

Re: Fwd: Removing Giant from a driver

Source: <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/hackers/2006-10/msg00166.html>

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 - *Date:* Fri, 20 Oct 2006 17:30:47 -0700
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usleepless@xxxxxxxx wrote this message on Sat, Oct 21, 2006 at 00:50 +0200:

what should it look like?

You should be creating a mutex (using `mtx_init`) at attach time, and pass that mutex instead of Giant...

and don't touch `busdma_lock_mutex`? (i am passing NULL, NULL at the moment)

see `bus_dma(9)` for more information... but yes, if you use a `MTX_DEF` mutex, `busdma_lock_mutex` is fine...

and how will i prevent the interrupt routine from interfering with userland operations? can i place a "`mtx_lock()`" call in the interrupt routine?

Correct.... Fast interrupt handlers cannot use a sleeping mutex, but I doubt this driver is using a fast interrupt handler...

what is the benefit of a fast interrupt handler? (i assume a taskqueue is involved). the interrupt-dma-code of this driver includes `tsleep`-calls. does that hurt? i have a shared interrupt with the second tuner-module and my soundcard.

A fast interrupt handler doesn't context switch, it uses the stack that was currently running, so it can't sleep since the stack it is running on may be the stack that needs to run to unlock the lock you would sleep to acquire...

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i ask because the performance on my FBSD 6.x, P4 2.4ghz, 1 card, 2 tuners setup dissapoints me compared to my 4.11, P3 1.0ghz(!), 2 cards, 4 tuners setup.

tsleep'ing from an interrupt handler can be really bad... if the interrupt handler is shared, the other interrupt handler won't run till the first one returns...

I have no issues w/ performance on my HDTV capture driver... It's something like 2-5% cpu usage when I capture.. Though I've only ever t