Subject: Re: IDL and Dual Processor PC's
Posted by steinhh on Fri, 04 Jun 1999 07:00:00 GMT
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In article <7j77fs$uo0$1@nnrp1.deja.com> Peter Mason
<menakkis@my-deja.com> writes:
>
> "Tanya Lancaster" <lancaste@morph.ebme.cwru.edu> wrote:
>> We are looking into purchasing a dual processor pc. I was wondering
>> if there would be a notable increase in speed for running IDL
>> programs.
>> Right now we handle large medical image data sets and operations on
>> the data sets take up to several hours on a PII -400, 256 mb memory.
>
[...]
> Unless you are going to be writing multithreaded routines for accessing
> via IDL's call_external (or similar), or doing some sort of concurrent
> work like the Linux poster, I'd say that dual CPU is something of a
> luxury and the money's better spent on more memory or hardware RAID.
> (If you're routinely crunching through large datasets then it is likely
> that a good I/O subsystem will be your best investment by **F*A*R**.)

The answer to your question really depends on how you're processing
the data. IDL is not going to do anything for you wrt taking
advantage of dual processors, but if your processing involves just
a few, time-consuming (sequences of) operations, some of which are
independent of the others, it's not *that* difficult to write
e.g. CALL_EXTERNAL routines using e.g. RPC that'll pass data from
one IDL process to another (slave) process, that does some
processing while the master is doing (other) work on the data set.

Things to look out for is e.g.

```
fft_of_huge_image = fft(huge_image,-1)
fft_of_huge_image2 = fft(huge_image2,-1)
;; ....processing... involving both fft products
processed_image = fft(fft_of_huge_image,1)
processed_image2 = fft(fft_of_huge_image2,1)
```

If the fft's are taking a lot of your processing time, running
a master/slave IDL process could be a good thing.

On the other hand, if your processing is more like this:

```
read_image,name,huge_image
fft_of_huge_image = fft(huge_image,-1)
;; .... processing....
processed_image = fft(fft_of_huge_image,1)
```

```
save_huge_image,processed_image

read_image,name2,huge_image
fft_of_huge_image = fft(huge_image,-1)
;; .... processing....
processed_image = fft(fft_of_huge_image,1)
save_huge_image,processed_image
```

..then you could be getting a lot more value for money if you buy two single-processor systems, running them in parallell "by hand"...

Regards,

Stein Vidar
