Subject: Re: IDL Matrix Multiply and Dual-Core CPUs
Posted by Foldy Lajos on Fri, 09 May 2008 18:16:12 GMT
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I have run some tests on a quad-core Intel Core2 Q6600 / linux 64 bit machine.

On Fri, 9 May 2008, s.haenger@gmail.com wrote:

> Hi,
>
> I have a Problem with IDL 7.0
> We have to multiply large matrices. With some matrix sizes, the CPU
> usage is 100% but for most of the matrices it is 50%. (I'm runnning it
> on a Intel T7250 (Dual Core, 2GHz, 2MB L2 Cache))
>
>
> The CPU System Variable is configured like this:
> IDL> print, !CPU
> { 0 0 2 2
> 100000 0}
>
>
> Now we do this:
> matA = randomn(42, 2000, 2200)
> matB = randomn(43, 2020, 2000)
> matIdl = matA##matB
>
> So now i've got a CPU usage of 100%
>

# of threads	IDL 7 time
1	12.476210
2	6.5931890
3	5.2085290
4	4.9191489

it scales well for two cores, so the CPU usage should be near 100% for two threads.

> but with this:
> matA = randomn(42, 2500, 2500)
> matB = randomn(43, 2520, 2500)
> matIdl = matA##matB
>
> the cpu usage is around 50%-60%

# of threads	IDL 7 time

1	22.034877
2	11.681226
3	9.7771089
4	9.3093379

again, CPU usage should be near 100% for two cores.

Just for comparison, ATLAS (http://math-atlas.sf.net) times:

# of threads	IDL 7 time
1	4.4285851
4	1.1784132

and

# of threads	IDL 7 time
1	7.8148808
4	2.1345751

regards,
lajos
