



# SPEC<sup>®</sup> CFP2006 Result

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## Intel Corporation

SPECfp<sup>®</sup>2006 = 46.8

Intel DH67BLB3 Motherboard (Intel Core i5-2390T)

SPECfp\_base2006 = 45.0

CPU2006 license: 13

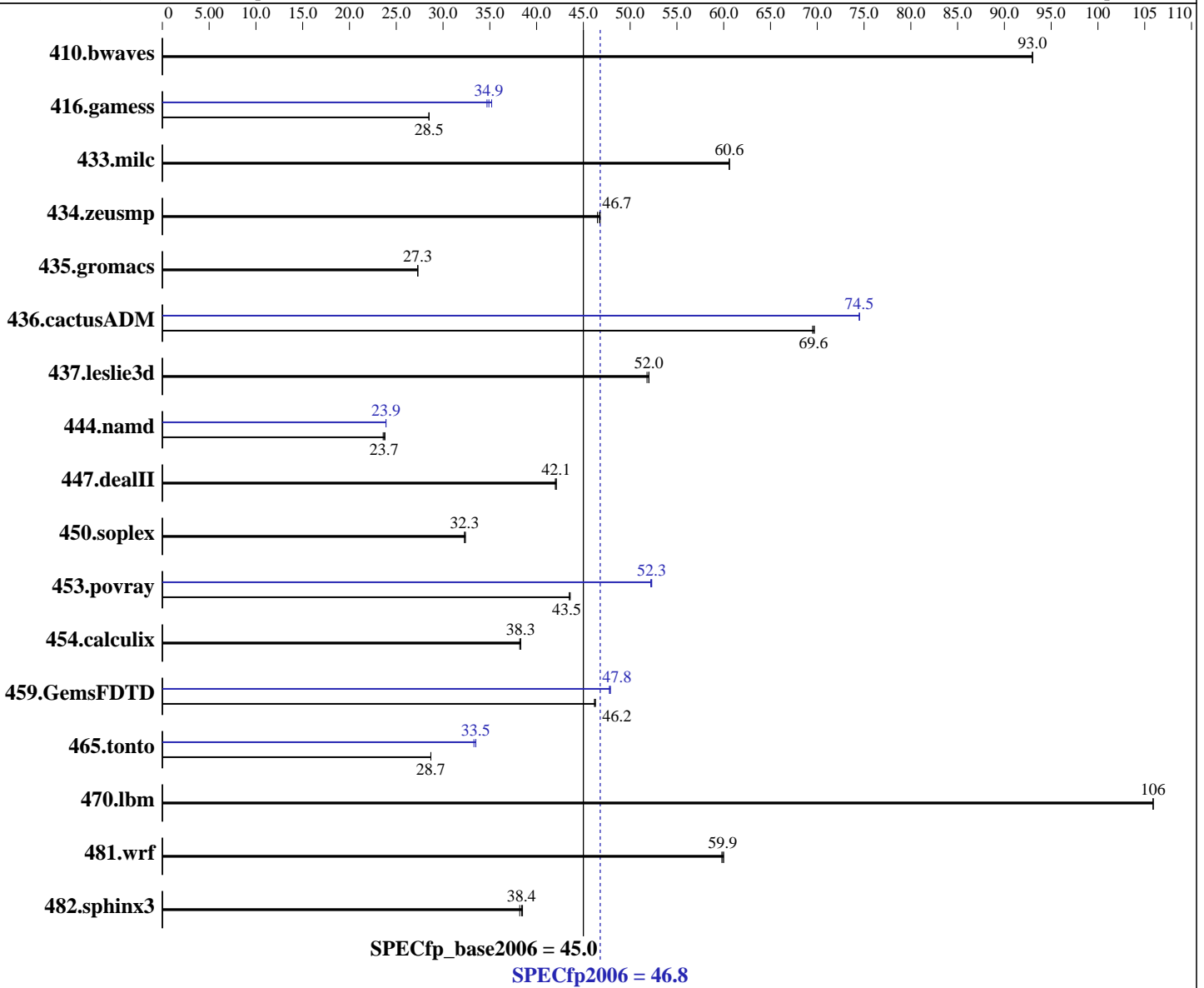
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Apr-2011

