
Subject: Re: [PATCH v3] SUNRPC: set desired file system root before connecting local transports

Posted by [ebiederm](#) on Tue, 09 Oct 2012 22:47:42 GMT

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"J. Bruce Fields" <bfields@fieldses.org> writes:

> On Tue, Oct 09, 2012 at 01:20:48PM -0700, Eric W. Biederman wrote:
>> "Myklebust, Trond" <Trond.Myklebust@netapp.com> writes:
>>
>> > On Tue, 2012-10-09 at 15:35 -0400, J. Bruce Fields wrote:
>> >> Cc'ing Eric since I seem to recall he suggested doing it this way?
>>
>> Yes. On second look setting fs->root won't work. We need to change fs.
>> The problem is that by default all kernel threads share fs so changing
>> fs->root will have non-local consequences.
>
> Oh, huh. And we can't "unshare" it somehow?

I don't fully understand how nfs uses kernel threads and work queues. My general understanding is work queues reuse their kernel threads between different users. So it is mostly a don't pollute your environment thing. If there was a dedicated kernel thread for each environment this would be trivial.

What I was suggesting here is changing task->fs instead of task->fs.root. That should just require task_lock().

> Or, previously you suggested:
>
> - introduce sockaddr_fd that can be applied to AF_UNIX sockets,
> and teach unix_bind and unix_connect how to deal with a second
> type of sockaddr, AT_FD:
> struct sockaddr_fd { short fd_family; short pad; int fd; }
>
> - introduce sockaddr_unix_at that takes a directory file
> descriptor as well as a unix path, and teach unix_bind and
> unix_connect to deal with a second sockaddr type, AF_UNIX_AT:
> struct sockaddr_unix_at { short family; short pad; int dfd; char path[102]; }
>
> Any other options?

I am still half hoping we don't have to change the userspace API/ABI. There is sanity checking on that path that no one seems interested in to solve this problem.

This is a weird issue as we are dealing with both the vfs and the networking stack. Fundamentally we need to change task->fs.root or

we need to capitalize on the openat functionality in the kernel, so that we don't create mountains of special cases to support this.

I think swapping task->fs instead of task->fs.root is effectively the same complexity.

>> I very much believe we want if at all possible to perform a local
>> modification.

>>

>> Changing fs isn't all that different from what devtmpfs is doing.

>

> Sorry, I don't know much about devtmpfs, are you suggesting it as a
> model? What exactly should we look at?

Roughly all I meant was that devtmpfsd is a kernel thread that runs with an unshared fs struct. Although I admit devtmpfsd is for all practical purposes a userspace daemon that just happens to run in kernel space.

Eric
