
Subject: ***IDL Speed Survey (IDLSPEC) Results!!!
Posted by [J.D. Smith](#) on Wed, 15 Apr 1998 07:00:00 GMT
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IDLers:

I apologize for the delay, but the results from the speed survey are finally in. The sorted files and an explanation file can be found at:

<ftp://iras2.tn.cornell.edu/pub/jdsmith/>

There were 42 entries, from older 486's to a 12 processor SGI Power Challenge. Unfortunately, since this test started quite informally, the design and entry restrictions left something to be desired. As you may recall, I did not specify as one of the entry items the type of hard drive or other output device being employed. As a result, my confidence in the I/O portion of the SPEC is quite low, and I explicitly removed it from the calculational performance sort.

The approximate breakdown of machines is as follows:

- ~10 Windows 486 or greater Class Machines
- 7 PowerMacintosh PPC (G3/604(e)/603e)
- 7 Linux Pentium or Greater Class machines
- 6 Sun Sparc/UltraSparc Machines
- 4 Dec Alpha Workstations
- 3 SGI IRIX Machines (1-12 processors)
- 1 VAX Station
- 1 IBM PPC AIX Machine
- 1 IBM RS6000 AIX Machine

NOTE: IF YOU DO NOT FIND A MACHINE YOU SUBMITTED LISTED, IT IS LIKELY DUE TO AN INCORRECT SUBMISSION. IF YOU WANT TO BE INCLUDED IN THE RESULTS, READ THE EXPLANATION FILE AT THE ABOVE URL AND RESUBMIT USING THE ENTRY FORM GIVEN.

And now, without further adieu, a summary of the results:

Calculational:

As I mentioned, I removed the I/O performance from this sort, and sorted on the average of the remaining arithmetic and geometric means. A not-too-surprising and solid first place went to the Digital Workstation 500au, whose results were submitted by s.v.h.haugan@astro.uio.no. A surprising second, however, went to the PowerWave 604/132 -- a PowerComputing product, I believe, upgraded to a 300MHz 1:1 1Mb backside cache PowerPC 750 (G3), and running MacOS, submitted by pford@bcm.tmc.edu (Patrick Ford, MD). Sun UltraSparcs, Pentium II

machines, Dec Alpha-Stations, and PowerMac G3's all followed reasonably close behind.

The multi-processor machines suffered, since IDL is not multi-threaded on any architecture I know of. However, Joe Harrington, a local Linux guru and builder of multi-processor Pentium boxes, did demonstrate the superior capability of his dual Pentium-II machine to me by running concurrently two sessions of IDL each running `time_test2`. As he expected, both sets of tests ran in parallel about 1.75 times as fast as when run one at a time. However, since this is not a normal mode of operating IDL, I entered only his single-session results.

As far as cross-platform performance, there is only slight evidence that, on dual-boot Linux/Windows machines, the Windows version is faster. Of course, this may have been caused by different loads on each OS at the time the test was run, and the result was not overwhelmingly significant.

To relieve those of you who did not place near the top of the list, the last-placed machine was the one I worked on up until last year.

Graphics:

There was a wide distribution of graphics performance among the various entries. A Dell Pentium 133 contributed by Med Bennett <mbennett@indra.com> took the lead, clearly demonstrating that video hardware dominates this test. Notable average performers were the Macintoshes, whose top contenders seemed to lag somewhat behind the top PC's. Traditionally unix workstations were spread throughout the rankings. Surprisingly, the much ballyhooed Sun Creator 3-D graphics system was unable to top a standard PC video card, although two Creator systems were in the top 5.

The cross-platform test cited in the previous example gave an almost 2 to 1 edge to Linux in the graphics tests, but the machine is a laptop, so it's hard to say whether this performance would carry over to the desktop realm.

I/O:

I have the least confidence in the results of this test, since I did not request information on the hard drive or other output device being accessed, and since I fear some entrants accidentally let the I/O test be performed to a network or removeable drive. For this reason I removed the I/O from the general calculational sort.

The traditional workstations showed their clear edge in this category, with the top 8 positions going to SGI, Sun and Dec Alpha machines. Pentium Class machines followed behind them, and Macintoshes were generally near the bottom of the list (which is surprising, since most Mac's have SCSI i/o buses, and most PC's use IDE, a slower technology).

While I do not have great faith in the significance of these results, it does seem that this is one area where RSI could put some effort into

cross-platform performance boosts, especially with respect to its MacOS offering (which may be influenced by remaining 680x0 emulated code in the MacOS file subsystems -- not RSI's fault at all).

