SPEC® CFP2006 Result

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Intel Corporation

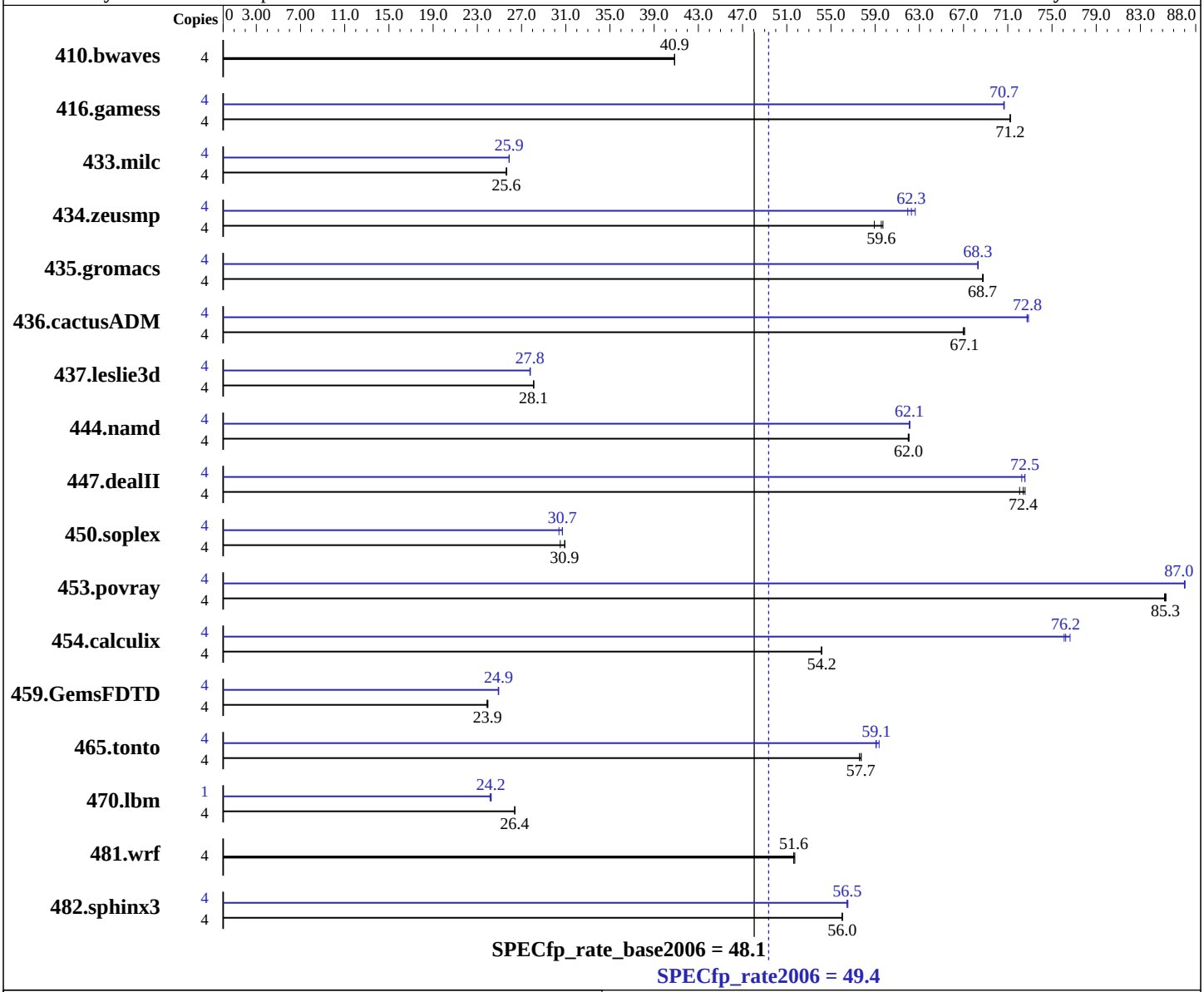
Asus P5E3 Deluxe (Intel Core 2 Extreme QX6850)

SPECfp®_rate2006 = 49.4

SPECfp_rate_base2006 = 48.1

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Nov-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Core 2 Extreme QX6850
CPU Characteristics:	3.00 GHz 1333 MHz FSB
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores

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Software

Operating System:	Windows Vista64 Ultimate
Compiler:	Intel C++ Compiler for IA32 version 10.1 Build 20070913 Package ID: w_cc_p_10.1.011 Intel Fortran Compiler for IA32 version 10.1 Build 20070913 Package ID: w_fc_p_10.1.011 Microsoft Visual Studio 2005 SP1 (for libraries)
Auto Parallel:	No
File System:	NTFS
System State:	Default

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L3 Cache: None
Other Cache: None
Memory: 4 GB (4x1GB Corsair TWIN3X2048-1333C9DHX DDR3-1333 CL9)
Disk Subsystem: Seagate 320GB NCQ SATA, 16MB cache, 7200 RPM
Other Hardware: None

Base Pointers: 32-bit
Peak Pointers: 32-bit
Other Software: SmartHeap Library Version 8.1 from http://www.microquill.com/

