



# SPEC® CFP2006 Result

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ASUSTeK Computer Inc.  
(Test Sponsor: Intel Corporation)

SPECfp®2006 = 33.5

ASUS M4A89GTD-PRO (AMD Phenom II X6 1100T)

SPECfp\_base2006 = 32.2

CPU2006 license: 13

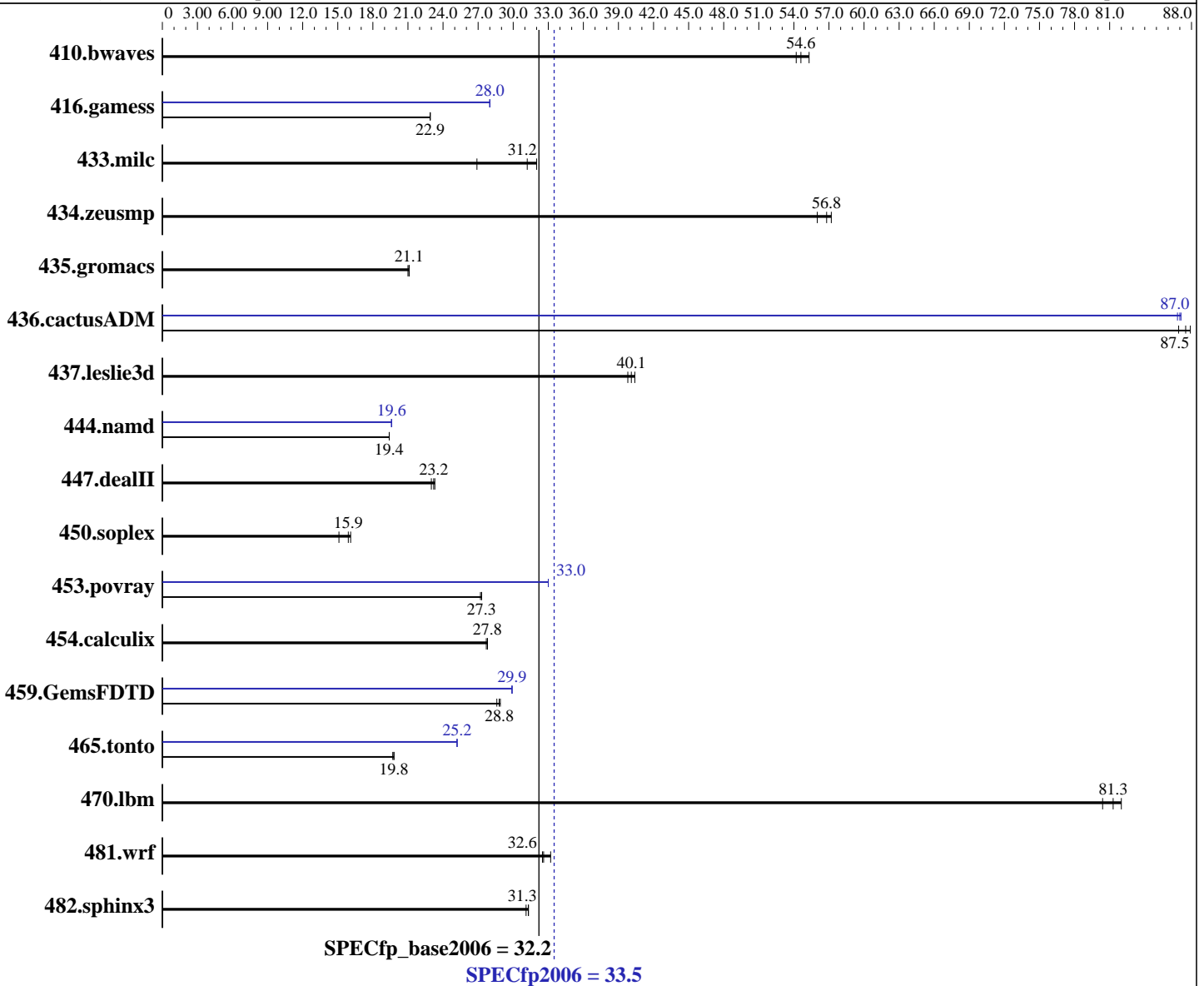
Test date: Oct-2011

Test sponsor: Intel Corporation

Hardware Availability: Dec-2010

Tested by: Intel Corporation

Software Availability: Apr-2011



### Hardware

CPU Name: AMD Phenom II X6 1100T  
 CPU Characteristics: AMD Turbo CORE technology up to 3.70 GHz  
 CPU MHz: 3300  
 FPU: Integrated  
 CPU(s) enabled: 6 cores, 1 chip, 6 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 SP1 (64-bit)  
 Compiler: C/C++: Version 12.0.3.176 of Intel C++ Studio XE for Windows;  
 Fortran: Version 12.0.3.176 of Intel Visual Fortran Studio XE for Windows;  
 Libraries: Version 15.00.30729.01 of Microsoft Visual Studio 2008 Professional SP1  
 Auto Parallel: Yes  
 File System: NTFS

