SPEC® CFP2006 Result

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Intel Corporation

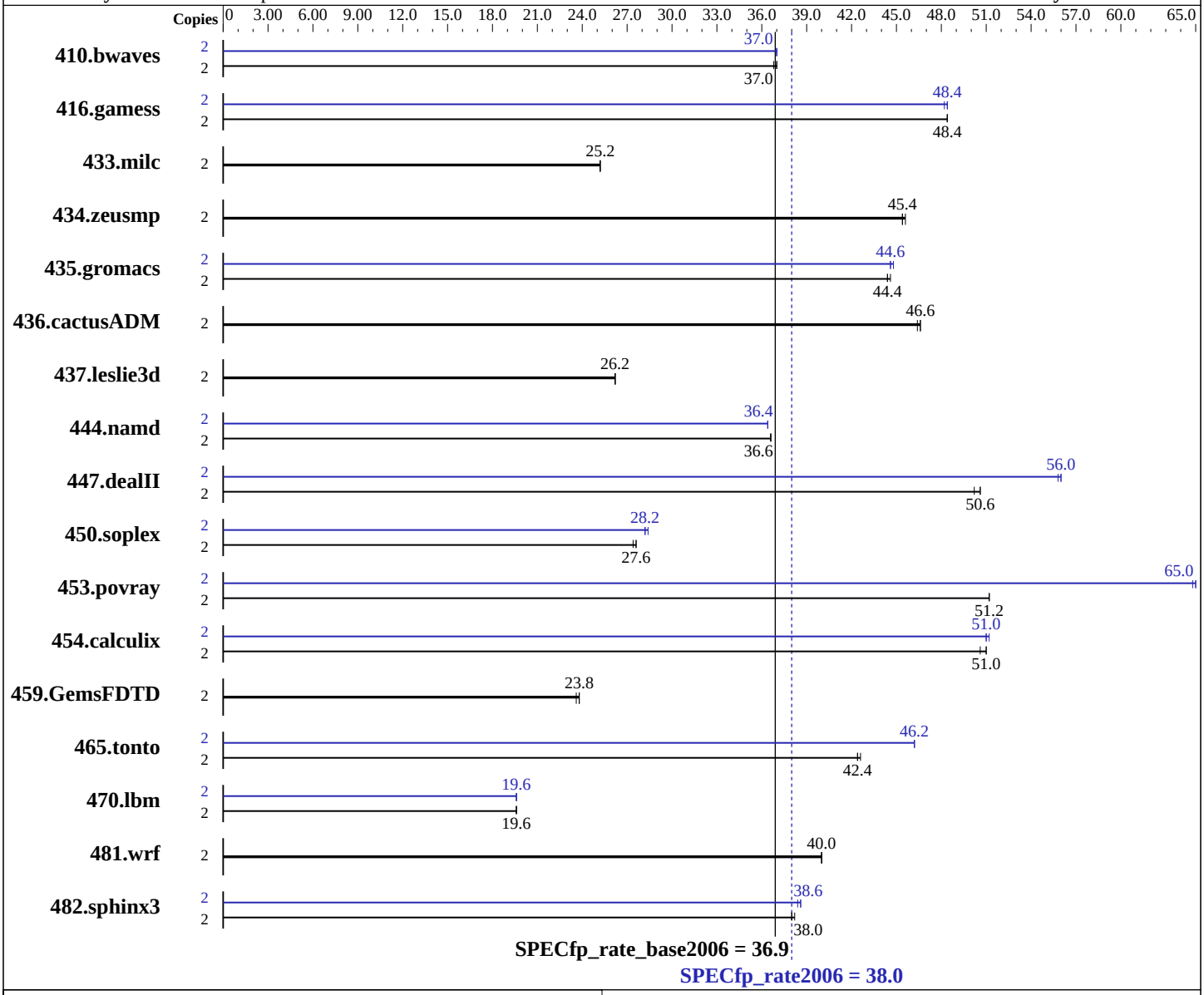
Asus P5E3 Pro motherboard (Intel Core 2 Duo E8600)

SPECfp®_rate2006 = 38.0

SPECfp_rate_base2006 = 36.9

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

Test date: Feb-2010
Hardware Availability: Jun-2009
Software Availability: Oct-2009



Hardware

CPU Name:	Intel Core 2 Duo E8600
CPU Characteristics:	
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip

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Software

Operating System:	Windows Vista Ultimate w/ SP1 (64-bit)
Compiler:	Intel C++ Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cproc_p_11.1.045 Intel Visual Fortran Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cproc_p_11.1.045, w_cprof_p_11.1.045 Microsoft Visual Studio 2008 Professional SP1 (for libraries)
Auto Parallel:	No

