



# SPEC® CFP2006 Result

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ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)

SPECfp®2006 = 25.1

ASUSTek M4A89GTD PRO/USB3 (Phenom II X2 550)

SPECfp\_base2006 = 24.4

CPU2006 license: 13

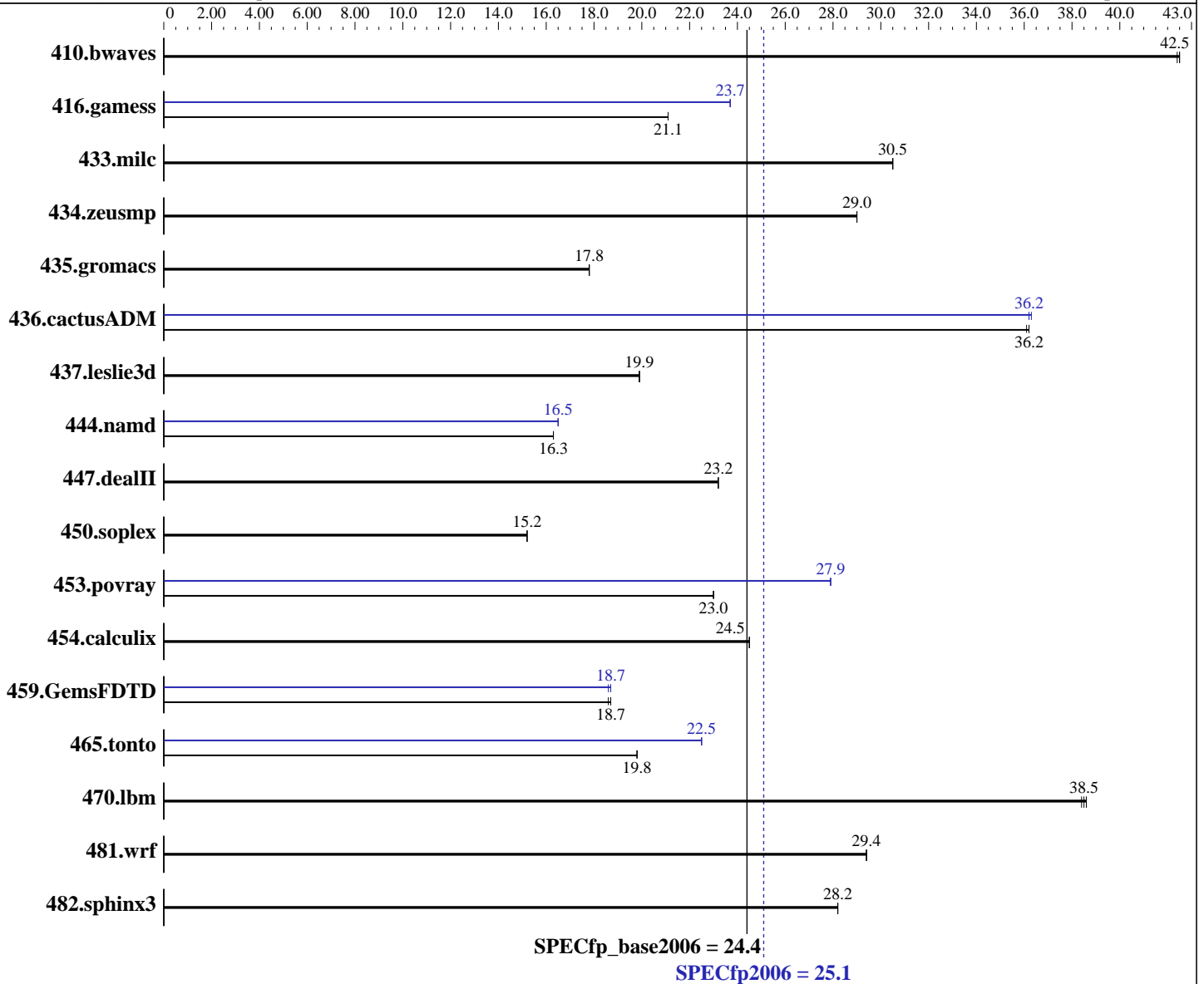
Test date: Jun-2011

Test sponsor: Intel Corporation

Hardware Availability: Feb-2011

Tested by: Intel Corporation

Software Availability: Apr-2011



### Hardware

CPU Name: AMD Phenom II X2 550  
 CPU Characteristics:  
 CPU MHz: 3100  
 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 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: 6 MB I+D on chip per chip  
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	321	42.4	320	42.5	<b>320</b>	<b>42.5</b>	321	42.4	320	42.5	<b>320</b>	<b>42.5</b>
416.gamess	926	21.1	927	21.1	<b>926</b>	<b>21.1</b>	826	23.7	828	23.7	<b>827</b>	<b>23.7</b>
433.milc	301	30.5	301	30.5	<b>301</b>	<b>30.5</b>	301	30.5	301	30.5	<b>301</b>	<b>30.5</b>
434.zeusmp	314	29.0	<b>314</b>	<b>29.0</b>	314	29.0	314	29.0	<b>314</b>	<b>29.0</b>	314	29.0
435.gromacs	401	17.8	<b>401</b>	<b>17.8</b>	401	17.8	401	17.8	<b>401</b>	<b>17.8</b>	401	17.8
436.cactusADM	<b>330</b>	<b>36.2</b>	331	36.1	330	36.2	330	36.2	330	36.3	<b>330</b>	<b>36.2</b>
437.leslie3d	473	19.9	<b>473</b>	<b>19.9</b>	473	19.9	473	19.9	<b>473</b>	<b>19.9</b>	473	19.9
444.namd	491	16.3	<b>491</b>	<b>16.3</b>	491	16.3	486	16.5	486	16.5	<b>486</b>	<b>16.5</b>
447.dealII	493	23.2	492	23.2	<b>492</b>	<b>23.2</b>	493	23.2	492	23.2	<b>492</b>	<b>23.2</b>
450.soplex	<b>550</b>	<b>15.2</b>	550	15.2	550	15.2	<b>550</b>	<b>15.2</b>	550	15.2	550	15.2
453.povray	231	23.0	231	23.0	<b>231</b>	<b>23.0</b>	191	27.9	<b>191</b>	<b>27.9</b>	191	27.9
454.calculix	337	24.5	<b>337</b>	<b>24.5</b>	337	24.5	337	24.5	<b>337</b>	<b>24.5</b>	337	24.5
459.GemsFDTD	569	18.6	568	18.7	<b>568</b>	<b>18.7</b>	570	18.6	<b>569</b>	<b>18.7</b>	569	18.7
465.tonto	497	19.8	<b>496</b>	<b>19.8</b>	496	19.8	437	22.5	<b>437</b>	<b>22.5</b>	437	22.5
470.lbm	<b>357</b>	<b>38.5</b>	356	38.6	358	38.4	<b>357</b>	<b>38.5</b>	356	38.6	358	38.4
481.wrf	380	29.4	380	29.4	<b>380</b>	<b>29.4</b>	380	29.4	380	29.4	<b>380</b>	<b>29.4</b>
482.sphinx3	<b>691</b>	<b>28.2</b>	691	28.2	691	28.2	<b>691</b>	<b>28.2</b>	691	28.2	691	28.2

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).

Tested with SPEC CPU2006 v1.1.

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