Subject: openvz patched vanilla kernel vs redhat kernel
Posted by piavlo on Mon, 18 Aug 2008 20:29:42 GMT
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Hi,

This is question to the developers:
I'm wondering if there are any pros and cons
in running vanilla kernel with openvz patch vs
redhat kernel with openvz patch?

Currently i have some gentoo boxes with kernel RHEL5 028stab057.2
which with minimal test seems to be working fine.
Other gentoo boxes are running kernel 2.6.18 028stab053.14
So i'm wondering if it is worth switching to RHEL5 kernel?

Thanks
Alex

Subject: Re: openvz patched vanilla kernel vs redhat kernel
Posted by maratrus on Tue, 19 Aug 2008 09:49:18 GMT
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Hello,

I've spoken about this and have been able to derive the only one opinion.
RHEL based kernel is "better" that vanilla because RedHat does a lot of work and includes in its kernel a lot of security, stability patches.
OpenVZ patches (RHEL based and vanilla) shouldn't be different in logic. They must only be applicable to the appropriate kernel.

Subject: Re: openvz patched vanilla kernel vs redhat kernel
Posted by piavlo on Tue, 19 Aug 2008 10:58:15 GMT
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maratrus wrote on Tue, 19 August 2008 12:49
OpenVZ patches (RHEL based and vanilla) shouldn't be different in logic.
What about non OpenVZ related kernel logic? I mean is it safe to run RHEL kernel on non RHEL based distribution like gentoo?
Maybe there might be some incompatibilities between the RHEL kernel
and non RHEL userspace tools, like for example there are some RHEL glibc patches that need to be applied to non RHEL glibc?

Or RHEL patches should not introduce any incompatibilities

to userspace tools?

Thanks

Subject: Re: openvz patched vanilla kernel vs redhat kernel
Posted by maratrus on Tue, 19 Aug 2008 11:35:33 GMT
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Hi,

Quote:
I mean is it safe to run RHEL kernel on non RHEL based distribution like gentoo?
Maybe there might be some incompatibilities between the RHEL kernel
and non RHEL userspace tools, like for example there are some RHEL glibc patches that need to be applied to non RHEL glibc?

Yes, you're absolutely right. Generally speaking, the only one principle should be true, namely: the only that sort of kernel really works with particularly OS that is distributed with this OS.
For example, RHEL5 based kernel (also OpenVZ RHEL5 based) should work on RHEL5/CentOS5 system but might not work on RHEL4 OS. The problems can appear for example either during the installation of this kernel (wrong initrd) or during any userspace program executing (you've mentioned glibc patching).
The last example that's occured to my mind - our kernels on OpenSuse10.3 OS:
http://bugzilla.openvz.org/show_bug.cgi?id=647
and here the reason is described:
http://forum.openvz.org/index.php?t=msg&th=6162&#msg _30660

From the last example we can make a conclusion that old kernel might not work with fresh OS.
The following statement is also right. Fresh kernels might be not match to elder distrs.

I don't know the common rule of determining if this kernel matches the particular OS. Every case should be investigated individually.

Subject: Re: openvz patched vanilla kernel vs redhat kernel
Posted by piavlo on Tue, 19 Aug 2008 12:32:25 GMT
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maratrus wrote on Tue, 19 August 2008 14:35
The problems can appear for example either during the installation of this kernel (wrong initrd) or during any userspace program executing (you've mentioned glibc patching).

Well gentoo is source based distribution and if the kernel is compiled with same toolchain (linux-headers,glibc,gcc,binutils)
as all userspace progs. And for extra safety i use linux-headers-2.6.18 so that they match RHEL

2.6.18 kernel as close as possible. Do you think there still might some issues?

At least one difference i've noticed is with udev inside same VE
on vanilla and RHEL kernel. On vanilla kernel udev inside VE does not create /dev/{u,}random devices, so i add them in precreated
minimal tarball. While with RHEL kernel all needed devices are created (more details at http://bugs.marples.name/show_bug.cgi?id=102#c7)
So at least in this case the change is positive
But unfortunately i've no idea why this happens

maratrus wrote on Tue, 19 August 2008 14:35
I don't know the common rule of determining if this kernel matches the particular OS. Every case should be investigated individually.
I'd be really happy to know how can i make proper investigation myself, as i don't know what i should be checking for.

Subject: Re: openvz patched vanilla kernel vs redhat kernel
Posted by kenjy on Tue, 19 Aug 2008 15:41:49 GMT
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You can build a frankenstein template with a RH EL kernel xD yes it is possible because this is open source. RH adds some special features like oracle support and another thinks, you need to make all the engineering deployment that redhat does to do a correct implementation of a RH kernel under another distribution.