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L3 Cache: None
Other Cache: None
Memory: 4 GB (2x2GB Micron MT16JTF25664AZ-1G4 DDR3-1333 CL9)
Disk Subsystem: Intel X25-M 80GB SSD
Other Hardware: None

File System: NTFS
System State: Default
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: None
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	2	**736**	**37.0**	738	36.8	736	37.0	2	**734**	**37.0**	733	37.0	735	37.0
416.gamess	2	810	48.4	**810**	**48.4**	810	48.4	2	810	48.4	811	48.2	**810**	**48.4**
433.milc	2	727	25.2	726	25.2	**726**	**25.2**	2	727	25.2	726	25.2	**726**	**25.2**
434.zeusmp	2	402	45.4	399	45.6	**401**	**45.4**	2	402	45.4	399	45.6	**401**	**45.4**
435.gromacs	2	321	44.4	**321**	**44.4**	321	44.6	2	319	44.8	320	44.6	**320**	**44.6**
436.cactusADM	2	513	46.6	**513**	**46.6**	515	46.4	2	513	46.6	**513**	**46.6**	515	46.4
437.leslie3d	2	716	26.2	716	26.2	**716**	**26.2**	2	716	26.2	716	26.2	**716**	**26.2**
444.namd	2	438	36.6	**438**	**36.6**	439	36.6	2	440	36.4	440	36.4	**440**	**36.4**
447.dealII	2	**452**	**50.6**	452	50.6	456	50.2	2	**409**	**56.0**	410	55.8	409	56.0
450.soplex	2	606	27.6	607	27.4	**606**	**27.6**	2	587	28.4	**590**	**28.2**	590	28.2
453.povray	2	208	51.2	208	51.2	**208**	**51.2**	2	164	64.8	164	65.0	**164**	**65.0**
454.calculix	2	323	51.0	327	50.6	**323**	**51.0**	2	**323**	**51.0**	322	51.2	323	51.0
459.GemsFDTD	2	**892**	**23.8**	896	23.6	892	23.8	2	**892**	**23.8**	896	23.6	892	23.8
465.tonto	2	**463**	**42.4**	463	42.6	464	42.4	2	**427**	**46.2**	426	46.2	427	46.2
470.lbm	2	**1400**	**19.6**	1402	19.6	1398	19.6	2	1400	19.6	**1401**	**19.6**	1403	19.6
481.wrf	2	559	40.0	**558**	**40.0**	558	40.0	2	559	40.0	**558**	**40.0**	558	40.0
482.sphinx3	2	**1025**	**38.0**	1025	38.0	1020	38.2	2	**1012**	**38.6**	1013	38.4	1012	38.6

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

Submit Notes

```
The config file option 'submit' was used.
Windows start command was used to bind copies to processors
```

General Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
System was configured with an ATI 5970 discrete graphics card
```

Base Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc9
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc9 -Qstd=c99 ifort
```

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64 /Qlowercase
416.gamess: -DSPEC_CPU_P64
433.milc: -DSPEC_CPU_P64
434.zeusmp: -DSPEC_CPU_P64
435.gromacs: -DSPEC_CPU_P64
436.cactusADM: -DSPEC_CPU_P64 -Qlowercase /assume:underscore
437.leslie3d: -DSPEC_CPU_P64
444.namd: -DSPEC_CPU_P64 /TP
447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
450.soplex: -DSPEC_CPU_P64
453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
459.GemsFDTD: -DSPEC_CPU_P64
465.tonto: -DSPEC_CPU_P64
470.lbm: -DSPEC_CPU_P64
481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
482.sphinx3: -DSPEC_CPU_P64

Base Optimization Flags

C benchmarks:
```
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000            -link /FORCE:MULTIPLE
```

C++ benchmarks:
```
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
-Qauto-ilp32 /F1000000000 shlW64M.lib            -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
            -link /FORCE:MULTIPLE
```

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

Peak Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

C++ benchmarks:
icl -Qvc9

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -Qstd=c99 ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

482.sphinx3: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qunroll2 -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

447.dealII: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias -Qscalar-rep- -Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Continued on next page

Peak Optimization Flags (Continued)

450.soplex: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32
/F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch
/F1000000000 -link /FORCE:MULTIPLE

416.gamess: Same as 410.bwaves

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:

435.gromacs: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE

436.cactusADM: basepeak = yes

454.calculix: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F1000000000
-link /FORCE:MULTIPLE

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-ic11.0-winx64-revA.20100302.01.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.01.xml

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