SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

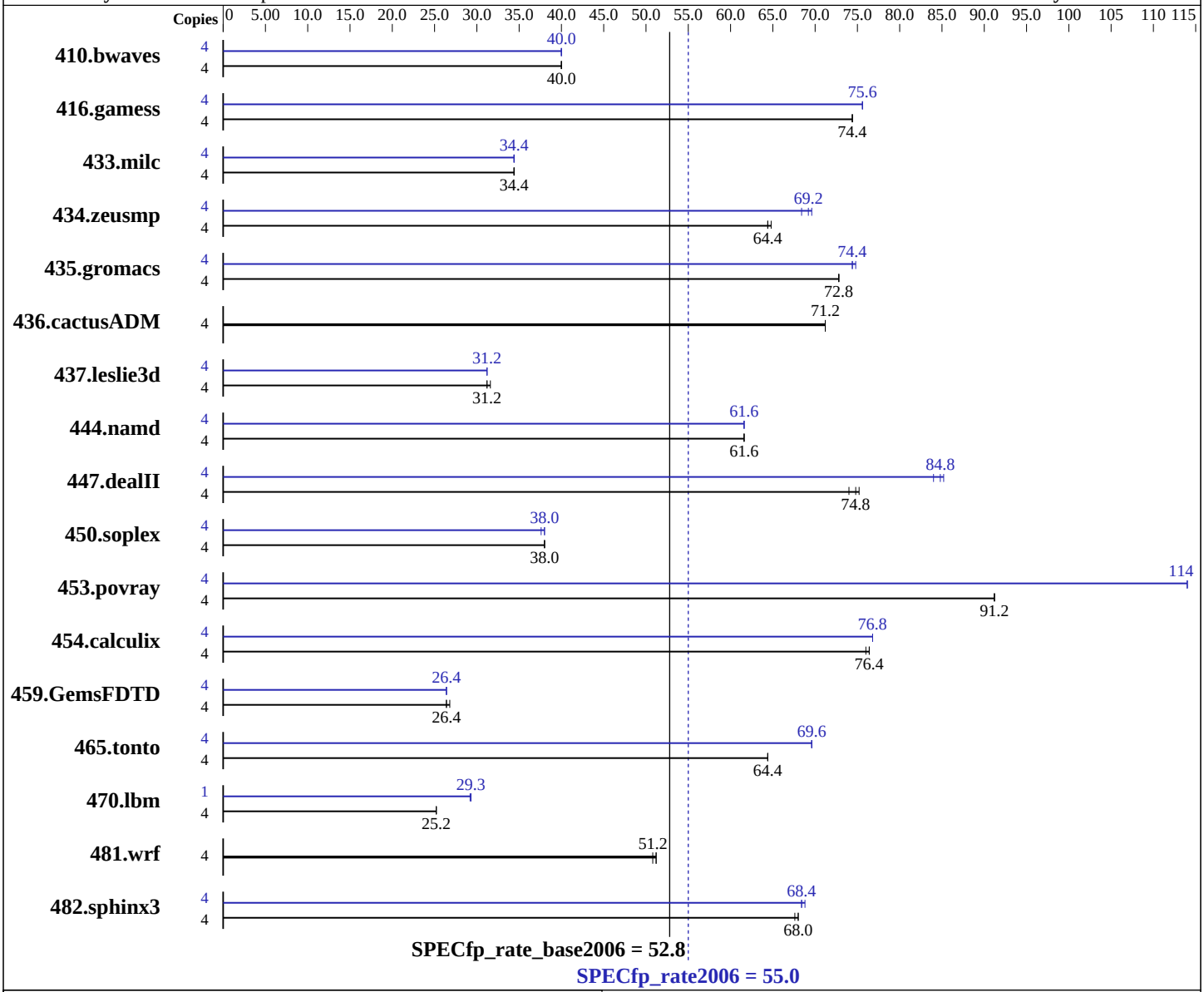
Asus P5E3 Premium (Intel Core 2 Quad Q9650)

SPECfp®_rate2006 = 55.0

SPECfp_rate_base2006 = 52.8

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

Test date: Oct-2008
Hardware Availability: Apr-2008
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Core 2 Quad Q9650
CPU Characteristics:	
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:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

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Software

Operating System:	Windows Vista Ultimate w/ SP1 (64-bit)
Compiler:	Intel C++ Compiler Professional 11.0 for IA32 Build 20080930 Package ID: w_cproc_p_11.0.054 Intel Visual Fortran Compiler Professional 11.0 for IA32 Build 20080930 Package ID: w_cprof_p_11.0.054 Microsoft Visual Studio 2008 (for libraries)
Auto Parallel:	No
File System:	NTFS

