



# SPEC® CFP2006 Result

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ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)

SPECfp®2006 = 26.2

ASUSTek M4A89GTD PRO/USB3 (Athlon II X4 635)

SPECfp\_base2006 = 25.5

CPU2006 license: 13

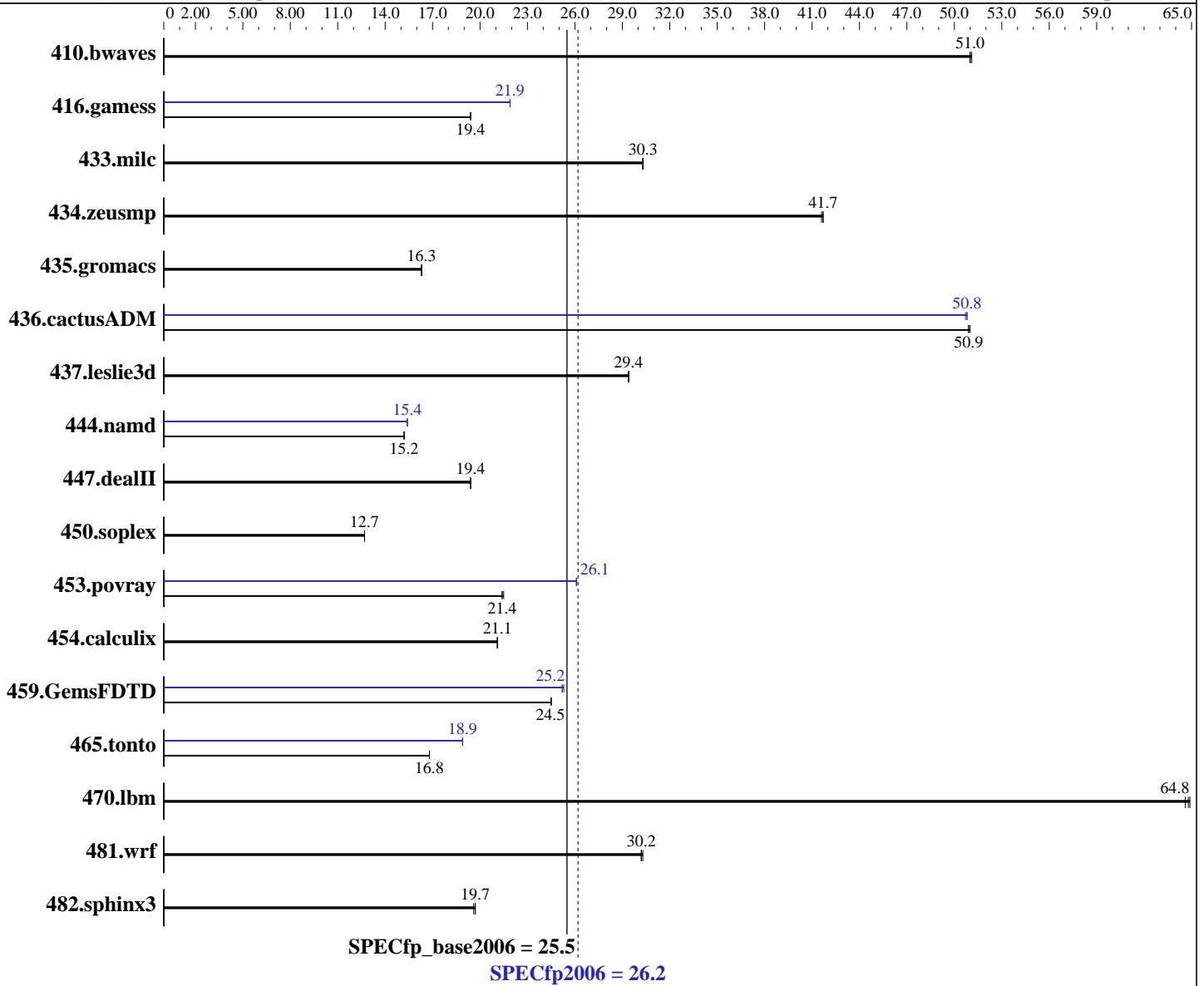
Test date: Jun-2011

Test sponsor: Intel Corporation

Hardware Availability: Feb-2011

Tested by: Intel Corporation

Software Availability: Apr-2011



### Hardware

CPU Name: AMD Athlon II X4 635  
 CPU Characteristics:  
 CPU MHz: 2900  
 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 7 Ultimate (64-bit)  
 Compiler: Intel C++ Compiler XE for Intel 64  
 Version 12.0.3.176 Build 20110309  
 Intel Visual Fortran Compiler XE for Intel 64  
 Version 12.0.3.176 Build 20110309  
 Microsoft Visual Studio 2008 Professional SP1  
 (for libraries)  
 Auto Parallel: Yes  
 File System: NTFS

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L3 Cache: None  
Other Cache: None  
Memory: 4 GB (2 x 2 GB 2Rx4 PC3-10600U-9)  
Disk Subsystem: 1 TB Seagate SATA, 7200 RPM  
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	<u>267</u>	<u>51.0</u>	266	51.1	267	51.0	<u>267</u>	<u>51.0</u>	266	51.1	267	51.0
416.gamess	<u>1008</u>	<u>19.4</u>	1007	19.4	1008	19.4	894	21.9	<u>894</u>	<u>21.9</u>	895	21.9
433.milc	303	30.3	<u>303</u>	<u>30.3</u>	303	30.3	303	30.3	<u>303</u>	<u>30.3</u>	303	30.3
434.zeusmp	218	41.7	<u>218</u>	<u>41.7</u>	219	41.6	218	41.7	<u>218</u>	<u>41.7</u>	219	41.6
435.gromacs	438	16.3	437	16.3	<u>437</u>	<u>16.3</u>	438	16.3	437	16.3	<u>437</u>	<u>16.3</u>
436.cactusADM	234	51.0	<u>235</u>	<u>50.9</u>	235	50.9	236	50.7	<u>235</u>	<u>50.8</u>	235	50.8
437.leslie3d	320	29.4	<u>320</u>	<u>29.4</u>	319	29.4	320	29.4	<u>320</u>	<u>29.4</u>	319	29.4
444.namd	<u>527</u>	<u>15.2</u>	527	15.2	527	15.2	521	15.4	<u>521</u>	<u>15.4</u>	521	15.4
