David Fanning wrote:
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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! :-)
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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outdated now), it didn't really perform a true measurement of I/O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