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L3 Cache: None
Other Cache: None
Memory: 4 GB (4 x 1GB Corsair CM3X1024-1333C9DHX DDR3-1333 CL9)
Disk Subsystem: 80 GB Intel X-25M SATA Solid-State Drive
Other Hardware: None

System State: Default
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	1356	40.0	1355	40.0	**1355**	**40.0**	4	1355	40.0	1355	40.0	**1355**	**40.0**
416.gamess	4	1051	74.4	**1051**	**74.4**	1051	74.4	4	1035	75.6	1035	75.6	**1035**	**75.6**
433.milc	4	**1067**	**34.4**	1068	34.4	1067	34.4	4	**1065**	**34.4**	1064	34.4	1065	34.4
434.zeusmp	4	**565**	**64.4**	566	64.4	563	64.8	4	523	69.6	**527**	**69.2**	533	68.4
435.gromacs	4	392	72.8	392	72.8	**392**	**72.8**	4	383	74.4	383	74.8	**383**	**74.4**
436.cactusADM	4	670	71.2	671	71.2	**670**	**71.2**	4	670	71.2	671	71.2	**670**	**71.2**
437.leslie3d	4	1197	31.6	**1198**	**31.2**	1198	31.2	4	**1199**	**31.2**	1200	31.2	1199	31.2
444.namd	4	520	61.6	520	61.6	**520**	**61.6**	4	521	61.6	**521**	**61.6**	521	61.6
447.dealII	4	**613**	**74.8**	619	74.0	609	75.2	4	537	85.2	**540**	**84.8**	546	84.0
450.soplex	4	**882**	**38.0**	881	38.0	882	38.0	4	883	37.6	880	38.0	**881**	**38.0**
453.povray	4	234	91.2	233	91.2	**233**	**91.2**	4	**187**	**114**	186	114	187	114
454.calculix	4	432	76.4	435	76.0	**432**	**76.4**	4	429	76.8	**429**	**76.8**	430	76.8
459.GemsFDTD	4	**1597**	**26.4**	1591	26.8	1598	26.4	4	1608	26.4	**1608**	**26.4**	1602	26.4
465.tonto	4	611	64.4	610	64.4	**611**	**64.4**	4	566	69.6	**566**	**69.6**	567	69.6
470.lbm	4	2196	25.2	**2197**	**25.2**	2197	25.2	1	**470**	**29.3**	471	29.2	469	29.3
481.wrf	4	**876**	**51.2**	872	51.2	878	50.8	4	**876**	**51.2**	872	51.2	878	50.8
482.sphinx3	4	1148	68.0	1151	67.6	**1148**	**68.0**	4	**1137**	**68.4**	1136	68.8	1138	68.4

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.
```

General Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
The system bus runs at 1333 MHz
System was configured with nVidia GTX 280 discrete graphics card
Binaries were built on Windows Vista Ultimate (32-bit)
```

Base Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qc99
```

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

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc9 -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:
```
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
```

C++ benchmarks:
```
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
/F1000000000 shlw32m.lib            -link /FORCE:MULTIPLE
```

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

Benchmarks using both Fortran and C:
```
-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
```

Peak Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qc99
```

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

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Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc9 -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: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Oa /F1000000000

470.lbm: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

482.sphinx3: -QxSSE4.1 -Qipo -O3 -Qprec-div- -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Oa /F1000000000 shlw32m.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- /F1000000000 shlw32m.lib -link /FORCE:MULTIPLE

450.soplex: -QxSSE4.1(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- /F1000000000 shlw32m.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 /F1000000000 shlw32m.lib -link /FORCE:MULTIPLE

Continued on next page

Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: `-QxSSE4.1 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000`

416.gamess: `-QxSSE4.1`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F1000000000`

434.zeusmp: `-QxSSE4.1`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- /F1000000000`

437.leslie3d: `-QxSSE4.1`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000`

459.GemsFDTD: `-QxSSE4.1`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qopt-prefetch /F1000000000`

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

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 /F1000000000`

436.cactusADM: `basepeak = yes`

454.calculix: `-QxSSE4.1 -Qipo -O3 -Qprec-div- /F1000000000`

481.wrf: `basepeak = yes`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.20090713.html
http://www.spec.org/cpu2006/flags/Intel-Win32-Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.20090713.xml
http://www.spec.org/cpu2006/flags/Intel-Win32-Platform.xml

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Tue Jul 22 20:26:03 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 November 2008.