Subject: IDLSpecII and beyond
Posted by John-David T. Smith on Wed, 22 Mar 2000 08:00:00 GMT
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Due to a script issue which occurred during an OS upgrade mandated by IDL v5.3, the IDLSpecII survey data was not updated for about a month. Apologies to those who entered but didn't see their standings. The problem has been fixed and you can view your results at:

http://www.astro.cornell.edu/idlspec/

Limitations in the range of some tests on fastest machines (in which individual tests take virtually 0 time) have motivated some thought on improvements to the time tests, perhaps forking away from the increasingly less adequate RSI-supplied time_test and graphics_times suite. Rather than arbitrarily starting test-coding based on my IDL experience and usage, I wanted to solicit general comments about the type of things people would like to see tested. So far, my rough list of changes/additions is:

1. Increase the sizes of arrays used in tests. Assume minimum working memory sizes of ~32MB to design array-based tests, avoiding VM access, but actually stressing off-chip/card memory subsystems.

2. Bring in more relevant routines.. the real work horses that people are using, and whose speed they really care about. You can use:
IDL> profiler, /RESET, /SYSTEM
IDL> my_slow_routine_which_runs_overnight
IDL> profiler, /REPORT
and look for the most heavily used and slowest system (S) routines. Up to know, we've been testing: basic array math, shift(), randomu(), ludc(), transpose(), alog(), fft(), and smooth().

3. Design robust I/O tests which don't just test OS caching policies, but really probe the underlying hardware. I/O is difficult to isolate from memory, but a good first step would be increasing the size of the data set written, and/or to implement sync'ing in some way to ensure the data has actually been written physically to disk before the test returns. Suggestions?

4. Object Graphics. This could open a whole can of worms with regards to OpenGL hardware vs. software support etc., but as people increasingly rely on OG, the tests should take this into account. As I work little with OG, I'd need lots of community feedback on the types of things which would be well-suited to testing.

I would appreciate any comments people have about the ingredients of an updated IDL speed test suite which are indispensable.

Thanks,

JD

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