SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

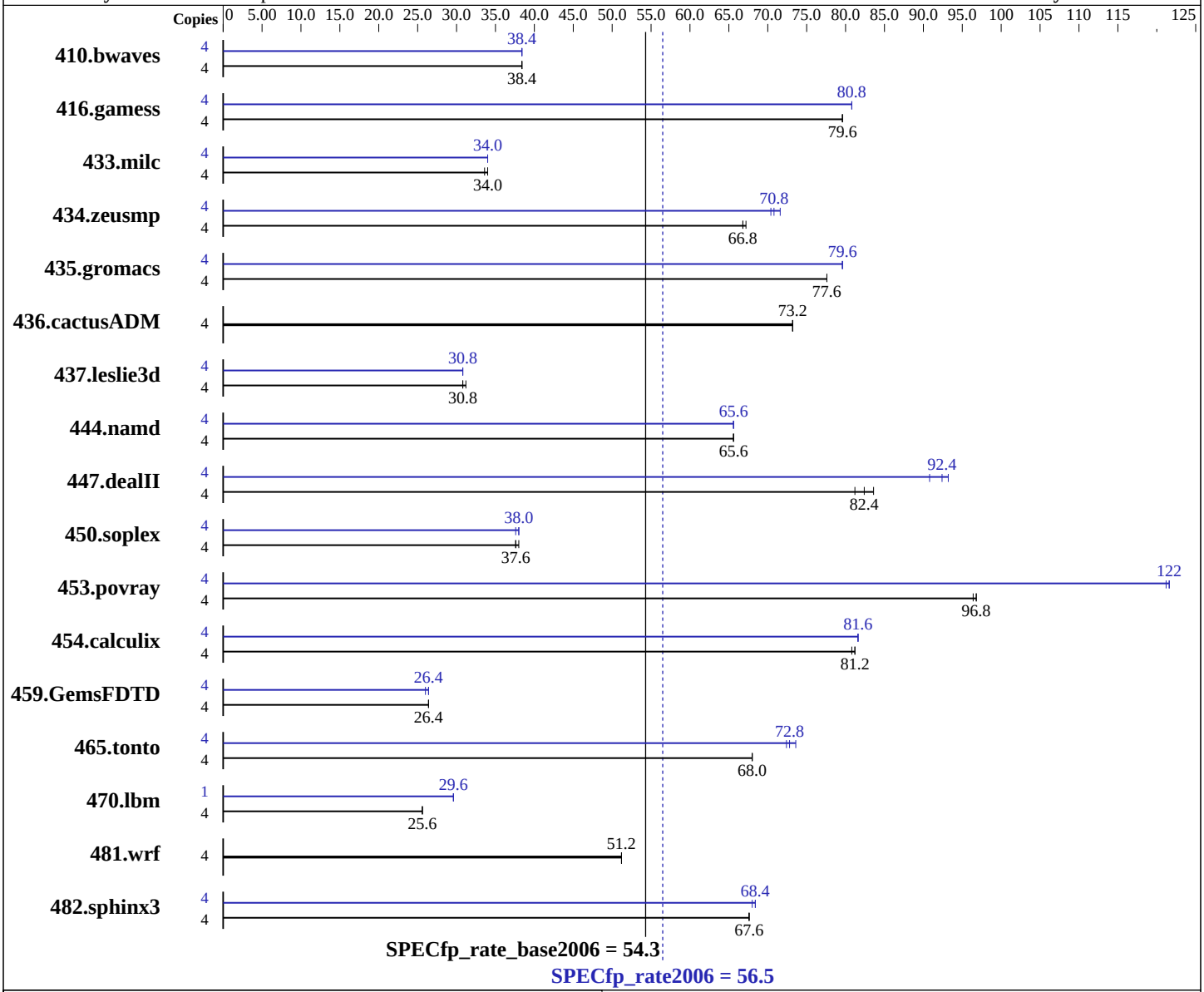
Asus P5E3 Premium (Intel Core 2 Extreme QX9770)

SPECfp®_rate2006 = 56.5

SPECfp_rate_base2006 = 54.3

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 Extreme QX9770
CPU Characteristics:	
CPU MHz:	3200
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	1411	38.4	**1411**	**38.4**	1411	38.4	4	1411	38.4	1411	38.4	**1411**	**38.4**
416.gamess	4	985	79.6	**986**	**79.6**	986	79.6	4	970	80.8	**971**	**80.8**	971	80.8
433.milc	4	1086	33.6	1086	34.0	**1086**	**34.0**	4	**1083**	**34.0**	1083	34.0	1083	34.0
434.zeusmp	4	546	66.8	542	67.2	**544**	**66.8**	4	517	70.4	**515**	**70.8**	509	71.6
435.gromacs	4	367	77.6	**367**	**77.6**	367	77.6	4	359	79.6	359	79.6	**359**	**79.6**
436.cactusADM	4	653	73.2	**654**	**73.2**	654	73.2	4	653	73.2	**654**	**73.2**	654	73.2
437.leslie3d	4	**1214**	**30.8**	1212	31.2	1216	30.8	4	1215	30.8	1216	30.8	**1216**	**30.8**
444.namd	4	**488**	**65.6**	488	65.6	488	65.6	4	488	65.6	488	65.6	**488**	**65.6**
447.dealII	4	547	83.6	**555**	**82.4**	564	81.2	4	505	90.8	491	93.2	**495**	**92.4**
450.soplex	4	881	38.0	**883**	**37.6**	885	37.6	4	**882**	**38.0**	882	38.0	883	37.6
453.povray	4	220	96.4	220	96.8	**220**	**96.8**	4	175	122	**175**	**122**	175	121
454.calculix	4	406	81.2	408	80.8	**406**	**81.2**	4	**404**	**81.6**	404	81.6	404	81.6
459.GemsFDTD	4	1608	26.4	**1611**	**26.4**	1611	26.4	4	1616	26.4	1630	26.0	**1619**	**26.4**
465.tonto	4	580	68.0	**580**	**68.0**	579	68.0	4	536	73.6	543	72.4	**540**	**72.8**
470.lbm	4	2144	25.6	**2144**	**25.6**	2144	25.6	1	465	29.6	**465**	**29.6**	465	29.6
481.wrf	4	876	51.2	871	51.2	**875**	**51.2**	4	876	51.2	871	51.2	**875**	**51.2**
482.sphinx3	4	1151	67.6	**1152**	**67.6**	1154	67.6	4	1144	68.0	1139	68.4	**1143**	**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 1600 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

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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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