Re: Palatable Windows IO using Ada

Source: http://coding.derkeiler.com/Archive/Ada/comp.lang.ada/2006−04/msg00072.html

- *From*: "Steve" <nospam_steved94@xxxxxxxxxxx>
- *Date*: Mon, 10 Apr 2006 06:50:53 −0700

"Dmitry A. Kazakov" <mailbox@xxxxxxxxxxxxxxxxx> wrote in message news:o2i2brhcp49x$.1lmgnwrqgqzf7$.dlg@xxxxxxxxxxxxx

> On Sun, 9 Apr 2006 06:50:23 −0700, Steve wrote:

[snip]

> > In one case, when communicating with an Allen Bradley PLC using DF1 protocol, I found that the driver that handled one character at a time used up a significant part of the available CPU time. Enough that the computer was observed to be very sluggish.
> >
> > The DF1 protocol uses markers (DLE) to mark key locations in the data stream. By using a "read until character" function instead of reading one character at a time, the CPU overhead was significantly reduced, and the system was no longer sluggish.
>
> How would you tell that to the driver? Do you mean a true driver here or merely a program that uses an OS serial driver? I meant the later...

So did I. On the systems I have used there have been systems calls "read until character or timeout" or at least a mechnism of implementing that functionality.

> Talking about drivers, you are absolutely right. Interrupts are very expensive on wintel platform. I had to redesign one driver (an ISA transputer link driver) for a similar reason. The card produced an interrupt per byte at up to 1Mbaud...

[snip]

> On NT/XP for full duplex communication, you really have two choices:
> Use non−blocking I/O (poll)
> Use overlapped I/O

I prefer two threads, one does blocking read (incoming bytes stream),
another blocking write (outgoing packets), it works well. Overlapped I/O
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