Subject: Re: IDL Matrix Multiply and Dual-Core CPUs
Posted by Foldy Lajos on Fri, 09 May 2008 18:20:09 GMT
View Forum Message <> Reply to Message

oops, I have written IDL 7 time to the ATLAS test. Corrected below.

lajos

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 | ATLAS time |
|---|---|
| 1 | 4.4285851 |
| 4 | 1.1784132 |

and

| # of threads | ATLAS time |
|---|---|
| 1 | 7.8148808 |
| 4 | 2.1345751 |

regards,
lajos
>

---