
Subject: Re: Computing Speed

Posted by [J.D. Smith](#) on Mon, 23 Feb 1998 08:00:00 GMT

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There is a built-in speed spec for IDL, called time_test.

Just

.run time_test

and then

time_test2 (newer version which scales to the high-end better).

I get, on my 166Mhz Pentium Linux box:

|TIME_TEST2 performance for IDL 5.0.3:

| OS_FAMILY=unix, OS=linux, ARCH=x86

| Mon Feb 23 12:32:07 1998

1	1.45600	Empty For loop, 2000000 times
2	1.37400	Call empty procedure (1 param) 100,000 times
3	0.542000	Add 100,000 integer scalars and store
4	0.615000	25,000 scalar loops each of 5 ops, 2 =, 1 if)
5	0.303000	Mult 512 by 512 byte by constant and store, 10 times
6	1.04900	Shift 512 by 512 byte and store, 100 times
7	0.956000	Add constant to 512 x 512 byte array and store, 50 times
8	0.794000	Add two 512 by 512 byte images and store, 30 times
9	1.22300	Mult 512 by 512 floating by constant and store, 30 times
10	1.18100	Add constant to 512 x 512 floating and store, 40 times
11	2.29200	Add two 512 by 512 floating images and store, 30 times
12	0.257000	Generate 225000 random numbers
13	0.708000	Invert a 150 by 150 random matrix
14	0.400000	LU Decomposition of a 150 by 150 random matrix
15	0.846000	Transpose 256 x 256 byte, FOR loops
16	0.618000	Transpose 256 x 256 byte, row and column ops x 10
17	0.0420001	Transpose 256 x 256 byte, TRANSPOSE function x 10
18	1.99800	Log of 100,000 numbers, FOR loop
19	0.0950000	Log of 100,000 numbers, vector ops
20	1.99700	131072 point forward plus inverse FFT
21	1.58600	Smooth 512 by 512 byte array, 5x5 boxcar, 10 times
22	0.230000	Smooth 512 by 512 floating array, 5x5 boxcar, 2 times
23	1.06900	Write and read 512 by 512 byte array x 20

21.6310=Total Time, 0.67674329=Geometric mean, 23 tests.

In addition, you can try `graphics_times2` to see how fast display is. I

get

|GRAPHICS_TIMES2 performance for IDL 5.0.3:

| OS_FAMILY=unix, OS=linux, ARCH=x86

| Mon Feb 23 12:33:06 1998

- 1 0.213000 Simple plot, 10 times
- 2 0.648000 1000 vectors x 100
- 3 1.28900 Polygon filling
- 4 0.998000 Display 512 x 512 image, 10 times

3.14800=Total Time, 0.64913418=Geometric mean, 4 tests.

And for our ancient SPARC IPX, I get:

|TIME_TEST2 performance for IDL 5.0:

| OS_FAMILY=unix, OS=sunos, ARCH=sparc

| Mon Feb 23 12:33:04 1998

- 1 7.87000 Empty For loop, 2000000 times
- 2 4.13100 Call empty procedure (1 param) 100,000 times
- 3 2.89100 Add 100,000 integer scalars and store
- 4 2.85200 25,000 scalar loops each of 5 ops, 2 =, 1 if)
- 5 2.84500 Mult 512 by 512 byte by constant and store, 10 times
- 6 3.65100 Shift 512 by 512 byte and store, 100 times
- 7 5.61000 Add constant to 512 x 512 byte array and store, 50 times
- 8 3.94400 Add two 512 by 512 byte images and store, 30 times
- 9 4.41800 Mult 512 by 512 floating by constant and store, 30 times
- 10 3.17900 Add constant to 512 x 512 floating and store, 40 times
- 11 6.58900 Add two 512 by 512 floating images and store, 30 times
- 12 1.98200 Generate 225000 random numbers
- 13 2.37200 Invert a 150 by 150 random matrix
- 14 1.25800 LU Decomposition of a 150 by 150 random matrix
- 15 3.62300 Transpose 256 x 256 byte, FOR loops
- 16 2.38700 Transpose 256 x 256 byte, row and column ops x 10
- 17 0.263000 Transpose 256 x 256 byte, TRANSPOSE function x 10
- 18 7.20700 Log of 100,000 numbers, FOR loop
- 19 0.861000 Log of 100,000 numbers, vector ops
- 20 4.82200 131072 point forward plus inverse FFT
- 21 4.16000 Smooth 512 by 512 byte array, 5x5 boxcar, 10 times
- 22 1.10000 Smooth 512 by 512 floating array, 5x5 boxcar, 2

times

23 4.96800 Write and read 512 by 512 byte array x 20
82.9830=Total Time, 2.9239724=Geometric mean, 23

tests.

and

|GRAPHICS_TIMES2 performance for IDL 5.0:

| OS_FAMILY=unix, OS=sunos, ARCH=sparc

| Mon Feb 23 12:35:34 1998

1 7.99500 Simple plot, 10 times

2 2.21100 1000 vectors x 100

3 2.07900 Polygon filling

4 6.79300 Display 512 x 512 image, 10 times

19.0780=Total Time, 3.9749423=Geometric mean, 4

tests.

Pretty dumpy eh?

An Ultra1 167Mhz in a neighbor's office got got 11.5961 total, .34812 geometric mean, roughly twice as fast as the Pentium. If other people wanted to run these tests, I could collect the results and post them... using the newest version of IDL 5 would be best. A broad mix of hardware/operating systems would also be good. Remember to free up all the memory and process space possible before running it (or suffer the ridicule of your fellow IDL'er)! Just include all relevant details in an email to me.... sometime, say, over the next two weeks.

JD

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J.D. Smith [*] WORK: (607) 255-5842
Cornell University Dept. of Astronomy [*] (607) 255-4083
206 Space Sciences Bldg. [*] FAX: (607) 255-5875
Ithaca, NY 14853 [*]
