
Subject: Re: [PATCH] Wake up mandatory locks waiter on chmod (v2)

Posted by [bfields](#) on Tue, 18 Sep 2007 16:52:20 GMT

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On Tue, Sep 18, 2007 at 12:14:55PM -0400, Trond Myklebust wrote:

> Note also that strictly speaking, we're not even compliant with the
> System V behaviour on read() and write(). See:
>
> http://www.unix.org.ua/oreilly/networking_2ndEd/nfs/ch11_01.htm
> and
> <http://docs.sun.com/app/docs/doc/801-6736/6i13fom0a?l=en&a=view&q=mandatory+lock>
>
> According to these docs, we should be wrapping each and every read() and
> write() syscall with a mandatory lock. The fact that we're not, and yet
> still not seeing any complaints just goes to show how few people are
> actually using and relying on this...

So currently there's nothing to prevent this:

- write passes locks_mandatory_area() checks
- get mandatory lock
- read old data
 - write updates file data
- read new data

You can see the data change even while you hold a mandatory lock that should exclude writes.

Similarly you might think that an application could prevent anyone from seeing the intermediate state of a file while it performs a series of writes under an exclusive mandatory lock, but actually there's nothing to stop a read in progress from racing with acquisition of the lock.

Unless I'm missing something, that makes our mandatory lock implementation pretty pointless. I wish we could either fix it or just ditch it, but I suppose either option would be unpopular.

--b.
