

Re: Help with a driver im writing.

Source: <http://linux.derkeiler.com/Newsgroups/comp.os.linux.development.system/2006-01/msg00072.html>

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Tasklets don't interfere each other on single CPU with non-preemptable kernel. You may put the real read operation into other tasklet and in IRQ just to schedule it. If interrupt happens during a write operation, read will be deferred. But if your hardware doesn't support this, for example, hardware clears data after receive a acknowledgement from CPU, you may have to check write state before perform a read operation. And if write operation is uninterruptable, you may have to put it into a critical section with interrupt off anyway.

--Peter Z

Aceman wrote:

- > Hello all,
- >
- > I am writing a driver for a custom piece of hardware I built.
- > It's running on kernel version 2.6.14 single intel cpu, non-preemptable
- > kernel.
- >
- > Im quite new to device driver writing but I know enough to be dangerous :)
- >
- >
- > My driver uses interrupt driven reads, and non interrupt driven writes.
- > It will have 1 reader and 1 writer, since it does not really make sense
- > for this device to have more. At any rate my problem is I can't have
- > the driver read and write at the same time because of the way the
- > hardware is made.
- >
- > My write routine is a loop (4 times) in which i shift data out to the
- > device in a series of outb's which selects output banks (because im
- > multiplexing to 48 bits) and writes the data to each.
- >
- > My read routine is implemented in a workqueue and it loops 3 times using
- > outb's to select and input bank and shift in data. Then of course
- > waking up the sleeper and copying it to user space.
- >
- > Problem is if a proc is sleeping on the read, and the writer is in the
- > middle of the outb loop (bank selecting and data output) when an
- > interrupt is serviced it of course jumps out and does the input loop,
- > possibly corrupting data because it was not finished with the write

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- > sequence. Basically the read and write loop must finish to completion.
- >
- > I was thinking something like when im in the bottom half check to see if
- > a write is in progress – if so sleep for a while? or go back on the
- > waitqueue with a timeout? and check again..
- > Im not sure the best way to implement this.
- >
- >
- > Any advice would be appreciated.
- > Stan

• **References:**

- ◆ **[Help with a driver im writing.](#)**
◇ From: Aceman

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