Hardware Availability: Mar-2011

Software Availability: Apr-2011



### Hardware

CPU Name: Intel Core i5-2390T  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.5 GHz  
 CPU MHz: 2700  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 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 Intel64  
 Version 12.0.3.163 Build 20110217  
 Intel Visual Fortran Compiler XE for Intel64  
 Version 12.0.3.163 Build 20110217  
 Microsoft Visual Studio 2008 Professional SP1  
 (for libraries)  
 Auto Parallel: Yes  
 File System: NTFS

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L3 Cache: 3 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 8 GB (2 x 4 GB 2Rx8 PC3-10600U-9)  
 Disk Subsystem: Seagate 1 TB 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	146	93.0	146	93.0	<b>146</b>	<b>93.0</b>	146	93.0	146	93.0	<b>146</b>	<b>93.0</b>
416.gamess	<b>687</b>	<b>28.5</b>	686	28.5	687	28.5	557	35.2	564	34.7	<b>561</b>	<b>34.9</b>
433.milc	<b>152</b>	<b>60.6</b>	151	60.6	152	60.6	<b>152</b>	<b>60.6</b>	151	60.6	152	60.6
434.zeusmp	195	46.8	196	46.5	<b>195</b>	<b>46.7</b>	195	46.8	196	46.5	<b>195</b>	<b>46.7</b>
435.gromacs	262	27.3	<b>262</b>	<b>27.3</b>	262	27.3	262	27.3	<b>262</b>	<b>27.3</b>	262	27.3
436.cactusADM	172	69.5	<b>172</b>	<b>69.6</b>	172	69.7	160	74.5	<b>160</b>	<b>74.5</b>	160	74.5
437.leslie3d	<b>181</b>	<b>52.0</b>	181	51.8	181	52.0	<b>181</b>	<b>52.0</b>	181	51.8	181	52.0
444.namd	<b>338</b>	<b>23.7</b>	337	23.8	339	23.6	<b>335</b>	<b>23.9</b>	336	23.9	335	23.9
447.dealII	<b>272</b>	<b>42.1</b>	272	42.0	272	42.1	<b>272</b>	<b>42.1</b>	272	42.0	272	42.1
450.soplex	<b>258</b>	<b>32.3</b>	258	32.4	258	32.3	<b>258</b>	<b>32.3</b>	258	32.4	258	32.3
453.povray	<b>122</b>	<b>43.5</b>	122	43.5	122	43.6	102	52.3	102	52.2	<b>102</b>	<b>52.3</b>
454.calculix	216	38.3	216	38.2	<b>216</b>	<b>38.3</b>	216	38.3	216	38.2	<b>216</b>	<b>38.3</b>
459.GemsFDTD	<b>230</b>	<b>46.2</b>	229	46.3	230	46.2	<b>222</b>	<b>47.8</b>	222	47.8	222	47.9
465.tonto	342	28.7	<b>342</b>	<b>28.7</b>	342	28.7	<b>293</b>	<b>33.5</b>	296	33.3	293	33.5
470.lbm	130	106	<b>130</b>	<b>106</b>	130	106	130	106	<b>130</b>	<b>106</b>	130	106
481.wrf	<b>187</b>	<b>59.9</b>	186	60.0	187	59.8	<b>187</b>	<b>59.9</b>	186	60.0	187	59.8
482.sphinx3	<b>507</b>	<b>38.4</b>	510	38.2	507	38.5	<b>507</b>	<b>38.4</b>	510	38.2	507	38.5

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:

-QxAVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch  
-Qauto-ilp32 /F1000000000

C++ benchmarks:

-QxAVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch  
-Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib  
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxAVX -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias -Qopt-prefetch  
/F1000000000

Benchmarks using both Fortran and C:

-QxAVX -Qipo -O3 -Qprec-div- -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: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000 sh1W64M.lib  
-link /FORCE:MULTIPLE

447.dealIII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -QxAVX(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: -QxAVX(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: -QxAVX(pass 2) -Qprof\_gen(pass 1) -Qprof\_use(pass 2) -Qipo  
-O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel  
/F1000000000

465.tonto: -QxAVX(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: -QxAVX(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-revB.html>

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

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

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

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