
Subject: Re: IDL SpecII results

Posted by [David Fanning](#) on Fri, 09 Nov 2001 22:48:34 GMT

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Judy Karpen (judy.karpen@nrl.navy.mil) writes:

> Just out of curiosity as a loyal but battered Mac user, does anyone
> know why Macs do OK on the IDL processor speed test but perform
> horribly on the I/O part? If you don't think this isn't of general
> interest please email me instead of responding here. Thanks!

Oh, no. We *all* want to know! :-)

Cheers,

David

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

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Subject: Re: IDL SpecII results

Posted by [John-David T. Smith](#) on Fri, 09 Nov 2001 23:17:52 GMT

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David Fanning wrote:

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> Judy Karpen (judy.karpen@nrl.navy.mil) writes:
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This is really a problem with IDLSpecII's reliance on RSI's time_test benchmarking suite. Even at the time IS2 came out (and it's pretty outdated now), it didn't really perform a true measurement of I/O performance.

The problem is that the *single* file I/O test in the suite was only using a 256KB array, which is *well* within the size of typical hard

drive memory caches. What's more, with such small sized reads and writes, the caching policy of the OS plays a large factor. Many modern OS's don't actually commit anything to disk when you write. Instead they decide themselves when the best time for doing the disk operation is. Also, they don't always go to disk when you read, instead maintaining a goodly sized file cache, on the principle that you often want to read again what you just read. MacOS<=9 has a very simple-minded and straightforward I/O caching policy, which is why it appears to have such poor I/O. OSX has inherited a much more modern policy. But the bottom line is that neither of these tell you anything about the actual disk/bus subsystem performance of large I/O file access, e.g. 100MB.

IDLSpecIII, which has been in the planning stages for too long now, was supposed to resolve this problem by performing a much more aggressive set of I/O benchmarks. Had an OSX version of IDL been released, it would have been very interesting to compare its IDLSpecII results with the older MacOS's, but alas. I've still got IDLSpecIII in the back of my mind, and may tackle it over the winter. I've also kept a list of benchmark volunteers, and you know who you are (don't think you'll get off that easily ;).

JD
