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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 relatively 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/>

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

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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.

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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:

...

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>> a container to additionally include fuse filesystem capability.

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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.

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/fuse.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

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

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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](mailto:george@galis.org)> wrote:

> On Wed, Aug 31, 2011 at 10:45 AM, Bogdan-Stefan Rotariu

> <[bogdan@rotariu.ro](mailto:bogdan@rotariu.ro)> wrote:

> ...

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> I presume fuse.ko is the one loaded by the kernel while the gluster  
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> 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/>

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