
Subject: Re: IDL 5.3 Performance ?

Posted by [David McClain](#) on Tue, 08 Feb 2000 08:00:00 GMT

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The only fair way to make this comparison is to install the old IDL 5.2x on your new machine and run the same code. There are so many hardware variations with respect to bus width to memory, how many processors, how large and what mapping the secondary and primary caches offer, etc, etc. I would be interested to hear your results...

David McClain, Sr. Scientist
Raytheon Systems Co.
Tucson, AZ

Richard Tyc <richt@sbrc.umanitoba.ca> wrote in message
news:87q5b0\$g0k\$1@canopus.cc.umanitoba.ca...

> IDL speed gurus:.

>

> I just received my new Dell machine last week. It's a top of the line dual
> processor Pentium which should be blistering fast. I promptly began to do
> some speed tests using the idlspec2 from JD Smith at Cornell (results have
> been sent...) and also some app specific tests using my medical image
> application for which we bought the machine. Needless to say, I am not
> impressed with the performance so far but am confused at what the problem
> is. I am leaning toward saying its IDL 5.3 if this is possible.

>

> The current machine in question is a Dell Precision Workstation 420, dual
> Pentium III 733 MHz, 512 Mb Rambus RDRAM Memory on NT4 SP5. It uses a
> relatively low-end graphics card, a Matrox G400 Max. I tend to think this
> may be where the problem lies. It had IDL 5.3 installed

>

> I compared the performance with a previous machine I got which is now in
the

> hands of our mechanical engineers running Autodesks Mechanical Desktop.
> It was a Dell Precision Workstation 410, dual 700 MHz Pentium III, 1024 Mb
> SDRAM, with a screaming fast Wildcat 4000 graphics card. It had IDL 5.2.1
> installed.

>

> Anyway, the tests in question should really be exploiting the CPU
> performance so I thought it was irrelevant the older Dell had the high end
> graphics card. I noticed the TIME_TEST3 performance was alot worse. For
> example running an empty for loop 2000000 times took 0.07799 units on the
> 700 MHz vs 0.172 on the new 733 MHz Dell.

>

> My app also takes almost twice as long on the current Dell and most of the
> work is number crunching and displaying rendered volumes (IDLgrvolume)
which

> should not take advantage of high end graphics cards like the wildcat but

> rather CPU performance because it uses a software ray tracing technique.
>
> So, the main difference seems to be the old machine had IDL5.2.1 and the new
> IDL5.3 and I know from SPEC benchmarks the new Dell using the 733 Mhz
> Pentium, the Rambus memory etc IS faster. So, is it possible IDL 5.3 may
> run applications/benchmarks slower ? It's hard to believe and I think
other
> factors are at play but its odd even the CPU speed tested in idlspec2 is
> slower.
>
> Q. for JD Smith: is the is2_53.sav test program alot different than the
> version for IDL 5.2 ?
>
>
>
> Any comments/ideas ?
>
> Rich
>
>

Subject: Re: IDL 5.3 Performance ?

Posted by [davidf](#) on Tue, 08 Feb 2000 08:00:00 GMT

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Richard Tyc (richt@sbrc.umanitoba.ca) writes:

> Needless to say, I am not
> impressed with the performance so far but am confused at what the problem
> is. I am leaning toward saying its IDL 5.3 if this is possible.
>
> Any comments/ideas ?

Uh, don't be thinking about Customer of the Year awards
this year. :-(

Cheers,

David

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Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

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Subject: Re: IDL 5.3 Performance ?

Posted by [roy.hansen](#) on Wed, 09 Feb 2000 08:00:00 GMT

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In article <87q5b0\$g0k\$1@canopus.cc.umanitoba.ca>, "Richard Tyc" <richt@sbrc.umanitoba.ca> wrote:

> IDL speed gurus:.

snip - snip

> Any comments/ideas ?

>

In my opinion, 5.3 is slower than 5.2.1.

This behaviour from RSI is actually predictable (if I recall correctly):

5.1.1 was fast. 5.2.0 was slow. 5.2.1 was fast. 5.3.0 is slow.

Of course, there's another possibility:

Maybe RSI puts in some busy-wait statements in their code to slow it down in their newer releases to push sales of processors (in the same way M\$ does :-)

I did a small comparison on my two old Dell pcs (PPro & PII-400).

time_test2 gave the following result:

CPU	IDLVer	result (total time)
-----	--------	---------------------

PPro	5.2.1	8.51
------	-------	------

PPro	5.3.0	12.62
------	-------	-------

P-II	5.2.1	5.00
------	-------	------

P-II	5.3.0	9.55
------	-------	------

I dont know wether time_test2 is the same for 5.2.1 & 5.3.0 so I benched the performance of the FFT (a function I use a lot). The results:

PPro - 5.2.1

1D-a	3.9500000
------	-----------

1D-b	3.4600000
------	-----------

2D-a	7.7500000
------	-----------

2D-b	13.180000
------	-----------

PPro - 5.3.0

1D-a	6.3200001
------	-----------

1D-b	6.8100001
------	-----------

2D-a	8.8399999
------	-----------

2D-b	15.380000
------	-----------

PII-400 - 5.2.1
1D-a 1.7600000
1D-b 1.6999999
2D-a 5.2800001
2D-b 8.8500000

PII-400 - 5.3.0
1D-a 3.4100001
1D-b 3.4100000
2D-a 5.7600000
2D-b 10.100000

Hence, the 1D FFT is a factor of 2 slower in 5.3 than in 5.2.1

--RoyH

Here's the source code for my simple 1D and 2D FFT benchmark:

```
b = fltarr(32768L)
a = systime(1)
for i=0, 99 do c = fft(b,-1)
print, '1D-a ', systime(1)-a

b = fltarr(1024L)
a = systime(1)
for i=0, 4999 do c = fft(b,-1)
print, '1D-b ', systime(1)-a

b = fltarr(512,512)
a = systime(1)
for i=0, 9 do c = fft(b,-1)
print, '2D-a ', systime(1)-a

b = fltarr(1024,1024)
a = systime(1)
for i=0, 3 do c = fft(b,-1)
print, '2D-b ', systime(1)-a

END
```