447.dealII	<u>590</u>	<u>19.4</u>	590	19.4	589	19.4	<u>590</u>	<u>19.4</u>	590	19.4	589	19.4
450.soplex	658	12.7	<u>658</u>	<u>12.7</u>	657	12.7	658	12.7	<u>658</u>	<u>12.7</u>	657	12.7
453.povray	<u>248</u>	<u>21.4</u>	248	21.4	248	21.5	<u>204</u>	<u>26.1</u>	204	26.1	204	26.1
454.calculix	<u>392</u>	<u>21.1</u>	392	21.1	391	21.1	<u>392</u>	<u>21.1</u>	392	21.1	391	21.1
459.GemsFDTD	433	24.5	<u>433</u>	<u>24.5</u>	433	24.5	<u>420</u>	<u>25.2</u>	420	25.2	420	25.3
465.tonto	<u>585</u>	<u>16.8</u>	586	16.8	585	16.8	522	18.9	<u>522</u>	<u>18.9</u>	522	18.9
470.lbm	213	64.6	<u>212</u>	<u>64.8</u>	212	64.9	213	64.6	<u>212</u>	<u>64.8</u>	212	64.9
481.wrf	<u>370</u>	<u>30.2</u>	370	30.2	369	30.3	<u>370</u>	<u>30.2</u>	370	30.2	369	30.3
482.sphinx3	<u>992</u>	<u>19.7</u>	993	19.6	990	19.7	<u>992</u>	<u>19.7</u>	993	19.6	990	19.7

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,  
PC Power and Cooling 1200W power supply  
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

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## Base Compiler Invocation (Continued)

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

Benchmarks using both Fortran and C:  
/arch:SSE3 -Qipo -O3 -Qparallel -Qansi-alias -Qopt-prefetch  
-Qauto-ilp32 /F1000000000



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## 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  
sh1W64M.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 sh1W64M.lib -link /FORCE:MULTIPLE  
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

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## Peak Optimization Flags (Continued)

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.html>

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.xml>

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings.20110719.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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