Subject: Re: IDL time test with a PowerMac G4
Posted by roy.hansen on Thu, 07 Oct 1999 07:00:00 GMT
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In article <gurman-0410991751060001@barkochba.nascom.nasa.gov>,
gurman@gsfc.nasa.gov (Joseph B. Gurman) wrote:

> Running IDL 5.2 without any special Velocity Engine (AltiVec) plugins
> or other mods, a G4/450 running Mac OS 8.6 with 128 Mbyte of memory and a
> 20 Gbyte Western Digital (stock) Ultra ATA hard drive gets the following
> results on time_test2:
>
snip - snip

> 4.73333=Total Time, 0.096772401=Geometric mean, 23 tests.

Running time_test2 on my P-II 400 laptop produces the same total time
(4.7300 seconds, see below). I though the new G4 was a > 1 Gflops machine
excellent for numerical stuff but, this small comparison indicates that my standard
PC is equally fast.... Is there something I am missing here, or is'nt the new G4 as
fantastic as announced? Well, to answer my self - I fooled myself by studying the total
time from time_test2. By studying test 20 in time_test2 (forward and inverse 1D FFT)
the test looks like this:

G4/450: 20 0.150000 131072 point forward plus inverse FFT
G3/350: 20 0.300000 131072 point forward plus inverse FFT
Alpha500: 20 0.243165 131072 point forward plus inverse FFT
P-II 400: 20 0.550000 131072 point forward plus inverse FFT

So it may be that the G4 is a supercomputer after all.....

--RoyH

TIME_TEST2 performance for IDL 5.2.1:
| OS_FAMILY=Windows, OS=Win32, ARCH=x86
| Thu Oct 07 16:52:14 1999
1 0.170000 Empty For loop, 2000000 times
2 0.110000 Call empty procedure (1 param) 100,000 times
3 0.0599999 Add 100,000 integer scalars and store
4 0.110000 25,000 scalar loops each of 5 ops, 2 =, 1 if)
5 0.0500000 Mult 512 by 512 byte by constant and store, 10 times
6 0.440000 Shift 512 by 512 byte and store, 100 times
7 0.280000 Add constant to 512 x 512 byte array and store, 50 times
8 0.220000 Add two 512 by 512 byte images and store, 30 times
9 0.490000 Mult 512 by 512 floating by constant and store, 30 times

10 0.440000 Add constant to 512 x 512 floating and store, 40 times
11 0.820000 Add two 512 by 512 floating images and store, 30 times
12 0.000000 Generate 225000 random numbers
13 0.0599999 Invert a 150 by 150 random matrix
14 0.0500001 LU Decomposition of a 150 by 150 random matrix
15 0.0599999 Transpose 256 x 256 byte, FOR loops
16 0.110000 Transpose 256 x 256 byte, row and column ops x 10
17 0.000000 Transpose 256 x 256 byte, TRANSPOSE function x 10
18 0.160000 Log of 100,000 numbers, FOR loop
19 0.0600001 Log of 100,000 numbers, vector ops
20 0.550000 131072 point forward plus inverse FFT
21 0.330000 Smooth 512 by 512 byte array, 5x5 boxcar, 10 times
22 0.000000 Smooth 512 by 512 floating array, 5x5 boxcar, 2 times
23 0.160000 Write and read 512 by 512 byte array x 20
4.73000=Total Time, 2.3240033e-006=Geometric mean, 23 tests.
