

Re: CPU load due to IP networking

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From: jbl (levinjb_at_gmail.com)

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Unruh wrote:

> "jbl" <levinjb@gmail.com> writes:
> >I'm looking for some data on the approximate resource cost,
> >particularly CPU usage cost, of doing networking in a typical system,
> >in particular a Unix-like system (linux is a suitable example) and
> >vxworks (hence the crossposting).
>
> This is an extremely ill defined question. It will depend on exactly how
> the driver is written, how the driver is accessed by the software, etc.

This is why I'm interested only in rough estimates -- I should perhaps have added examples.

> >I hope it's clear enough what kind of data I'm looking for, and that I
> >only need rough numbers. If anyone knows of something of this sort
> >that's been published, for any operating system, actually, I'd
> >appreciate a pointer.
>
> The numbers you are liable to get will be so rough that you could guess
> them just as profitably.
>
> Maybe if you told us the problem you are trying to solve, you would get
> better answers.

I'm trying to provide some guidelines for system engineers in an environment where a CPU is already loaded a certain amount doing control and telemetry with no internetworking within some allocation (such as, say, 75%) of available CPU bandwidth. In this case it is difficult to say "throw more bandwidth at it" because high speed processors designed for this environment (radiation hardened) are not yet available. An alternative, adding a new processor to handle network and/or router functions, has substantial cost in increased complexity, power and space required. Sorry to be so vague about this.

I realize that the most reasonable way to answer this question may in fact be "build it and do the measurements".

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/JBL