Subject: Re: [PATCH] Remove rcu_assign_pointer() penalty for NULL pointers
Posted by Herbert Xu on Sat, 01 Dec 2007 01:07:52 GMT
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On Fri, Nov 30, 2007 at 04:37:21PM -0800, Paul E. McKenney wrote:
>
> The rcu_assign_pointer() primitive currently unconditionally executes
> a memory barrier, even when a NULL pointer is being assigned. This
> has lead some to avoid using rcu_assign_pointer() for NULL pointers,
> which loses the self-documenting advantages of rcu_assign_pointer()
> This patch uses __builtin_const_p() to omit needless memory barriers
> for NULL-pointer assignments at compile time with no runtime penalty,
> as discussed in the following thread:
>
> http://www.mail-archive.com/netdev@vger.kernel.org/msg54852.html
>
> Tested on x86_64 and ppc64, also compiled the four cases (NULL/non-NULL
> and const/non-const) with gcc version 4.1.2, and hand-checked the
> assembly output.
>
> Signed-off-by: Paul E. McKenney <paulmck@linux.vnet.ibm.com>

Acked-by: Herbert Xu <herbert@gondor.apana.org.au>

Thanks a lot for following through with this Paul!
--
Visit Openswan at http://www.openswan.org/
Email: Herbert Xu ~{PmV>HI~} <herbert@gondor.apana.org.au>
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PGP Key: http://gondor.apana.org.au/~herbert/pubkey.txt

Subject: Re: [PATCH] Remove rcu_assign_pointer() penalty for NULL pointers
Posted by paulmck on Sat, 01 Dec 2007 06:00:58 GMT
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On Sat, Dec 01, 2007 at 12:07:52PM +1100, Herbert Xu wrote:
> On Fri, Nov 30, 2007 at 04:37:21PM -0800, Paul E. McKenney wrote:
> >
> > The rcu_assign_pointer() primitive currently unconditionally executes
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> >
> > Signed-off-by: Paul E. McKenney <paulmck@linux.vnet.ibm.com>
>
> Acked-by: Herbert Xu <herbert@gondor.apana.org.au>
>
> Thanks a lot for following through with this Paul!

No problem -- after all, it is not every day that one gets the opportunity
to make a simple change that speeds things up and makes kernel hackers
lives a bit simpler. ;-)

Thanx, Paul