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L3 Cache: 6 MB I+D on chip per chip  
Other Cache: None  
Memory: 8 GB (2 x 4 GB 2Rx4 PC3-10600U-9)  
Disk Subsystem: Intel 160GB SSD  
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	251	54.2	<u>249</u>	<u>54.6</u>	246	55.3	251	54.2	<u>249</u>	<u>54.6</u>	246	55.3
416.gamess	<u>856</u>	<u>22.9</u>	856	22.9	856	22.9	700	28.0	700	28.0	<u>700</u>	<u>28.0</u>
433.milc	341	26.9	<u>295</u>	<u>31.2</u>	287	32.0	341	26.9	<u>295</u>	<u>31.2</u>	287	32.0
434.zeusmp	163	56.0	<u>160</u>	<u>56.8</u>	159	57.2	163	56.0	<u>160</u>	<u>56.8</u>	159	57.2
435.gromacs	339	21.0	339	21.1	<u>339</u>	<u>21.1</u>	339	21.0	339	21.1	<u>339</u>	<u>21.1</u>
436.cactusADM	138	86.9	<u>137</u>	<u>87.5</u>	136	87.9	138	86.8	137	87.1	<u>137</u>	<u>87.0</u>
437.leslie3d	236	39.8	<u>235</u>	<u>40.1</u>	233	40.4	236	39.8	<u>235</u>	<u>40.1</u>	233	40.4
444.namd	414	19.4	413	19.4	<u>413</u>	<u>19.4</u>	409	19.6	410	19.6	<u>410</u>	<u>19.6</u>
447.dealII	498	23.0	490	23.3	<u>492</u>	<u>23.2</u>	498	23.0	490	23.3	<u>492</u>	<u>23.2</u>
450.soplex	551	15.1	<u>524</u>	<u>15.9</u>	520	16.1	551	15.1	<u>524</u>	<u>15.9</u>	520	16.1
453.povray	195	27.2	195	27.3	<u>195</u>	<u>27.3</u>	<u>161</u>	<u>33.0</u>	161	33.0	161	33.0
454.calculix	298	27.7	<u>297</u>	<u>27.8</u>	296	27.8	298	27.7	<u>297</u>	<u>27.8</u>	296	27.8
459.GemsFDTD	371	28.6	<u>369</u>	<u>28.8</u>	367	28.9	355	29.9	355	29.9	<u>355</u>	<u>29.9</u>
465.tonto	500	19.7	<u>497</u>	<u>19.8</u>	497	19.8	390	25.2	390	25.2	<u>390</u>	<u>25.2</u>
470.lbm	171	80.4	<u>169</u>	<u>81.3</u>	168	82.0	171	80.4	<u>169</u>	<u>81.3</u>	168	82.0
481.wrf	<u>343</u>	<u>32.6</u>	337	33.2	343	32.5	<u>343</u>	<u>32.6</u>	337	33.2	343	32.5
482.sphinx3	<u>623</u>	<u>31.3</u>	622	31.3	627	31.1	<u>623</u>	<u>31.3</u>	622	31.3	627	31.1

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

## Component Notes

Tested systems can be used with Shin-G ATX case,  
PC Power and Cooling 1200W power supply  
System was configured with an ATI HD 6990 discrete graphics card

## General Notes

OMP\_NUM\_THREADS set to number of processors cores  
KMP\_AFFINITY set to granularity=fine,scatter



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## Base 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

## 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

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## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
/arch:SSE3 -Qipo -O3 -Qparallel -Qansi-alias -Qopt-prefetch
-Qauto-ilp32 /F1000000000
```

## 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
shlW64M.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 shlW64M.lib -link /FORCE:MULTIPLE
```

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## Peak Optimization Flags (Continued)

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

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.20111012.html>

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

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

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revC.20111012.xml>

<http://www.spec.org/cpu2006/flags/Intel-Windows-Platform-Settings-revC.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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