I hope this survey has proved informative. I welcome all comments and suggestions. If you are unable to retrieve the listings, contact me and I'll attempt to arrange alternate means of access.

JD

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Subject: Re: ***IDL Speed Survey (IDLSPEC) Results!!!
Posted by [David Foster](#) on Thu, 16 Apr 1998 07:00:00 GMT
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David Fanning wrote:

>
> 38th!? Geez, you would think I was playing in a tennis tournament. :-(
>
> That's it. I'm placing an order for a new computer tonight.
>
> Sign me,
>
> Depressed

Oh yeah, well I'm working on a blazing 33MhZ Sun Sparc2...

Sign me,

Oppressed

~~~~~  
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~~~~~

Subject: Re: ***IDL Speed Survey (IDLSPEC) Results!!!
Posted by [J.D. Smith](#) on Fri, 17 Apr 1998 07:00:00 GMT
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The publishing of the results has generated a flurry of new interest in entering machines.... the top place was stolen by yet a faster Alpha machine, and others are filling in. For this reason, I have created a program, idlspec.pro, available, again, on:

<ftp://iras2.tn.cornell.edu/pub/jdsmith/>

with an explanation at the end of the readme. This generates the exact format I require, which most of you didn't seem to want to fill out. Since this is taking a bit more of my time than I had anticipated, I ask that, for any further submissions, you use this program, which gives you detailed instructions, and makes updating the survey much easier for me. I am happy to continue processing submissions... the more I get the more valid any general conclusions drawn will be, so tell your friends, or send them idlspec.pro.

> Uh, what *kind* of PC, JD? It's not too late to change my
> purchase order. :-(

And David, the PC was described as "Assembled PC", sent by (and perhaps assembled by) Jun Tan <J.Tan@rl.ac.uk>.

JD

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Subject: Re: ***IDL Speed Survey (IDLSPEC) Results!!!
Posted by [davidf](#) on Sat, 18 Apr 1998 07:00:00 GMT
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J.D. Smith (jdsmith@astrosun.tn.cornell.edu) writes:

> And David, the PC was described as "Assembled PC", sent by (and perhaps
> assembled by) Jun Tan <J.Tan@rl.ac.uk>.

That's what I was afraid of. I usually choose my computer by thumbing through a catalog (I get 4-5 a day) until one catches my eye and I think, "Oh, I'll get *that* one!"

Peter Mason sent me a wonderful e-mail trying his hardest to educate me with respect to Adaptec adaptors and RAID drives and what not (which he claims are blazingly fast), but I'm afraid I couldn't make heads or tails of that Aussie language (or whatever it was). Sigh...

I'm looking for some kind (but over-educated) soul with specific computer assembling experience to step forward with an offer to barter for some really nifty IDL programs using object programming techniques. In the meantime, I'm plodding along, falling further and further down the speed list. :-(

Cheers,

David

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

Subject: Re: ***IDL Speed Survey (IDLSPEC) Results!!!
Posted by [J.Tan\[1\]](#) on Mon, 20 Apr 1998 07:00:00 GMT
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> And David, the PC was described as "Assembled PC", sent by (and perhaps
> assembled by) Jun Tan <J.Tan@rl.ac.uk>.
>
>
> JD

The PC I have (as mentioned by JD) is assembled by our in-house PC Support expert, Mike Palmer. He has chosen the following hardware for the system:

- (1) 1 Intel PII 300 MHz CPU
- (2) Supermicro P6DLS motherboard (supporting dual CPU processors and with built-in Adaptec 2940 SCSI)
- (3) 128 Mbytes SDRAM in a single DIMM
- (4) Diamond FireGL 1000 Pro graphics card (AGP port)

The hard disks are the "old" hard disks taken from my previous system (Pentium 166 classical), these are Seagate Medal Pro (supporting UDMA & ATA3) with EIDE interface.

The OS is NT 4.0 with SP2. I have used the Intel BusMaster EIDE driver. Moreover, I have tweaked the registry to change a few parameters for the

NT kernel & NTFS performance (memory, caching etc.).

Compared with Pentium 166, the current PII 300 is about 2-2.5 times faster in IDL, in terms of computation (tt2), graphics(gt2) and I/O (tt2_23).

Currently, I have decided not to add the second CPU until RSI has written a new version IDL which supports multi-thread and take the advantages of the dual-CPU.

Regards,

Jun Tan