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	**1331**	**40.9**	1331	40.8	1330	40.9	4	**1331**	**40.9**	1331	40.8	1330	40.9
416.gamess	4	1100	71.2	1100	71.2	**1100**	**71.2**	4	1108	70.7	**1108**	**70.7**	1109	70.6
433.milc	4	**1433**	**25.6**	1433	25.6	1432	25.6	4	1420	25.9	**1419**	**25.9**	1418	25.9
434.zeusmp	4	618	58.9	**611**	**59.6**	610	59.7	4	588	61.9	581	62.6	**585**	**62.3**
435.gromacs	4	415	68.8	**416**	**68.7**	416	68.7	4	418	68.3	418	68.3	**418**	**68.3**
436.cactusADM	4	714	67.0	**713**	**67.1**	713	67.1	4	**657**	**72.8**	657	72.7	656	72.9
437.leslie3d	4	1339	28.1	1338	28.1	**1338**	**28.1**	4	1354	27.8	**1354**	**27.8**	1352	27.8
444.namd	4	**517**	**62.0**	517	62.1	518	62.0	4	517	62.1	516	62.1	**517**	**62.1**
447.dealII	4	**632**	**72.4**	635	72.1	631	72.6	4	633	72.3	631	72.5	**631**	**72.5**
450.soplex	4	1079	30.9	1094	30.5	**1080**	**30.9**	4	**1087**	**30.7**	1098	30.4	1086	30.7
453.povray	4	249	85.3	250	85.2	**250**	**85.3**	4	244	87.0	**245**	**87.0**	245	87.0
454.calculix	4	610	54.1	**609**	**54.2**	609	54.2	4	**433**	**76.2**	434	76.1	431	76.6
459.GemsFDTD	4	**1774**	**23.9**	1771	24.0	1778	23.9	4	1705	24.9	**1703**	**24.9**	1702	24.9
465.tonto	4	682	57.7	**682**	**57.7**	684	57.6	4	666	59.1	**666**	**59.1**	663	59.4
470.lbm	4	2083	26.4	**2083**	**26.4**	2083	26.4	1	566	24.3	**567**	**24.2**	569	24.2
481.wrf	4	864	51.7	865	51.6	**865**	**51.6**	4	864	51.7	865	51.6	**865**	**51.6**
482.sphinx3	4	1392	56.0	**1391**	**56.0**	1391	56.0	4	1381	56.4	**1381**	**56.5**	1379	56.5

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

```
Tested systems can be used with Shin-G ATX case, Antec NeoPower 480W power supply
Product description located as of 11/2007:
http://www.asus.com/products.aspx?l1=3&l2=11&l3=572&l4=0&model=1872&modelmenu=1
The system bus runs at 1333 MHz
System was configured with Asus EN8800GTX discrete graphics card
Binaries were built on Windows Vista32
The following VS 2005 SP1 updates were applied: KB926601 and KB932232
The start command with the /affinity switch was used to bind processes to cores
```

Base Compiler Invocation

C benchmarks:
```
icl -Qvc8 -Qc99
```

C++ benchmarks:
```
icl -Qvc8
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc8 -Qc99 ifort
```

Base Portability Flags

436.cactusADM: `-Qlowercase /assume:underscore`
444.namd: `-TP`
447.dealII: `-DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG`
453.povray: `-DSPEC_CPU_WINDOWS_ICL`
454.calculix: `-DSPEC_CPU_NOZMODIFIER -Qlowercase`
481.wrf: `-DSPEC_CPU_WINDOWS_ICL`

Base Optimization Flags

C benchmarks:
```
-fast /F1000000000
```

C++ benchmarks:
```
-fast -Qcxx_features /F1000000000 shlw32m.lib
            -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-fast /F1000000000
```

Benchmarks using both Fortran and C:
```
-fast /F1000000000
```

Peak Compiler Invocation

C benchmarks:
```
icl -Qvc8 -Qc99
```

C++ benchmarks:
```
icl -Qvc8
```

Continued on next page

Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc8 -Qc99 ifort

Peak Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Peak Optimization Flags

C benchmarks:

433.milc: -fast -Qunroll2 -Oa /F1000000000

470.lbm: -fast -Qunroll2 -Qscalar-rep- -Qprefetch /F1000000000

482.sphinx3: -fast -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: -fast -Oa -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

447.dealII: -fast -Qunroll2 -Qprefetch -Qcxx_features /F1000000000
shlw32m.lib -link /FORCE:MULTIPLE

450.soplex: -fast -Qcxx_features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

453.povray: -fast -Qunroll4 -Qansi-alias -Qcxx_features /F1000000000
shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep-
/F1000000000

Continued on next page

Peak Optimization Flags (Continued)

434.zeusmp: `-QxT -O2 -Qprec-div- -Qunroll0 -Qscalar-rep- /F1000000000`

437.leslie3d: `-fast -Qprefetch /F1000000000`

459.GemsFDTD: `-fast -Qunroll2 -Ob0 -Qprefetch /F1000000000`

465.tonto: `-fast -Qunroll4 -Qauto /F1000000000`

Benchmarks using both Fortran and C:

435.gromacs: `-fast -Oa -Qprefetch /F1000000000`

436.cactusADM: `-fast -Qunroll2 -Qprefetch /F1000000000`

454.calculix: `-fast -Qunroll-aggressive /F1000000000`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.09.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.09.xml`

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