SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

GIGA-BYTE Technology Co. Ltd.

(Test Sponsor: Intel Corporation)

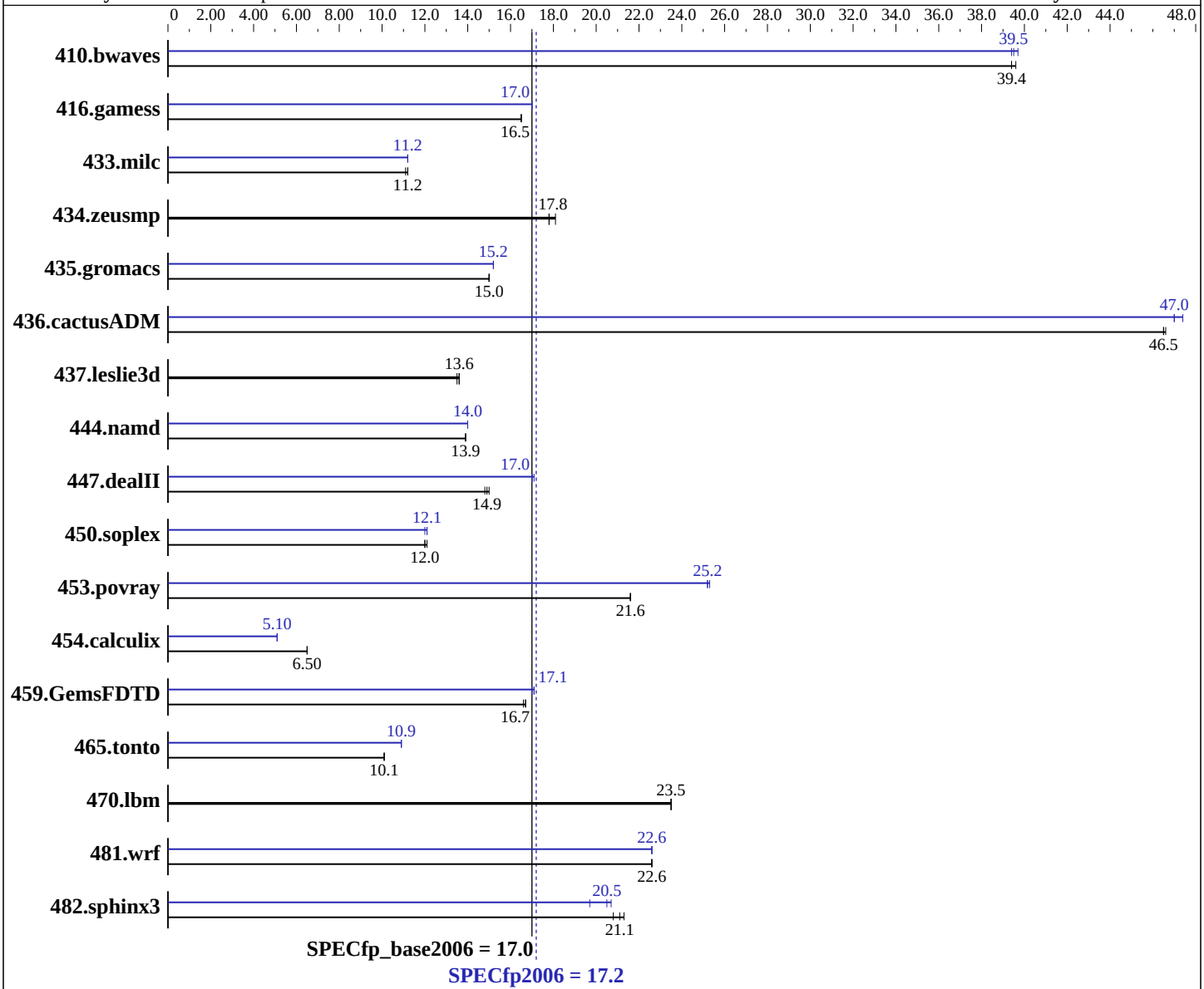
Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X4 920)

SPECfp®2006 = 17.2

SPECfp_base2006 = 17.0

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

Test date: May-2009
Hardware Availability: Jan-2009
Software Availability: Nov-2008



Hardware

CPU Name:	AMD Phenom II X4 920
CPU Characteristics:	
CPU MHz:	2800
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

Continued on next page

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:	Yes
File System:	NTFS

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

GIGA-BYTE Technology Co. Ltd.

