strongly suggest using the "unlimited" configuration file examples when creating a new VM/VPS/VE/whatever you want to call it. Run your VM for awhile, then take a look at the "maxheld" column in the stats. Use this number to do your final adjustment to the config file (maybe bump the limits up by 20%? Use your judgment). I'd recommend working on some monitoring so you know when these limits are reached.

5) 64 bit works quite well, I've had no issues. Give it a try!

Subject: Re: CentOS forums claim OpenVZ containers/host as unsupported, so...
Posted by [falcon74](#) on Sun, 13 Feb 2011 05:44:56 GMT

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@pyite, thanks for sharing your views. They are very useful.

These were definitely the kind of gotchas (Q4) I was looking for, s.t. I can watchout for those. So 'top' showing that there is no swap, does it mean, in reality the apps running in containers won't be

swapped out, or it is just a limitation of the top in this environment ? Also from your reply, I get the impression that gotchas like these are documented somewhere or commonly discussed somewhere. Could you point me where exactly !

Subject: Re: CentOS forums claim OpenVZ containers/host as unsupported, so...
Posted by [pyite](#) on Sun, 13 Feb 2011 05:57:42 GMT

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> So 'top' showing that there is no swap, does it mean, in
> reality the apps running in containers won't be swapped
> out, or it is just a limitation of the top in this
> environment

The host OS will swap things as necessary, but the the guest VM's won't know about it. So I guess it is closer to the latter. You will definitely want to watch the stats on the host OS.

With OpenVZ all of the VM's are really sharing the same kernel but with a different root filesystem (take a look at how "chroot" works, it is a similar concept to just running a new copy of "init in chroot but with many more options). It is a completely different model from hypervisor systems.

The wiki on openvz.org should have a good overview of user_beancounters - I'd start by searching there.
