



SPEC[®] CFP2006 Result

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GIGA-BYTE Technology Co. Ltd.

(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom X4 9750)

SPECfp[®]2006 = 14.4

SPECfp_base2006 = 14.2

CPU2006 license: 13

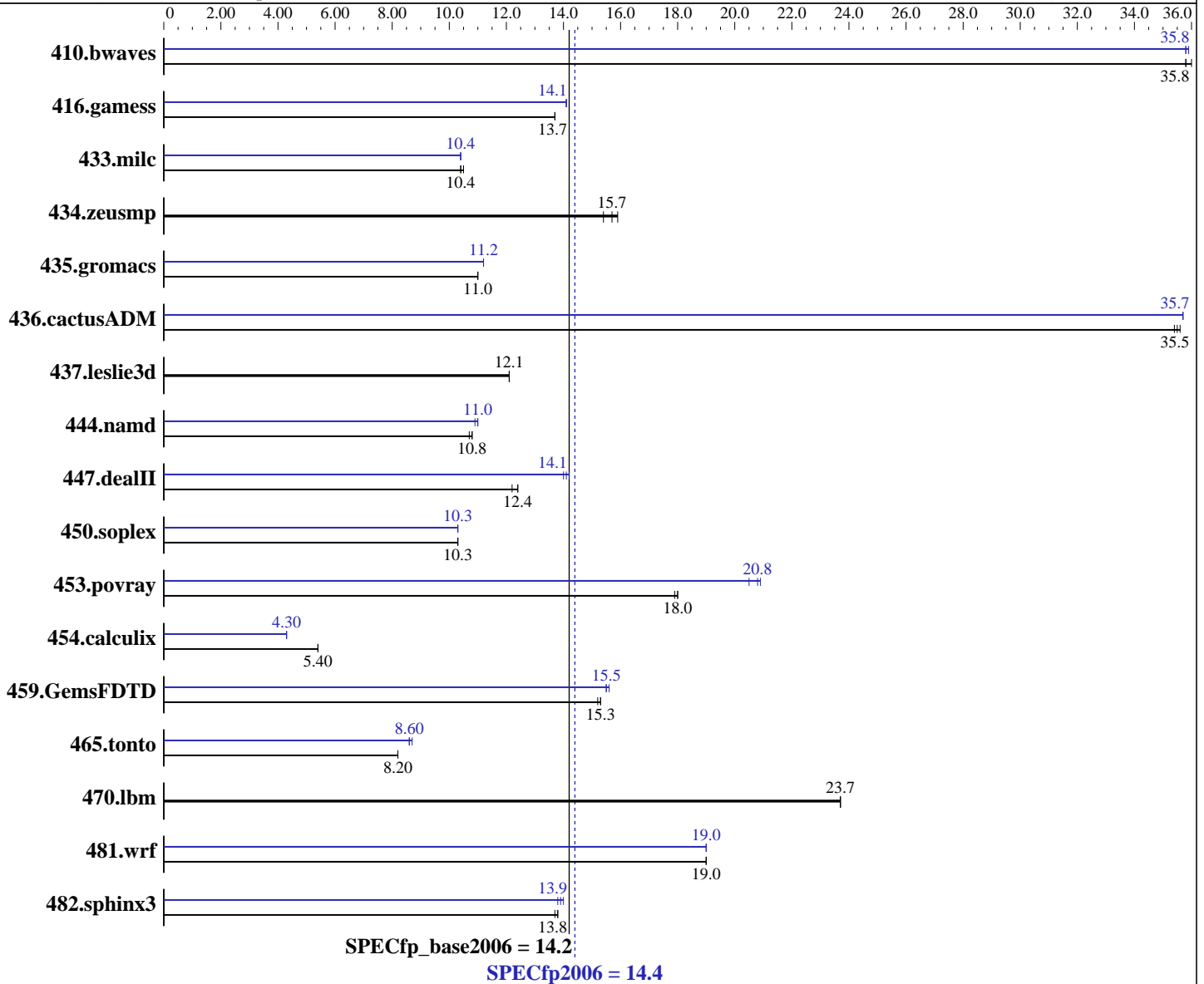
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Jan-2009

Hardware Availability: Apr-2008

Software Availability: Nov-2008



Hardware

CPU Name: AMD Phenom X4 9750
 CPU Characteristics:
 CPU MHz: 2400
 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 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

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L3 Cache: 2 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	380	35.8	379	35.8	377	36.0	380	35.8	380	35.8	378	35.9
416.gamess	1429	13.7	1432	13.7	1426	13.7	1386	14.1	1387	14.1	1384	14.1
433.milc	880	10.4	878	10.5	880	10.4	883	10.4	882	10.4	882	10.4
434.zeusmp	573	15.9	579	15.7	591	15.4	573	15.9	579	15.7	591	15.4
435.gromacs	648	11.0	648	11.0	648	11.0	637	11.2	637	11.2	637	11.2
436.cactusADM	337	35.5	336	35.6	337	35.4	335	35.7	335	35.7	335	35.7
437.leslie3d	778	12.1	779	12.1	777	12.1	778	12.1	779	12.1	777	12.1
444.namd	746	10.7	745	10.8	744	10.8	731	11.0	731	11.0	733	10.9
447.dealII	934	12.2	919	12.4	921	12.4	816	14.0	814	14.1	805	14.2
450.soplex	810	10.3	812	10.3	810	10.3	812	10.3	808	10.3	807	10.3
453.povray	295	18.0	296	17.9	296	18.0	259	20.5	255	20.9	255	20.8
454.calculix	1522	5.40	1521	5.40	1521	5.40	1926	4.30	1926	4.30	1926	4.30
459.GemsFDTD	693	15.3	692	15.3	700	15.2	680	15.6	684	15.5	684	15.5
465.tonto	1206	8.20	1197	8.20	1197	8.20	1138	8.60	1136	8.70	1140	8.60
470.lbm	579	23.7	579	23.7	580	23.7	579	23.7	579	23.7	580	23.7
481.wrf	589	19.0	589	19.0	589	19.0	589	19.0	589	19.0	589	19.0
482.sphinx3	1412	13.8	1407	13.8	1423	13.7	1396	14.0	1404	13.9	1413	13.8

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

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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

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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

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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>

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