
Subject: Re: [PATCHSET 3/4] sysfs: divorce sysfs from kobject and driver model
Posted by [ebiederm](#) on Wed, 10 Oct 2007 13:16:48 GMT

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Greg KH <greg@kroah.com> writes:

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> On Fri, Oct 05, 2007 at 06:12:41AM -0600, Eric W. Biederman wrote:
>> Greg KH <greg@kroah.com> writes:
>> >
>> >> Also fun is that the dev file implementation needs to be able to
>> >> report different major:minor numbers based on which mount of
>> >> sysfs we are dealing with.
>> >
>> > Um, no, that's not going to happen. /dev/sda will _always_ have the
>> > same major:minor number, as defined by the LSB spec. You can not break
>> > that at all. So while you might not want to show all mounts
>> > /sys/devices/block/sda/ the ones that you do, will all have the LSB
>> > defined major:minor number assigned to it.
>>
>> Hmm. If that is in the LSB it must come from
>> Documentation/devices.txt
>
> Yes, that is the requirement.
>
>> I'm not after changing the user visible major/minor assignments.
>
> Oh, I misunderstood what you wrote above then.
```

My above sentence is slightly misleading. That should have been.
I am not after changing the device name to major:minor assignments
as specified in Documentation/devices.txt.

So within a single device namespace everything is normal and as it
always has been. Weirdness only ensues when you look across device
namespaces.

```
>> Let me see if a concrete example will help. Suppose I have
>> have a SAN with two disks: disk-1 and disk-2. I have
>> two machines A and B. On machine A I get the mapping:
>> sda -> disk-1, sdb -> disk-2. On machine B I wind up with
>> a different probe order so I get the mapping: sda -> disk-2
>> sdb -> disk-1.
>
> Ok.
>
>> To be very clear by sda I mean the block device with major 8 and
>> minor 0, and by sdb I mean the block device with major 8 and minor
>> 16.
```

>
> Ok.
>
>> So I decide I want an environment on machine B that looks just
>> like the environment on machine A, so I can bring transfer over
>> a running program or whatever. So I run around looking at UUID
>> labels and what not and I discover that the machine B knows disk-1 as
>> sdb and that machine A knows disk-1 as sda. So I want to say:
>> /sys/devices/block/sdb show up in this other device namespace as
>> /sys/devices/block/sda.

>
> Ah, but if you do that then the "other" device namespace would have
> /sys/devices/block/sda/dev be 8:16, right?

No. The "other" device namespace I would construct on machine B to
look just like the device namespace that existed on machine A.
Making /sys/devices/block/sda would still be 8:0.

So to be very clear on machine B when talking about disk-1 I would have.
initial device namespace:
/sys/devices/block/sdb
/sys/devices/block/sdb/dev 8:16

"other" device namespace:
/sys/devices/block/sda
/sys/devices/block/sda/dev 8:0

Similarly on machine B when talking about disk-2 I would have.
initial device namespace:
/sys/devices/block/sda
/sys/devices/block/sda/dev 8:0

"other" device namespace:
/sys/devices/block/sdb
/sys/devices/block/sdb/dev 8:16

So between the two devices namespaces on machine B the two disks
would exchange their user visible identities.

Eric

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