Subject: Re: Best platform for IDL 6.2?
Posted by JD Smith on Mon, 21 Nov 2005 19:40:42 GMT

On Tue, 15 Nov 2005 19:33:30 -0700, David Fanning wrote:

> Bas writes:
>
>> I was curious what platform seems to be the best for running IDL. I
>> have read some of the topics and it seems some platforms have problems.
>>
>> Currently I run a Apple with OS10.4. I was thinking of upgrading to a
>> Sun or SGI workstation. I just wanted some opinions and any experiences
>> you have had with IDL on your platforms.
>
> I'd stick with the Mac. That deal where you can slide around to from one
> desktop to another is *definitely* worth the price of admission. And the
> keyboard just feels so unbelievably luxurious. Not to mention the great
> screen saver that shows all the photos from your trip to Hawaii. You'll
> hardly notice that your IDL code... uh, doesn't run so well. :-)

Here are my impressions, as a long time IDL Linux and recent IDL OSX
user:

1. As of v6.1, IDL on MacOSX is relatively slow on G4s. Part of this
   is that the G4 of my shiny new powerbook isn't as fast relatively
   as it used to be when introduced several years ago. A bigger issue
   is that gcc3, which RSI has been using to compile IDL, isn't
   terribly well optimized for the G4. Despite what you may have
   heard from RSI marketing several years ago, IDL is not
   Altivec-optimized. Probably they are patting themselves on the
   back, given the impending switch to Intel processors (yet they
   could have easily used the processor-agnostic vector Accelerate
   framework). My 2005 PowerBook is about as fast as my 2003 Dell
   PIII, running at 60% the clock speed. My impression is that gcc4
   should make big improvements in this arena; I'm not sure what they
   compiled IDL6.2 with, or how large the improvement would be.

2. Fast Macs typically have 2, and most recently 4 G5 processors.
   They are relatively fast, but given the compiler gap, fast
   Window/Linux will probably outperform single processor Mac
   systems. IDL is reasonably good at tapping multi-processor
   preformance for large data sets (i.e. data chunked into large
   individual arrays of which many need to be manipulated). For
   smaller data sets, only one of those processors will be used, and
   you'd have been better off with a fast Linux/AMD/Intel setup. I
   haven't tested a new Quad G5, but with large data sets which fit in

memory it should really fly (and is roughly 1/2 the cost of a comparable Wintel quad-processor setup). New Macs also allow you to stuff 16GB of memory in them (if you can afford it). And IDL v6.2 can now allocate all of that (I think, anyone care to confirm?).

3. X11, which IDL runs under on both Linux and OSX, is more of a second class citizen on OSX, where it is not the primary windowing system. That said, since OSX10.3, the Apple X11 works very well, and is actually quite fast. Since I use IDLWAVE under Emacs, I hardly notice the difference (other than trivial mouse/keyboard interaction differences). I go back and forth daily without any major issues.

Other than that, the experience is generally the same. Widgets will lay out perfectly on Linux or OSX, but probably not on Windows. In my field, you can safely ignore Windows users anyway ;). I'm not sure what generic issues David keeps having with OSX, but I've never found incompatibilities with Linux. I actually like having both: OSX for presentation (Keynote) and multimedia, Linux for raw performance, and server capabilities. When Mac switches to Intel over the next couple of years, the gcc compiler, used under both OSX and Linux, will likely assure very similar performance for the two.

My limited experience testing Windows vs. Linux on the same hardware is that, aside from graphics (where it's a very mixed bag depending on your vendor support), they are about even, Windows besting Linux on some tests, and visa versa. Linux is much better at memory management, but Intel compilers under Windows produced more optimized code. For most applications, this would result in a draw. IDLWAVE tips this strongly in favor of Linux for me. Regarding the Unix IDLDE, I haven't actually fired it up in several years ;).

JD