Re: Supercomputer OS's

Source: http://sci.tech−archive.net/Archive/sci.electronics.design/2007−02/msg04062.html

- *From*: Iwo Mergler <Iwo.Mergler@xxxxxxxxxxxxxxxxxxx>

- *Date*: Wed, 21 Feb 2007 10:07:50 +0000

Frithiof Andreas Jensen wrote:

> "Iwo Mergler" <Iwo.Mergler@xxxxxxxxxxxxxxxxxxx> wrote in message
>
> > I suppose I should qualify "Linux port". In my understanding
> > that means porting the kernel. That usually involves adjusting
> > a few addresses and rewriting or adapting the low level
> > assembler stuff. Most new drivers tend to be unnecessary,
> > as most jellybean hardware is compatible with the same thing
> > on a different platform. It's not always obvious.
>
> Keep Dreaming ;−)
>
> This particular setup was a disk−less dual Opteron card (actually *using*
> IPMI for syslog reporting to a manglement system). The card must reserve
>
> <snipped interresting description>
>
> The testing, fixing, workarounding and documenting of all the niglets and
> failures take time. However we are now quite convinced that this system
> *will* run for 10 years without a hard reboot and the customer knows how
> to use it from the documentation!

Quite an impressive story. I still maintain that you didn't actually port Linux (x86 was already supported on PC compatibles). You were probably able to boot a standard distribution to start with.

What you did was a hell of a lot harder − creating a new OS based on Linux, to do stuff Linux wasn't able to do initially. You did very non standard things with a standard PC. I can see how this could be relevant to supercomputers.

My experience is with completely new architectures − new ASIC designs, incompatible with anything that went before. The aim is usually to

get 'normal' Linux running on them.

> The build system takes a lot of time too − getting from the standard kernel source and to the thing we ship in a sane way takes a lot of design. Basically we do as RedHat does: take a standard kernel and patch the hell out of it before the build. But just to make the process more fragile and suck more disk and network bandwith, we must use Clearcase − the corprat standard!

I can feel your pain...

Kind regards,