SPEC® CFP2006 Result

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ASUSTeK Computer Inc.

(Test Sponsor: Intel Corporation)

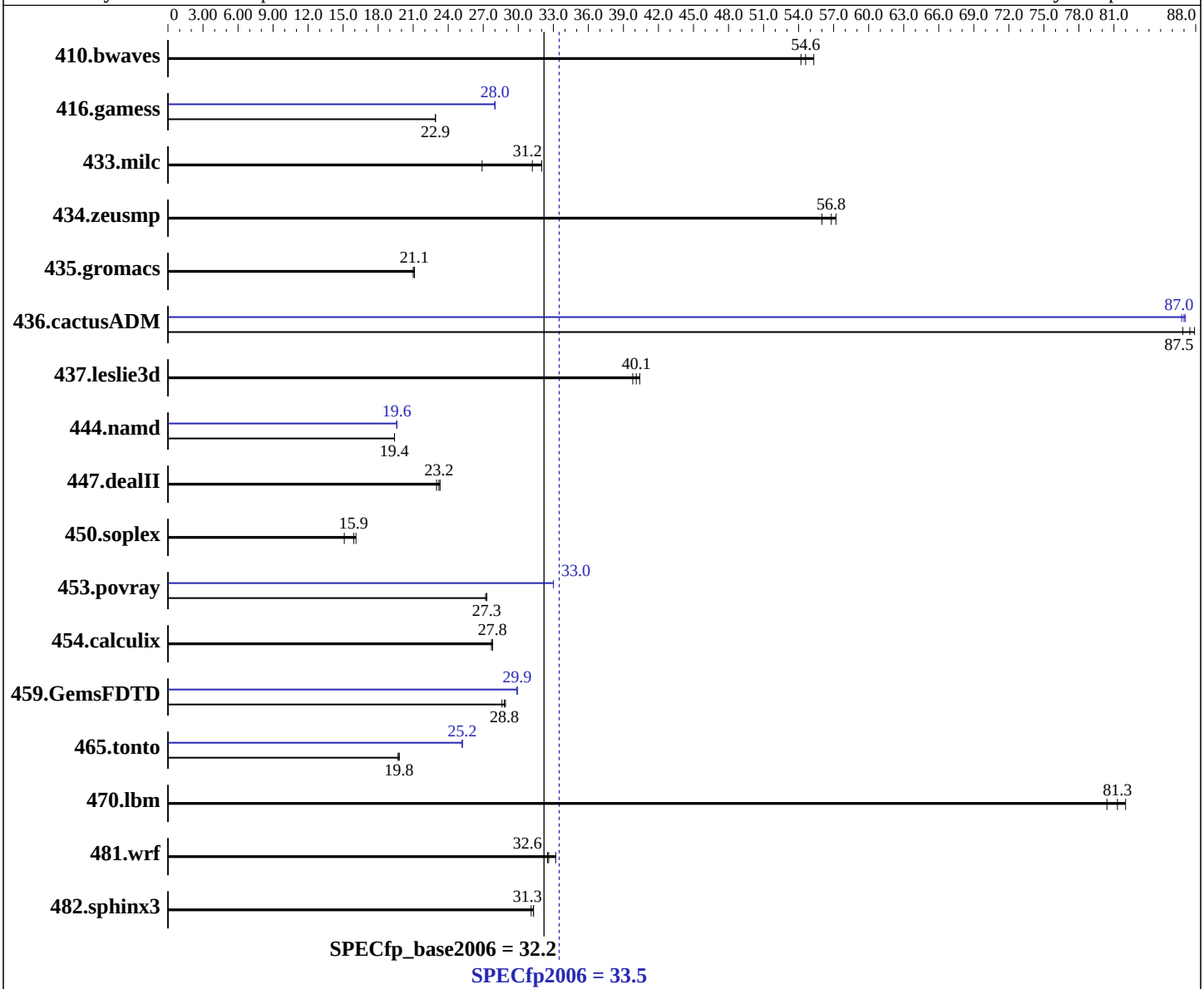
ASUS M4A89GTD-PRO (AMD Phenom II X6 1100T)

SPECfp®2006 = 33.5

SPECfp_base2006 = 32.2

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

Test date: Oct-2011
Hardware Availability: Dec-2010
Software Availability: Apr-2011



Hardware

CPU Name:	AMD Phenom II X6 1100T
CPU Characteristics:	AMD Turbo CORE technology up to 3.70 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	6 cores, 1 chip, 6 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 SP1 (64-bit)
Compiler:	C/C++: Version 12.0.3.176 of Intel C++ Studio XE for Windows; Fortran: Version 12.0.3.176 of Intel Visual Fortran Studio XE for Windows; Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1
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 2Rx4 PC3-10600U-9)
Disk Subsystem: Intel 160GB SSD
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	251	54.2	**249**	**54.6**	246	55.3	251	54.2	**249**	**54.6**	246	55.3
416.gamess	**856**	**22.9**	856	22.9	856	22.9	700	28.0	700	28.0	**700**	**28.0**
433.milc	341	26.9	**295**	**31.2**	287	32.0	341	26.9	**295**	**31.2**	287	32.0
434.zeusmp	163	56.0	**160**	**56.8**	159	57.2	163	56.0	**160**	**56.8**	159	57.2
435.gromacs	339	21.0	339	21.1	**339**	**21.1**	339	21.0	339	21.1	**339**	**21.1**
436.cactusADM	138	86.9	**137**	**87.5**	136	87.9	138	86.8	137	87.1	**137**	**87.0**
437.leslie3d	236	39.8	**235**	**40.1**	233	40.4	236	39.8	**235**	**40.1**	233	40.4
444.namd	414	19.4	413	19.4	**413**	**19.4**	409	19.6	410	19.6	**410**	**19.6**
447.dealII	498	23.0	490	23.3	**492**	**23.2**	498	23.0	490	23.3	**492**	**23.2**
450.soplex	551	15.1	**524**	**15.9**	520	16.1	551	15.1	**524**	**15.9**	520	16.1
453.povray	195	27.2	195	27.3	**195**	**27.3**	**161**	**33.0**	161	33.0	161	33.0
454.calculix	298	27.7	**297**	**27.8**	296	27.8	298	27.7	**297**	**27.8**	296	27.8
459.GemsFDTD	371	28.6	**369**	**28.8**	367	28.9	355	29.9	355	29.9	**355**	**29.9**
465.tonto	500	19.7	**497**	**19.8**	497	19.8	390	25.2	390	25.2	**390**	**25.2**
470.lbm	171	80.4	**169**	**81.3**	168	82.0	171	80.4	**169**	**81.3**	168	82.0
481.wrf	**343**	**32.6**	337	33.2	343	32.5	**343**	**32.6**	337	33.2	343	32.5
482.sphinx3	**623**	**31.3**	622	31.3	627	31.1	**623**	**31.3**	622	31.3	627	31.1

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

Component Notes

```
Tested systems can be used with Shin-G ATX case,
PC Power and Cooling 1200W power supply
System was configured with an ATI HD 6990 discrete graphics card
```

General Notes

```
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
```

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
```

Continued on next page

Base Optimization Flags (Continued)

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`

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Peak Optimization Flags (Continued)

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

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-revC.20111012.html
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.xml
http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.xml

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

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