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Subject: Re: [PATCH 1/1] Dynamically allocate the loopback device  
Posted by [Stephen Hemminger](#) on Fri, 24 Aug 2007 17:43:01 GMT  
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On Fri, 24 Aug 2007 19:55:47 +0400  
"Denis V. Lunev" <dlunev@gmail.com> wrote:

> dlezcano@fr.ibm.com wrote:  
> > From: Daniel Lezcano <dlezcano@fr.ibm.com>  
> >  
> > Doing this makes loopback.c a better example of how to do a  
> > simple network device, and it removes the special case  
> > single static allocation of a struct net\_device, hopefully  
> > making maintenance easier.  
> >  
> > Applies against net-2.6.24  
> >  
> > Tested on i386, x86\_64  
> > Compiled on ia64, sparc  
>  
> I think that a small note, that initialization order is changed will be  
> good to record. After this, loopback MUST be allocated before any other  
> networking subsystem initialization. And this is an important change.  
>  
> Regards,  
> Den

Yes, this code would break when other drivers are directly linked  
in.

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Containers mailing list  
Containers@lists.linux-foundation.org  
<https://lists.linux-foundation.org/mailman/listinfo/containers>

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Subject: Re: [PATCH 1/1] Dynamically allocate the loopback device  
Posted by [dlunev](#) on Fri, 24 Aug 2007 21:24:29 GMT  
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no, and this is important. Loopback is initialized in fs\_initcall which  
is called sufficiently before module\_init.

I have checked the code and do not see initialization order mistakes  
right now. But, from now on, maintainer should pay attention for this  
unfortunate consequence :(

Regards,  
Den

Stephen Hemminger wrote:

> On Fri, 24 Aug 2007 19:55:47 +0400

> "Denis V. Lunev" <dlunev@gmail.com> wrote:

>

>> dlezcano@fr.ibm.com wrote:

>>> From: Daniel Lezcano <dlezcano@fr.ibm.com>

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Subject: Re: [PATCH 1/1] Dynamically allocate the loopback device

Posted by [ebiederm](#) on Mon, 27 Aug 2007 12:12:14 GMT

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Stephen Hemminger <shemminger@linux-foundation.org> writes:

> On Fri, 24 Aug 2007 19:55:47 +0400

> "Denis V. Lunev" <dlunev@gmail.com> wrote:

>

>> dlezcano@fr.ibm.com wrote:

>> > From: Daniel Lezcano <dlezcano@fr.ibm.com>

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> Yes, this code would break when other drivers are directly linked
> in.
```

No. Other drivers don't care at all about the loopback device, and it isn't a requirement that the loopback device be initialized before other devices.

The requirement is that the loopback device is allocated before we start using it. Which means networking subsystems like ipv4 and ipv6 care not other network drivers. In practices this means before we get very far into the ipv4 subsystem initialization as ipv4 is always compiled in and is initialized early.

To get the initialization order correct I used fs\_initcall instead of module\_init.

When I reflect on it. I'm not really comfortable with the fact that we currently start using the loopback device before we finish initializing and register it. Although it has worked for over a decade so I guess early on we don't care about much more then the address of the loopback device.

>From what I can tell the initialization order dependency seems much less subtle and much more robust then separate rules for allocating the loopback device. We have had several patches recently that broke (including one merged upstream). The only way I can see to break an initialization order dependency is to go deliberately messing around with initialization order.

Eric

p.s. My apologies for the late reply some one dropped me off the cc.  
And I have been under the weather all week.

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