



# SPEC® CFP2006 Result

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**GIGA-BYTE Technology Co. Ltd.**

(Test Sponsor: Intel Corporation)

Gigabyte MA78GM-S2H Motherboard (AMD Athlon X2 7750)

**SPECfp®\_rate2006 = 22.9**

**SPECfp\_rate\_base2006 = 22.4**

CPU2006 license: 13

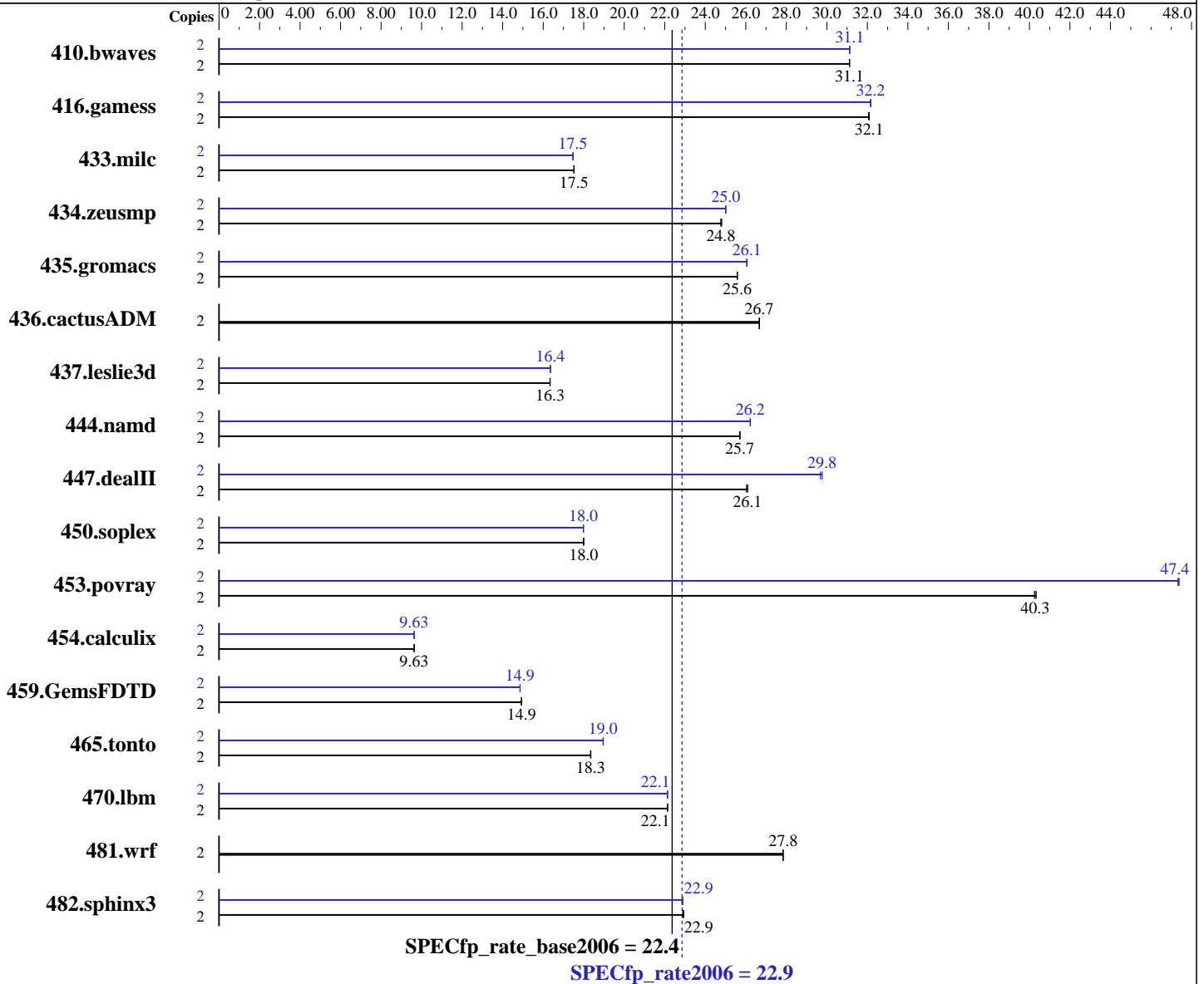
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: May-2009

