Re: Why is SUN falling so far behind IBM?

Source: http://unix.derkeiler.com/Newsgroups/comp.unix.aix/2004−08/0413.html

---

From: Arthur Corliss (*acorliss_at_bifrost.nevaeh−linux.org*)
Date: 08/16/04

Date: Mon, 16 Aug 2004 21:24:12 −0000

On 2004−08−08, Benjamin Gawert <bgawert@gmx.de> wrote:
>
> *Right. But the current compilers from intel are quite good at*
> *optimization...*

I would hope so, it's their chip. But I can't help but think that there's going to be a lot of real−world apps whose logic won't fit well in the templates, wasting a good chunk of Itanium's theoretical throughput. I have a bit more faith in branch prediction logic in eeking a bit more out of unexpected tasks than a predefined template system.

> *Maybe. But at least our software angineers have no problem with wasted*
> *bandwith on Itanium. And from what I know most other ISV don't have that*
> *problem, too.*

Have they even done statistcal modeling to see what they should be getting compared to what they are getting? Most engineers seem to be just ducky out−performing the last code base, without really understanding just what they should be getting out of the hardware.

> *Right. So what? Of course when comparing performance/clock cycle MIPS still*
> *is good. But MHz as a performance criteria is more something for the PC*
> *Kiddies. The CPU clock is quite irrelevant. Who cares when MIPS does more*
> *instructions per clock cycle when the architecture limits the achievable max*
> *performance way below what other modern processors do. Of course the*
> *performance/clock ratio is better than on the R14k−600 than on the POWER4*
> *1.7, but in the end the POWER4 offers much more overall performance than the*
> *R14k...*

It matters a great deal when you consider that for all the nice benchmarks these processors get they still spend a considerable chunk of thier time idle due to data starvation. This is the key difference between SGI and and other vendors: they spend a hell of a lot of time ignoring external bottlenecks while SGI works on resolving those instead.

I would put forth that it's reasons like this why customers like Wright−Patterson AFB still put out the bucks for Origins. The pipeline to the processor is kept a hell of a lot fuller in them.

> *Yes, historically. For sure it's efficient (that's btw the reason why MIPS*