

Re: Would a 2nd processor really be a waste of time???? help

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On Wed, 16 Jul 2003 18:18:03 +1200, Lee and Nadine wrote:

- > *We are looking at different aspects on what to do about our older unix*
- > *sco 5.5 server that tends to run slow at times (333mhz with 196 meg*
- > *ram). using cpqmon it shows the CPU "2 sec avg" the "10 sec avg" and*
- > *the "20 sec avg" as maxxed out when things run slow. One idea was to*
- > *buy another processor and more ram, however this is what one supplier*
- > *has told us – see below. I have no idea if what he is saying is correct*
- > *of if hes trying to drum up more sales. Some ideas on what he wrote*
- > *would be greatly appreciated.*
- >
- > *As quickly discussed on the phone today the server is dual processor*
- > *capable.*
- >
- > *Your server has only 1 processor.*
- >
- > *Memory is not an issue unless the system is swapping , if this was the*
- > *case on your system you would not be able to login.*
- >
- > *Your system is not swapping and so is not the cause of the slow system.*
- >
- > *The server is only 333 MHz, what would a 5 year old 333 MHz PC with 75*
- > *users logged in run like?*
- >
- > *The Unix system takes full advantage of Symmetric Multi Processing when*
- > *the SMP license is installed.*
- >
- > *The only advantage of this would be seen when the system as it stands*
- > *gets processor bound and slows down , with dual processors the load is*
- > *shared and this processor bound state takes a little longer to occur .*
- >
- > *A second processor does not speed up a server but shares load at current*
- > *processor speed. i.e. 333Mhz*
- >
- > *It should be noted that even with a second processor the system may*
- > *become processor bound very quickly.*

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- >
- > *Estimated Pricing:*
- >
- > *SCO Unix SMP License*
- > *\$2,900*
- >
- > *Second 333 MHz Processor [subject to availability] \$1,000*
- >
- > *Installation approximately 2 days labour [out of hours rate] \$ 2,400*
- >
- > *Plus travel and accommodation*
- >
- > *Estimated pricing does not include GST.*

Holy cripes!!!

a 333mhz anything, even a xeon, could be at most about \$75(US)

installation including changing the bios settings and installing the smp license and even including the possible backing-out of several sco patches and supplements so that they can be re-added after smp is in, should only be a couple hours. 4 maybe if you run into some unforeseen problem that takes a while to figure out or simply abandon the attempt and revert. add a couple more if you want to be extra safe and do a full backup first, but since you should have one of those every night anyways, I wouldn't even bother. it's not an especially risky operation. (although, anyone who says it takes two days may not be of the competence level where they know how to make a copy of the current good kernel and if necessary boot from it later, so for them, if the box doesn't boot after installing smp and the only way they know to fix it is something collosally overkill like restoring the whole drive from a tape... yeah for them it might take two days.) add another hour for standing around testing and listening/watching for problems after you go back to work. I'd probably stand around about 15 minutes myself. most problems will either show up immediately, or else there is no predicting and no sense waiting.

I have no idea what an smp license costs but that you can find on-line many places, because lots of people sell it and it doesn't matter who you get it from. the only value a vendor could add to make his price worth more is if he is knowledgeable he can assure that you buy the right license and nothing you don't need. It is confusing in some cases and so this service is actually valuable in some cases. Yours is not a complex licensing problem though.

your cpu is old enough that you should actually be able to get two matching faster cpus for \$200(US) or so all together. This would require knowing the exact motherboard model and revision, and bios version, and probably installing a bios update from the motherboard manufacturer to support faster cpu's than it originally could. I've done it plenty of times and all that would be part of the same couple hours I said above.

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you have other speed limits on a box that old, probably the scsi card is not a high-end raid card nor ultra160 discs. probably the ram is 66 mhz sdram

The second cpu will probably help ...somewhat. probably not what you'd call "a lot". No particular job will go any faster, but, the box as a whole can support almost twice as many jobs at any one time as it could before. There is some overhead managing two cpu's though, so sometimes it's really more like 1.5 to 1.8 times as many jobs instead of the theoretical 2.0 times as many jobs.

This will make everything faster, just by making them possible at times when some big job would have normally tied up your only cpu. All in all I'd say it was worth doing, being cheaper faster and easier than getting a new server, but not at the quoted prices. at those prices you might as well get a new server because even though that would definitely be a lot more, at least you know about how much faster it will be. Beware you would need to upgrade your version of OS to at least 5.0.6 in order to use any P4 based cpu.

The ram/swapping/not-swapping argument is not quite true either. If nothing else, you can probably get a noticeable boost by adding more ram even if all you do with it is max out the disk buffer cache size kernel parameters. (giving yourself 450 megs of disk cache). going too far in this direction can hurt performance too, because every few seconds the OS flushes the cache, and it takes a lot longer to flush 450 megs than say, 20. there are other tunable parameters that control how often and at what threshold the cache is flushed which might make the extremely large cache work out, but it depends on your actual usage pattern which I cannot guess. that requires some live testing and observation. (THAT can easily take two days, or two weeks or two months... but somehow I don't get the impression their quote figured in anything like that.) enabling sar is a good start. installing sarcheck is another.

to summarize:

You'll get more of a boost with new cpu, new motherboard and new ram (ddr or rdram at high bus rates, not sdram), which will also require an OS upgrade. Even if single-cpu, just because the cpu and memory are so much faster.

You'll get a good noticeable hike by adding a second cpu to existing system, especially if the motherboard can take faster cpu's and you replace both rather than add one. (the same applies to the ram, maybe the motherboard can be made to use pc100 or even pc133 sdram instead of 66? It *should* be a lot faster easier and cheaper to do this than set up a new server, but the quotes you received are not good enough to make it worth doing in my opinion. Perhaps another consultant in your area?

there are other issues that make a huge difference that might be worth looking at too. what kind of hard drive do you have now? Replacing a 20 or 40 mhz scsi drive & controller with a 10k or 15k ultra160 drive and ultra160 controller makes a big difference. stepping up to raid

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even more so, but then it gets expensive. :) It's a time consuming job swapping hard drives and controllers. coupled with the cost of the hardware itself, it's probably too much to be worth doing because the amount of improvement is not as sure.

- > *As discussed this is not a very good idea due to the small possible*
- > *advantage it may bring during peek usage and cost benefit. Even after*
- > *installation you may find that there has been no improvement in*
- > *performance .*
- >
- > *Again as mentioned on the phone we need to get the new server installed*
- > *as soon as possible so users can benefit from superior technology*
- > *enhancements of the past 5 years.*

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