Hardware Availability: Dec-2008

Software Availability: Nov-2008



### Hardware

CPU Name: AMD Athlon X2 7750  
 CPU Characteristics:  
 CPU MHz: 2700  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 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: No  
 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	874	31.1	873	31.1	<b>873</b>	<b>31.1</b>	2	873	31.1	873	31.1	<b>873</b>	<b>31.1</b>
416.gamess	2	<b>1220</b>	<b>32.1</b>	1222	32.1	1220	32.1	2	<b>1218</b>	<b>32.2</b>	1217	32.2	1218	32.2
433.milc	2	1049	17.5	1047	17.5	<b>1048</b>	<b>17.5</b>	2	<b>1051</b>	<b>17.5</b>	1051	17.5	1050	17.5
434.zeusmp	2	<b>735</b>	<b>24.8</b>	735	24.8	733	24.8	2	728	25.0	727	25.0	<b>728</b>	<b>25.0</b>
435.gromacs	2	558	25.6	558	25.6	<b>558</b>	<b>25.6</b>	2	548	26.1	<b>548</b>	<b>26.1</b>	548	26.0
436.cactusADM	2	896	26.7	896	26.7	<b>896</b>	<b>26.7</b>	2	896	26.7	896	26.7	<b>896</b>	<b>26.7</b>
437.leslie3d	2	<b>1150</b>	<b>16.3</b>	1151	16.3	1150	16.3	2	1150	16.4	<b>1149</b>	<b>16.4</b>	1149	16.4
444.namd	2	624	25.7	<b>624</b>	<b>25.7</b>	624	25.7	2	<b>612</b>	<b>26.2</b>	611	26.2	612	26.2
447.dealII	2	879	26.0	<b>877</b>	<b>26.1</b>	877	26.1	2	<b>769</b>	<b>29.8</b>	769	29.8	771	29.7
450.soplex	2	<b>927</b>	<b>18.0</b>	926	18.0	927	18.0	2	<b>927</b>	<b>18.0</b>	927	18.0	928	18.0
453.povray	2	264	40.2	<b>264</b>	<b>40.3</b>	264	40.3	2	225	47.4	225	47.3	<b>225</b>	<b>47.4</b>
454.calculix	2	1713	9.63	<b>1713</b>	<b>9.63</b>	1713	9.63	2	1714	9.63	<b>1713</b>	<b>9.63</b>	1713	9.63
459.GemsFDTD	2	<b>1421</b>	<b>14.9</b>	1422	14.9	1421	14.9	2	1427	14.9	<b>1428</b>	<b>14.9</b>	1429	14.9
465.tonto	2	<b>1073</b>	<b>18.3</b>	1072	18.4	1073	18.3	2	1038	19.0	1037	19.0	<b>1038</b>	<b>19.0</b>
470.lbm	2	1241	22.1	<b>1241</b>	<b>22.1</b>	1241	22.1	2	<b>1241</b>	<b>22.1</b>	1241	22.1	1241	22.1
481.wrf	2	<b>802</b>	<b>27.8</b>	802	27.8	803	27.8	2	<b>802</b>	<b>27.8</b>	802	27.8	803	27.8
482.sphinx3	2	1703	22.9	1699	22.9	<b>1702</b>	<b>22.9</b>	2	1703	22.9	1706	22.9	<b>1703</b>	<b>22.9</b>

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

## Submit Notes

The config file option 'submit' was used.

## 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)

## Base Compiler Invocation

C benchmarks:  
icl -Qvc9 -Qc99

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## Base Compiler Invocation (Continued)

C++ benchmarks:

icl -Qvc9

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- -Qopt-prefetch /F1000000000

C++ benchmarks:

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

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

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

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 -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:

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## Peak Optimization Flags (Continued)

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

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: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- /F1000000000

437.leslie3d: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000

459.GemsFDTD: /arch:SSE2(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo -O3 -Qprec-div- -Qunroll2 -Ob0 -Qopt-prefetch /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: basepeak = yes

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

481.wrf: basepeak = yes

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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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