SPEC® CFP2006 Result

ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

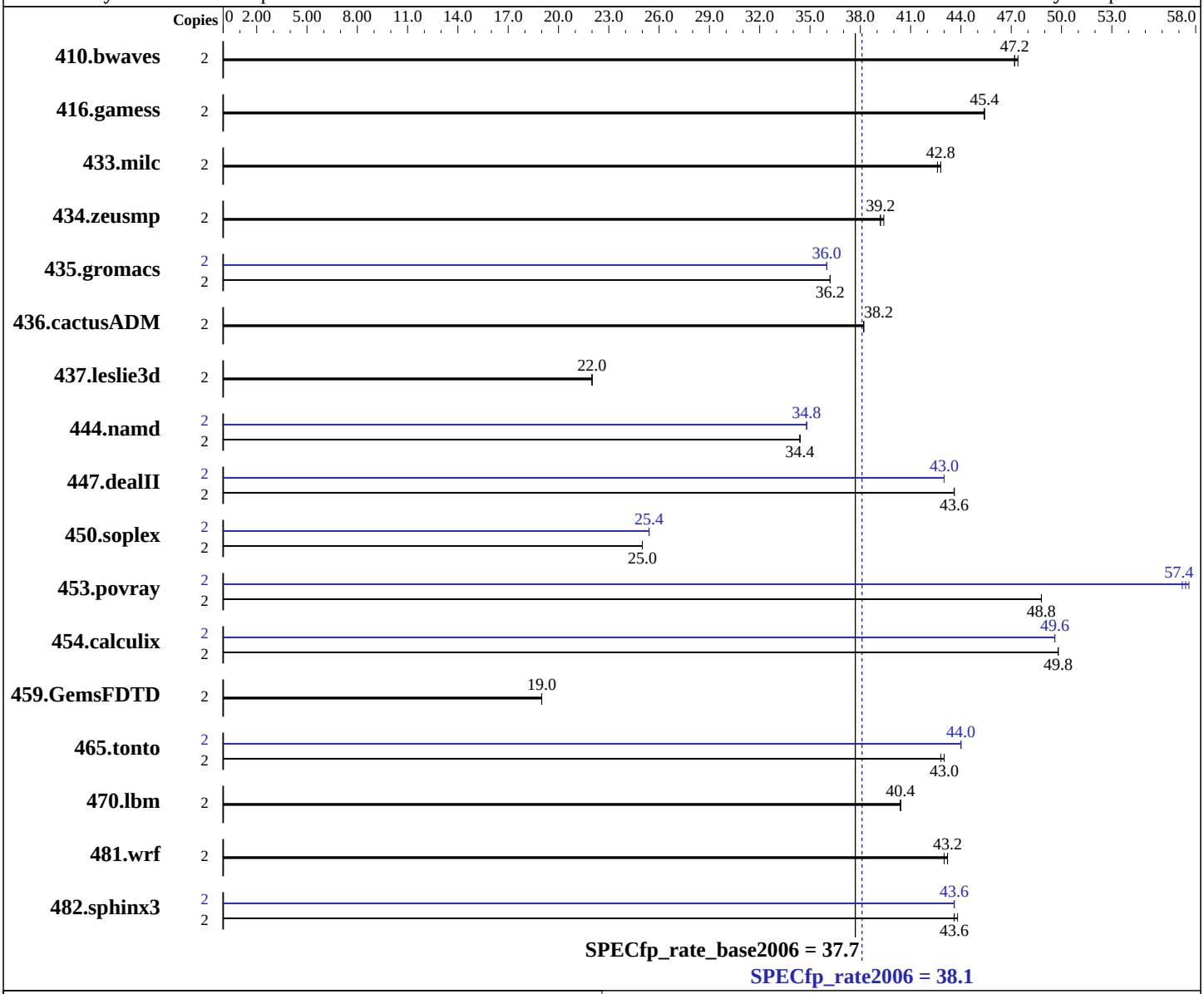
Asus M4A89GTD-PRO (Phenom II X2 560)

SPECfp®_rate2006 = 38.1

SPECfp_rate_base2006 = 37.7

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

Test date: May-2011
Hardware Availability: Sep-2010
Software Availability: Apr-2011



Hardware

CPU Name:	AMD Phenom II X2 560
CPU Characteristics:	
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	512 KB I+D on chip per core

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Software

Operating System:	Windows 7 Ultimate (64-bit)
Compiler:	Intel C++ Compiler XE for Intel 64 Version 12.0.3.176 Build 20110309 Intel Visual Fortran Compiler XE for Intel 64 Version 12.0.3.176 Build 20110309 Microsoft Visual Studio 2008 Professional SP1 (for libraries)
Auto Parallel:	No
File System:	NTFS

