Subject: Re: Q: IDL benchmarks
Posted by zawodny on Fri, 23 Feb 1996 08:00:00 GMT

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In article <sterner.825034453@warble.jhuapl.edu> sterner@warble.jhuapl.edu (Ray Sterner) writes:

> Bringfried Stecklum <stecklum@gwaihir.astro.uni-jena.de> writes:
>
>> Is there a collection of benchmark test results which shows how IDL behaves
>> on different platforms? There is no reference to this issue in the FAQ.
>
> I would be happy to add to the FAQ a reference to the URL of such a
> collection if one exists. If somebody decides to put one together
> it would be very useful to include enough information about the
> systems to be able to interpret the results. Just what should be
> included might be worth a bit of discussion here before going to the
> trouble of collecting the timing results. For example, I wonder just
> how much meaning time test number 23 (Write and read 10 512 by 512
> byte arrays) really has. I would think that a big disk cache will give
> a lower result then expected for a much larger number of writes.
>
> Also it would be nice to include all the component times and not
> just the totals. However the totals are still a useful summary.
> Such a summary is already available in the online help (for V 4.01
> at least) under TIME_TEST. I am happy to see that my HP system beats
> the DEC Alpha with 224 Mb of memory (I only have 144 Mb).
> However a coworker's Pentium beats my HP. Time to upgrade I guess.

I agree that the individual test times should be kept.

I have a file of a few systems that I have run TIME_TEST on, it is enclosed below. Please note that the Gateway P5-60 had a elapsed time of 0.000000 for test 15 which of course ruins the value of the geometric mean. A value of 0.05 was used to calculate the geometric mean. The PCs typically have 16 or 32 MB of ram while the Alphas had 128 and 96MB respectively. I'll post the results from a Micron 200MHz Pentium Pro in a few weeks if there is interest.

Result IDL's TIME_TEST.

Test	Gateway	AMD	AMD	DEC Alpha	DEC Alpha
#	P5-60	DX4-100	DX4-133	3000/600	600/266
1	0.60	1.65	0.77	0.46	0.22
2	0.99	2.74	1.26	0.89	0.32
3	0.66	1.98	0.94	0.49	0.21
4	0.88	2.03	0.88	0.54	0.21
5	0.77	0.60	0.50	0.48	0.21
6	0.39	0.28	0.16	0.05	0.05
7	0.66	0.44	0.33	0.21	0.20

```
 8  0.71    0.54      0.60  0.26   0.20
 9  1.20    1.05      0.99  0.35   0.53
10  1.21    0.77      0.94  0.15   0.32
11  1.38    1.26      1.64  0.49   0.64
12  0.22    0.71      0.49  0.48   0.34
13  1.21    1.70      0.83  0.69   0.60
14  0.22    0.22      0.11  0.09   0.06
15  0.00!    0.06      0.05  0.04   0.02
16  2.41    4.39      2.03  1.70   1.16
17  0.50    0.44      0.28  0.11   0.08
18  2.31    4.34      2.14  1.45   1.19
19  0.05    0.05      0.11  0.04   0.02
20  0.49    0.77      0.55  0.33   0.33
21  0.38    0.33      0.16  0.13   0.15
22  0.22    0.71      0.43  0.20   0.20
23  0.71   12.24      2.31  1.43   2.55

 18.17   39.30     18.50 11.07     9.80 Total Time
   0.55!    0.82      0.53  0.30   0.23 Geometric mean


# Test
 1 Empty For loop, 1 million times
 2 Call empty procedure (1 param) 100,000 times
 3 Add 100,000 integer scalars and store
 4 25,000 scalar loops each of 5 ops, 2 =, 1 if)
 5 Mult 512 by 512 byte by constant and store, 10 times
 6 Shift 512 by 512 byte and store, 10 times
 7 Add constant to 512 x 512 byte array and store, 10 times
 8 Add two 512 by 512 byte images and store, 10 times
 9 Mult 512 by 512 floating by constant and store, 10 times
10 Add constant to 512 x 512 floating and store, 10 times
11 Add two 512 by 512 floating images and store, 10 times
12 Invert a 100 by 100 random matrix
13 Transpose 256 x 256 byte, FOR loops
14 Transpose 256 x 256 byte, row and column ops
15 Transpose 256 x 256 byte, transpose function
16 Log of 100,000 numbers, FOR loop
17 Log of 100,000 numbers, vector ops
18 Add two 100000 element floating vectors, FOR loop
19 Add two 100000 element floating vectors, vector op
20 65536 point real to complex FFT
21 Smooth 512 by 512 byte array, 5x5 boxcar
22 Smooth 512 by 512 floating array, 5x5 boxcar
23 Write and read 10 512 by 512 byte arrays
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