Subject: fuse filesystem inside a container?
Posted by George Georgalis on Wed, 31 Aug 2011 17:22:11 GMT
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Hi,

I'm relativity new to openvz but I think I got a good idea about managing containers, not looked much at the kernel side though. I'm trying to port an application running on a set of hosts, to containers running on the same hardware. The application requires both fuse and md devices/filesystems.

I'm able to make the md/fuse devices but I've been unable to configure a container to additionally include fuse filesystem capability.

vzctl set $id --devices b:9:2:rw c:10:229:rw --save

then after starting the containers,

vzctl exec $id mknod /dev/fuse c 10 229
vzctl exec $id mknod /dev/md2 b 9 2

I'm using the standard CentOS 5.6 template and running with the following rpms:
rpm -aq | grep vz
vzquota-3.0.12-1
ovzkernel-devel-2.6.18-238.19.1.el5.028stab092.2
ovzkernel-2.6.18-238.19.1.el5.028stab092.2
vzctl-lib-3.0.28.3-1
vzctl-3.0.28.3-1

Fuse is being used to mount a gluster filesystem. Am I missing a step?

-George

--
George Georgalis, (415) 894-2710, http://www.galis.org/

Subject: fuse filesystem inside a container?
Posted by George Georgalis on Wed, 31 Aug 2011 17:38:10 GMT
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Hi, (resending with the correct devices command)

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-George

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George Georgalis, (415) 894-2710, http://www.galis.org/

Subject: Re: fuse filesystem inside a container?
Posted by Bogdan-Stefan Rotariu on Wed, 31 Aug 2011 17:45:24 GMT
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> Hi,
>

[...]

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>
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>

[...]

>
> Fuse is being used to mount a gluster filesystem. Am I missing a step?

Yep,

Make sure you have the module in the container, kmod-fuse, and you can
load it.

Subject: Re: fuse filesystem inside a container?
Posted by George Georgalis on Wed, 31 Aug 2011 18:37:05 GMT
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On Wed, Aug 31, 2011 at 10:45 AM, Bogdan-Stefan Rotariu
<bogdan@rotariu.ro> wrote:
...
>> I'm able to make the md/fuse devices but I've been unable to configure
>> a container to additionally include fuse filesystem capability.
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>> vzctl set $id --devices b:9:2:rw c:10:229:rw --save
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>> vzctl exec $id mknod /dev/md2 b 9 2
>>
>
> [...]
>
>>
>> Fuse is being used to mount a gluster filesystem. Am I missing a step?
>
>
> Yep,
>
> Make sure you have the module in the container, kmod-fuse, and you can
> load it.

Well that is certainly confusing, since the container doesn't have its
own kernel. What does loading a kernel in a container mean?

The host has (and uses) the following modules:
/lib/modules/2.6.18-238.19.1.el5.028stab092.2/extra/fuse.ko
/usr/lib64/glusterfs/3.0.0/xlator/mount/fuse.so.0.0.0

I presume fuse.ko is the one loaded by the kernel while the gluster client uses fuse.so.0.0.0 in userspace.

In the container I have only,
/opt/glusterfs/3.2.3/lib64/glusterfs/3.2.3/xlator/mount/fuse .so.0.0.0

but when I try to load it I get:
insmod: error inserting
'/opt/glusterfs/3.2.3/lib64/glusterfs/3.2.3/xlator/mount/fus e.so.0.0.0':
-1 Operation not permitted

How do I load this fuse capability into the container? (nb the container gluster versions glusterfs-core-3.2.3-1 and glusterfs-fuse-3.2.3-1 are newer than the gluster running in the host, hopefully that won't be a issue through the migration to containers)

So, I'm trying to load the fuse and fuse-libs available in my rpm repos:

Downloading Packages:
fuse-2.7.4-8.el5.x86_64.rpm
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
error: Couldn't fork %pre: Cannot allocate memory
error: install: %pre scriptlet failed (2), skipping fuse-2.7.4-8.el5

Installed:
  fuse.x86_64 0:2.7.4-8.el5

Complete!

Downloading Packages:
fuse-libs-2.7.4-8.el5.x86_64.rpm
Running rpm_check_debug
Running Transaction Test
Finished Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing   : fuse-libs
error: Couldn't fork %post: Cannot allocate memory

Installed:
  fuse-libs.x86_64 0:2.7.4-8.el5

Complete!

With those "attempted" installs, I have:
find /usr/lib* /lib* /opt -name *fuse* -type f
/lib64/libfuse.so.2.7.4
 /opt/glusterfs/3.2.3/lib64/glusterfs/3.2.3/xlator/mount/fuse .so.0.0.0

Is there some kind of kernel module functionality I can load within a
container? How do I go about that?

-George

--
George Georgalis, (415) 894-2710, http://www.galis.org/

Subject: Re: fuse filesystem inside a container?
Posted by George Georgalis on Wed, 31 Aug 2011 22:30:29 GMT
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On Wed, Aug 31, 2011 at 11:37 AM, George Georgalis <george@galis.org> wrote:
> On Wed, Aug 31, 2011 at 10:45 AM, Bogdan-Stefan Rotariu
> <bogdan@rotariu.ro> wrote:
> ...
>>> I'm able to make the md/fuse devices but I've been unable to configure
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>>
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>>
>>>
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> I presume fuse.ko is the one loaded by the kernel while the gluster
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> /opt/glusterfs/3.2.3/lib64/glusterfs/3.2.3/xlator/mount/fuse .so.0.0.0
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> but when I try to load it I get:
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> -1 Operation not permitted
>
> How do I load this fuse capability into the container?

I've identified the warnings/errors in my prior email as memory
allocation limits, so I set privvmpages to unlimited and reinstalled
fuse & fuse-libs in the container without issue.

However I still have the confounding issue of how to I make the fuse
filesystem available in the container /proc/filesystems like it is in
the host?

-George

--
George Georgalis, (415) 894-2710, http://www.galis.org/