Subject: Re: [PATCH] usbatm: Update to use the kthread api.
Posted by ebiederm on Wed, 03 Jan 2007 09:05:28 GMT
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Alan Stern <stern@rowland.harvard.edu> writes:

> On Tue, 2 Jan 2007, Christoph Hellwig wrote:
>
>> > I have a driver that spawns a kernel thread (using kthread_create) which
>> > does I/O by calling vfs_write and vfs_read. It relies on signals to
>> > interrupt the I/O activity when necessary. Maybe this isn't a good way of
>> > doing things, but I couldn't think of anything better.
>>
>> Given that we have no other way to interrupt I/O then signals at those
>> lower level I don't see a way around the singals if you stick to that
>> higher level design.
>
> Okay.
>
>> > P.S.: What is the reason for saying "signals should be avoided in kernel
>> > threads at all cost"?
>>
>> The probem with signals is that they can come from various sources, most
>> notably from random kill commands issues from userland. This defeats
>> the notion of a fixed thread lifetime under control of the owning module.
>> Of course this issue doesn't exist for you above useage where you'd
>> hopefully avoid allowing signals that could terminate the thread.
>
> In my case the situation is exactly the reverse: I _want_ to allow signals
> to terminate the thread (as well as allowing signals to interrupt I/O).
>
> The reason is simple enough. At system shutdown, if the thread isn't
> terminated then it would continue to own an open file, preventing that
> file's filesystem from being unmounted cleanly. Since people should be
> able to unmount their disks during shutdown without having to unload
> drivers first, the simplest solution is to allow the thread to respond to
> the TERM signal normally sent by the shutdown scripts.
>
> Since the thread is owned by the kernel, random kill commands won't have
> any bad effect. Only kill commands sent by the superuser can terminate
> the thread.
>

Why in the world would a thread hold a file open for an indeterminate duration?
That seems very wrong.

I can just about understand reading a firmware file or something like that
and close the file afterwards. But unless you are worrying about a very small

window I think we have a problem here.

Eric

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