



SPEC® CFP2006 Result

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GIGA-BYTE Technology Co. Ltd.

(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Phenom II X3 710)

SPECfp®2006 = 16.2

SPECfp_base2006 = 16.0

CPU2006 license: 13

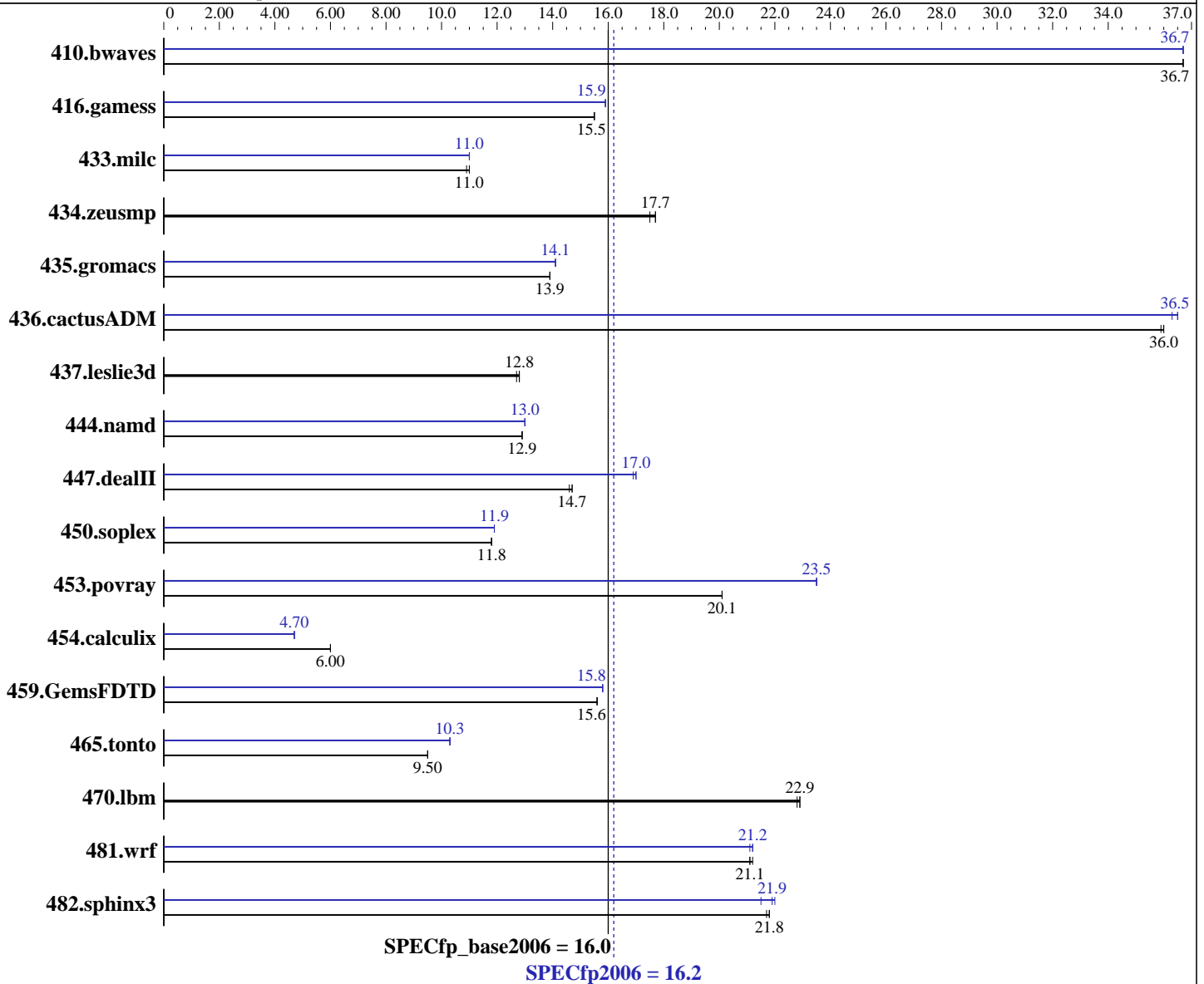
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: May-2009

Hardware Availability: Feb-2009

Software Availability: Nov-2008



Hardware

CPU Name: AMD Phenom II X3 710
 CPU Characteristics:
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 3 cores, 1 chip, 3 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: 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	<u>371</u>	<u>36.7</u>	371	36.7	371	36.7	371	36.7	370	36.7	<u>370</u>	<u>36.7</u>
416.gamess	<u>1265</u>	<u>15.5</u>	1265	15.5	1264	15.5	<u>1230</u>	<u>15.9</u>	1229	15.9	1231	15.9
433.milc	842	10.9	836	11.0	<u>836</u>	<u>11.0</u>	837	11.0	<u>838</u>	<u>11.0</u>	838	11.0
434.zeusmp	519	17.5	<u>515</u>	<u>17.7</u>	515	17.7	519	17.5	<u>515</u>	<u>17.7</u>	515	17.7
435.gromacs	514	13.9	<u>515</u>	<u>13.9</u>	515	13.9	<u>507</u>	<u>14.1</u>	507	14.1	507	14.1
436.cactusADM	333	35.9	<u>332</u>	<u>36.0</u>	332	36.0	329	36.3	<u>328</u>	<u>36.5</u>	327	36.5
437.leslie3d	732	12.8	739	12.7	<u>734</u>	<u>12.8</u>	732	12.8	739	12.7	<u>734</u>	<u>12.8</u>
444.namd	621	12.9	621	12.9	<u>621</u>	<u>12.9</u>	617	13.0	<u>617</u>	<u>13.0</u>	617	13.0
447.dealII	782	14.6	780	14.7	<u>781</u>	<u>14.7</u>	676	16.9	674	17.0	<u>674</u>	<u>17.0</u>
450.soplex	<u>707</u>	<u>11.8</u>	707	11.8	708	11.8	<u>703</u>	<u>11.9</u>	703	11.9	703	11.9
453.povray	<u>265</u>	<u>20.1</u>	265	20.1	265	20.1	<u>226</u>	<u>23.5</u>	226	23.5	226	23.5
454.calculix	1370	6.00	1369	6.00	<u>1369</u>	<u>6.00</u>	1753	4.70	<u>1753</u>	<u>4.70</u>	1753	4.70
459.GemsFDTD	679	15.6	<u>680</u>	<u>15.6</u>	680	15.6	<u>671</u>	<u>15.8</u>	670	15.8	673	15.8
465.tonto	1034	9.50	1032	9.50	<u>1032</u>	<u>9.50</u>	956	10.3	<u>956</u>	<u>10.3</u>	958	10.3
470.lbm	601	22.9	602	22.8	<u>601</u>	<u>22.9</u>	601	22.9	602	22.8	<u>601</u>	<u>22.9</u>
481.wrf	<u>529</u>	<u>21.1</u>	529	21.1	528	21.2	528	21.1	<u>528</u>	<u>21.2</u>	528	21.2
482.sphinx3	899	21.7	895	21.8	<u>896</u>	<u>21.8</u>	887	22.0	907	21.5	<u>891</u>	<u>21.9</u>

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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