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L3 Cache: 6 MB I+D on chip per chip
Other Cache: None
Memory: 4 GB (2 x 2 GB 2Rx8 PC3-10600U-9)
Disk Subsystem: Seagate 1 TB SATA, 7200 RPM
Other Hardware: None

System State: Default
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: SmartHeap Library Version 9.01 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	576	47.2	**575**	**47.2**	574	47.4	2	576	47.2	**575**	**47.2**	574	47.4
416.gamess	2	862	45.4	863	45.4	**862**	**45.4**	2	862	45.4	863	45.4	**862**	**45.4**
433.milc	2	431	42.6	430	42.8	**430**	**42.8**	2	431	42.6	430	42.8	**430**	**42.8**
434.zeusmp	2	464	39.2	463	39.4	**463**	**39.2**	2	464	39.2	463	39.4	**463**	**39.2**
435.gromacs	2	395	36.2	**395**	**36.2**	395	36.2	2	396	36.0	396	36.0	**396**	**36.0**
436.cactusADM	2	626	38.2	**626**	**38.2**	625	38.2	2	626	38.2	**626**	**38.2**	625	38.2
437.leslie3d	2	852	22.0	852	22.0	**852**	**22.0**	2	852	22.0	852	22.0	**852**	**22.0**
444.namd	2	**466**	**34.4**	466	34.4	466	34.4	2	460	34.8	**460**	**34.8**	461	34.8
447.dealII	2	526	43.6	**525**	**43.6**	525	43.6	2	**532**	**43.0**	532	43.0	532	43.0
450.soplex	2	668	25.0	668	25.0	**668**	**25.0**	2	659	25.4	**659**	**25.4**	658	25.4
453.povray	2	**218**	**48.8**	218	48.8	218	48.8	2	186	57.2	**185**	**57.4**	185	57.6
454.calculix	2	332	49.8	**332**	**49.8**	332	49.8	2	**333**	**49.6**	332	49.6	333	49.6
459.GemsFDTD	2	**1114**	**19.0**	1113	19.0	1115	19.0	2	**1114**	**19.0**	1113	19.0	1115	19.0
465.tonto	2	**458**	**43.0**	457	43.0	459	42.8	2	446	44.0	446	44.0	**446**	**44.0**
470.lbm	2	**680**	**40.4**	680	40.4	681	40.4	2	**680**	**40.4**	680	40.4	681	40.4
481.wrf	2	519	43.0	517	43.2	**517**	**43.2**	2	519	43.0	517	43.2	**517**	**43.2**
482.sphinx3	2	892	43.8	893	43.6	**892**	**43.6**	2	896	43.6	895	43.6	**895**	**43.6**

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.
 The start command with the /affinity switch was used to bind processes to cores
```

General Notes

```
 Tested systems can be used with Shin-G ATX case,
 PC Power and Cooling 1200W power supply
```

Base Compiler Invocation

C benchmarks:

```
icl -Qvc9 -Qstd=c99
```

Continued on next page

Base Compiler Invocation (Continued)

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 -names:lowercase
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 -names:lowercase /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 -names:lowercase
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:
/arch:SSE3 -Qipo -O3 -Qprec-div- -Qansi-alias -Qauto-ilp32
/F1000000000 -link /FORCE:MULTIPLE

C++ benchmarks:
/arch:SSE3 -Qipo -O3 -Qprec-div- -Qansi-alias -Qcxx-features
-Qauto-ilp32 /F1000000000 shlW64M.lib -link /FORCE:MULTIPLE

Fortran benchmarks:
/arch:SSE3 -Qipo -O3 -Qprec-div- -Qansi-alias /F1000000000
-link /FORCE:MULTIPLE

Benchmarks using both Fortran and C:
/arch:SSE3 -Qipo -O3 -Qprec-div- -Qansi-alias -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: `basepeak = yes`

482.sphinx3:
```
/arch:SSE3 -Qipo -O3 -Qprec-div- -Qunroll2 -Qansi-alias
-Qauto-ilp32 /F1000000000            -link /FORCE:MULTIPLE
```

C++ benchmarks:

444.namd:
```
/arch:SSE3(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:
```
/arch:SSE3(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
```

450.soplex:
```
/arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
            -link /FORCE:MULTIPLE
```

453.povray:
```
/arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000 shlW64M.lib            -link /FORCE:MULTIPLE
```

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Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: /arch:SSE3(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: /arch:SSE3(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: /arch:SSE3 -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F1000000000 -link /FORCE:MULTIPLE

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-ic12-winx64-revB.html
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.xml
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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