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Subject: Re: [PATCH v3 00/16] make rpc\_pipefs be mountable multiple time  
Posted by [Rob Landley](#) on Thu, 20 Jan 2011 13:57:52 GMT  
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On 01/20/2011 05:35 AM, Kirill A. Shutemov wrote:

> On Mon, Jan 17, 2011 at 06:30:16AM -0600, Rob Landley wrote:  
>> On 01/14/2011 07:48 AM, Kirill A. Shutemov wrote:  
>>> Prepare nfs/sunrpc stack to use multiple instances of rpc\_pipefs.  
>>> Only for client for now.  
>>  
>> Ok, Google is being really unhelpful here.  
>  
> It's better if you read the code. :)

I did. That doesn't necessarily help if I don't know what it's `_trying_` to do and this implementation is just one small piece of a much larger mechanism.

>> What is `rpc_pipefs` for? What uses it, and to do what exactly? Is it  
>> used by nfs server code, or by the client code, or both? Is it a way  
>> for userspace to talk to the kernel, or for the kernel to talk to  
>> itself? Is it used at mount time, or during filesystem operation?  
>  
> Ok, I try to answer. Please correct me, if I'm wrong.  
>  
> `rpc_pipefs` is a userland/kernel interface (I don't see kernel-kernel  
> usecases, but it's possible, I guess).

Then why is the host context treated specially with an `init_rpc_pipefs` instance that isn't necessarily mounted anywhere? (How does userspace access it if it isn't mounted anywhere? Why doesn't the host context just use the same does-not-exist code as container context? Presumably there's a reason for this?)

I've also mounted NFS shares in test environments I never mounted `rpc_pipefs` in. (It's possible that the `nfs.mount` command was doing so for me, and apparently unmounting it again afterwards.) My test environment is exporting with the userspace NFS daemon so it's not using the kernel cacheing infrastructure.

> There is client dir (`nfs/clntX`) in `rpc_pipefs` for every sunrpc client.  
> Both client and server (see `fs/nfsd/nfs4callback.c`) can create sunrpc  
> client. So we `rpc_pipefs` on both side.

Ok, both client and server can create instances. And use them to do what?

I understand that the kernel needs to handle RPC calls to service NFS requests, what I'm not figuring out is how userspace is involved after

the initial mount except on the other side of filesystem-agnostic system calls.

> rpc\_pipefs uses not only on mount time. See old idmapper, for example.

Um, does this sentence say that the old idmapper uses rpc\_pipefs?  
(Presumably not the kernel infrastructure controlled by CONFIG\_NFS\_USE\_NEW\_IDMAPPER because you said it's not a kernel-kernel communication mechanism... So you're saying that whatever userspace infrastructure interacts with that will also depend on rpc\_pipefs. But the new infrastructure doesn't, which is why I need to look at the old?)

(And again, CONFIG\_NFS\_USE\_NEW\_IDMAPPER needs /sbin/request-key from the keyutils package implying this is primarily for authentication, which would explain why I haven't seen it in my simple test environment...)

Rob

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