(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X4 920)

SPECfp2006 = 17.2

SPECfp_base2006 = 17.0

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

Test date: May-2009
Hardware Availability: Jan-2009
Software Availability: Nov-2008

L3 Cache: 6 MB I+D on chip per chip
Other Cache: None
Memory: 4 GB (4x1GB DDR2-800 CL5)
Disk Subsystem: Seagate 320 GB SATA, 7200RPM
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**345**	**39.4**	343	39.6	345	39.4	**344**	**39.5**	342	39.7	345	39.4
416.gamess	**1186**	**16.5**	1185	16.5	1188	16.5	1150	17.0	1149	17.0	**1150**	**17.0**
433.milc	827	11.1	822	11.2	**822**	**11.2**	**823**	**11.2**	823	11.2	823	11.2
434.zeusmp	512	17.8	503	18.1	**510**	**17.8**	512	17.8	503	18.1	**510**	**17.8**
435.gromacs	**477**	**15.0**	477	15.0	476	15.0	**470**	**15.2**	470	15.2	469	15.2
436.cactusADM	**257**	**46.5**	256	46.6	257	46.5	252	47.4	254	47.0	**254**	**47.0**
437.leslie3d	699	13.5	**691**	**13.6**	691	13.6	699	13.5	**691**	**13.6**	691	13.6
444.namd	576	13.9	577	13.9	**577**	**13.9**	573	14.0	573	14.0	**573**	**14.0**
447.dealII	763	15.0	**768**	**14.9**	773	14.8	667	17.1	674	17.0	**672**	**17.0**
450.soplex	692	12.1	**696**	**12.0**	697	12.0	**692**	**12.1**	688	12.1	695	12.0
453.povray	247	21.6	**247**	**21.6**	247	21.6	**211**	**25.2**	211	25.2	211	25.3
454.calculix	1275	6.50	1276	6.50	**1276**	**6.50**	**1629**	**5.10**	1630	5.10	1629	5.10
459.GemsFDTD	**634**	**16.7**	637	16.6	634	16.7	**621**	**17.1**	625	17.0	620	17.1
465.tonto	978	10.1	977	10.1	**978**	**10.1**	**905**	**10.9**	907	10.9	904	10.9
470.lbm	**585**	**23.5**	585	23.5	585	23.5	**585**	**23.5**	585	23.5	585	23.5
481.wrf	495	22.6	494	22.6	**495**	**22.6**	494	22.6	495	22.6	**495**	**22.6**
482.sphinx3	**923**	**21.1**	939	20.8	915	21.3	989	19.7	939	20.7	**949**	**20.5**

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, Antec NeoPower 480W power supply
Binaries were built on Windows Vista Ultimate (32-bit)
OMP_NUM_THREADS set to number of logical processors as seen by the OS
KMP_AFFINITY set to physical,0
```

Base Compiler Invocation

C benchmarks:

```
icl -Qvc9 -Qc99
```

C++ benchmarks:

```
icl -Qvc9
```

Continued on next page

Base Compiler Invocation (Continued)

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:
/arch:SSE2 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
/F1000000000

C++ benchmarks:
/arch:SSE2 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
-Qcxx-features /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:
/arch:SSE2 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
/F1000000000

Benchmarks using both Fortran and C:
/arch:SSE2 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
/F1000000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc9 -Qc99

C++ benchmarks:
icl -Qvc9

Fortran benchmarks:
ifort

Continued on next page

Peak Compiler Invocation (Continued)

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: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa /F1000000000

470.lbm: basepeak = yes

482.sphinx3: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qunroll2 /F1000000000

C++ benchmarks:

444.namd: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Oa /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

447.dealII: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch
-Qansi-alias -Qscalar-rep- /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

450.soplex: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- /F1000000000 shlw32m.lib
-link /FORCE:MULTIPLE

453.povray: /arch:SSE2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias /F1000000000
shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:

410.bwaves: /arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
-Qparallel /F1000000000

Continued on next page

Peak Optimization Flags (Continued)

416.gamess: `/arch:SSE2`(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:SSE2`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qopt-prefetch -Qparallel /F1000000000`

465.tonto: `/arch:SSE2`(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: `/arch:SSE2`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000`

436.cactusADM: `/arch:SSE2`(pass 2) `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel /F1000000000`

454.calculix: `/arch:SSE2 -Qipo -O3 -Qprec-div- /F1000000000`

481.wrf: `/arch:SSE2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qparallel /F1000000000`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-win32-revA.xml`

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 01:06:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 23 June 2009.