Subject: Re: [PATCH] mark read_crX() asm code as volatile
Posted by Nick Piggin on Tue, 02 Oct 2007 15:49:24 GMT

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On Wednesday 03 October 2007 16:18, H. Peter Anvin wrote:
> Nick Piggin wrote:
> >> This should work because the result gets used before reading again:
> >>
> >> read_cr3(a);
> >> write_cr3(a | 1);
> >> read_cr3(a);
> >>
> >> But this might be reordered so that b gets read before the write:
> >>
> >> read_cr3(a);
> >> write_cr3(a | 1);
> >> read_cr3(b);
> >>
> >> ?
> >
> > I don't see how, as write_cr3 clobbers memory.
>
> Because read_cr3() doesn't depend on memory, and b could be stored in a
> register.

How does the compiler know it doesn't depend on memory?

How do you say it depends on memory? You really need something
as heavy as volatile?