SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

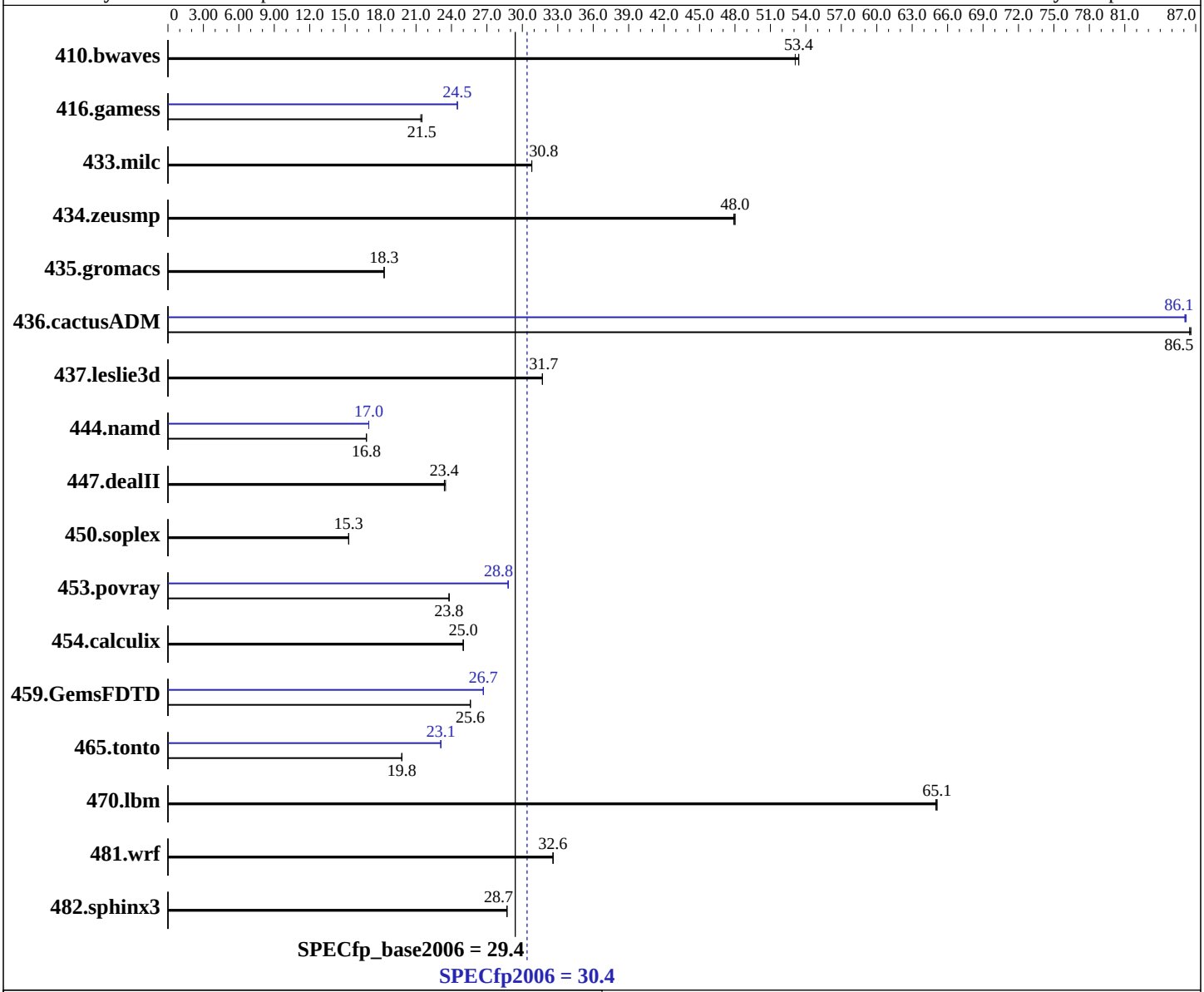
Asus M4A89GTD-PRO (Phenom II X4 955)

SPECfp®2006 = 30.4

SPECfp_base2006 = 29.4

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

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



Hardware

CPU Name:	AMD Phenom II X4 955
CPU Characteristics:	
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 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:	Yes
File System:	NTFS

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L3 Cache: 6 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2 x 4 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	256	53.1	**255**	**53.4**	254	53.4	256	53.1	**255**	**53.4**	254	53.4
416.gamess	913	21.4	912	21.5	**913**	**21.5**	800	24.5	799	24.5	**800**	**24.5**
433.milc	299	30.8	**298**	**30.8**	298	30.8	299	30.8	**298**	**30.8**	298	30.8
434.zeusmp	190	48.0	**190**	**48.0**	190	47.9	190	48.0	**190**	**48.0**	190	47.9
435.gromacs	**391**	**18.3**	391	18.3	391	18.3	**391**	**18.3**	391	18.3	391	18.3
436.cactusADM	138	86.6	**138**	**86.5**	138	86.5	**139**	**86.1**	139	86.2	139	86.1
437.leslie3d	296	31.7	**297**	**31.7**	297	31.7	296	31.7	**297**	**31.7**	297	31.7
444.namd	476	16.8	476	16.8	**476**	**16.8**	472	17.0	**472**	**17.0**	472	17.0
447.dealII	487	23.5	**488**	**23.4**	488	23.4	487	23.5	**488**	**23.4**	488	23.4
450.soplex	**545**	**15.3**	545	15.3	545	15.3	**545**	**15.3**	545	15.3	545	15.3
453.povray	**224**	**23.8**	224	23.8	224	23.8	185	28.8	**185**	**28.8**	185	28.8
454.calculix	330	25.0	330	25.0	**330**	**25.0**	330	25.0	330	25.0	**330**	**25.0**
459.GemsFDTD	415	25.6	**414**	**25.6**	414	25.6	**398**	**26.7**	398	26.7	397	26.7
465.tonto	496	19.8	497	19.8	**497**	**19.8**	427	23.1	**427**	**23.1**	427	23.1
470.lbm	211	65.1	**211**	**65.1**	211	65.0	211	65.1	**211**	**65.1**	211	65.0
481.wrf	343	32.6	**343**	**32.6**	343	32.6	343	32.6	**343**	**32.6**	343	32.6
482.sphinx3	**680**	**28.7**	679	28.7	680	28.7	**680**	**28.7**	679	28.7	680	28.7

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,
PC Power and Cooling 1200W power supply
OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter
```

Base Compiler Invocation

C benchmarks:

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

C++ benchmarks:

```
icl -Qvc9
```

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Base Compiler Invocation (Continued)

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 -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000

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

Fortran benchmarks:
/arch:SSE3 -Qipo -O3 -Qparallel -Qansi-alias -Qopt-prefetch
/F1000000000

Benchmarks using both Fortran and C:
/arch:SSE3 -Qipo -O3 -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000

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: `basepeak = yes`

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: `basepeak = yes`

450.soplex: `basepeak = yes`

453.povray: `/arch:SSE3`(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: `basepeak = yes`

416.gamess: `/arch:SSE3`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2)
`-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qansi-alias`
`-Qscalar-rep- /F1000000000`

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Peak Optimization Flags (Continued)

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel /F1000000000

465.tonto: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto -Qinline-calloc /F1000000000

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: /arch:SSE3(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel -Qunroll2 -Qauto-ilp32 /F1000000000

454.calculix: basepeak = yes

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

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

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