



# SPEC® CFP2006 Result

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## Intel Corporation

**SPECfp®2006 = 49.3**

Intel DH67BLB3 Motherboard (Intel Core i5-2400S)

**SPECfp\_base2006 = 47.0**

CPU2006 license: 13

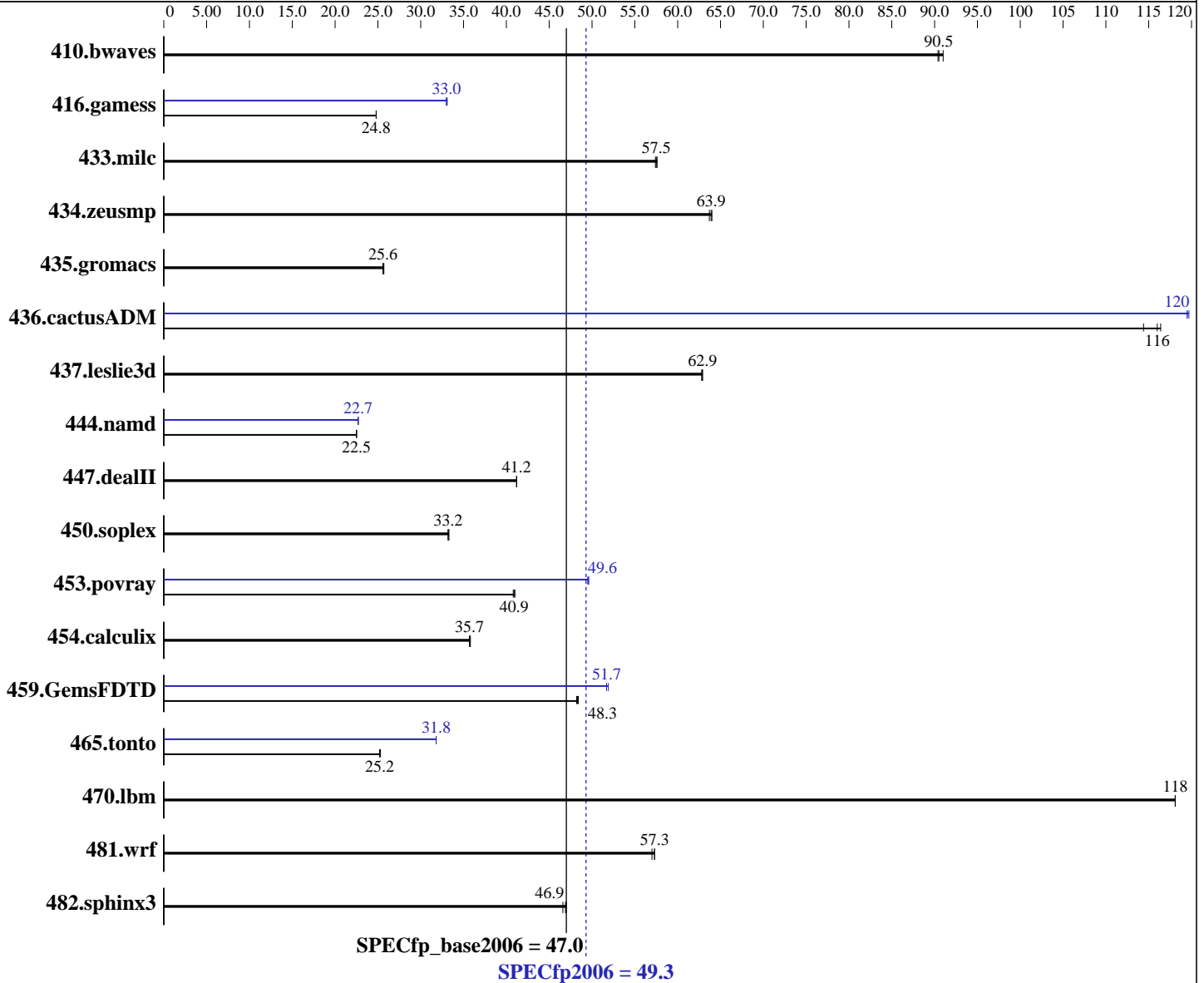
Test date: Apr-2011

Test sponsor: Intel Corporation

Hardware Availability: Mar-2011

Tested by: Intel Corporation

Software Availability: Apr-2011



**Hardware**

CPU Name: Intel Core i5-2400S  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.3 GHz  
 CPU MHz: 2500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 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: 6 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	<b>150</b>	<b>90.5</b>	149	91.0	150	90.4	<b>150</b>	<b>90.5</b>	149	91.0	150	90.4
416.gamess	<b>791</b>	<b>24.8</b>	790	24.8	791	24.8	<b>593</b>	<b>33.0</b>	592	33.1	593	33.0
433.milc	<b>160</b>	<b>57.5</b>	160	57.4	160	57.6	<b>160</b>	<b>57.5</b>	160	57.4	160	57.6
434.zeusmp	143	63.7	142	64.0	<b>142</b>	<b>63.9</b>	143	63.7	142	64.0	<b>142</b>	<b>63.9</b>
435.gromacs	<b>278</b>	<b>25.6</b>	279	25.6	278	25.7	<b>278</b>	<b>25.6</b>	279	25.6	278	25.7
436.cactusADM	<b>103</b>	<b>116</b>	105	114	103	116	<b>100</b>	<b>120</b>	99.8	120	100	120
437.leslie3d	150	62.8	<b>150</b>	<b>62.9</b>	149	62.9	150	62.8	<b>150</b>	<b>62.9</b>	149	62.9
444.namd	<b>357</b>	<b>22.5</b>	357	22.5	357	22.5	<b>353</b>	<b>22.7</b>	353	22.7	353	22.7
447.dealII	278	41.2	<b>278</b>	<b>41.2</b>	278	41.2	278	41.2	<b>278</b>	<b>41.2</b>	278	41.2
450.soplex	250	33.3	251	33.2	<b>251</b>	<b>33.2</b>	250	33.3	251	33.2	<b>251</b>	<b>33.2</b>
453.povray	<b>130</b>	<b>40.9</b>	130	40.8	130	41.0	107	49.6	<b>107</b>	<b>49.6</b>	107	49.5
454.calculix	231	35.7	231	35.8	<b>231</b>	<b>35.7</b>	231	35.7	231	35.8	<b>231</b>	<b>35.7</b>
459.GemsFDTD	219	48.4	<b>220</b>	<b>48.3</b>	220	48.2	205	51.9	<b>205</b>	<b>51.7</b>	205	51.7
465.tonto	<b>391</b>	<b>25.2</b>	391	25.2	390	25.3	309	31.8	309	31.8	<b>309</b>	<b>31.8</b>
470.lbm	116	118	<b>116</b>	<b>118</b>	116	118	116	118	<b>116</b>	<b>118</b>	116	118
481.wrf	195	57.3	196	57.0	<b>195</b>	<b>57.3</b>	195	57.3	196	57.0	<b>195</b>	<b>57.3</b>
482.sphinx3	418	46.6	<b>415</b>	<b>46.9</b>	415	47.0	418	46.6	<b>415</b>	<b>46.9</b>	415	47.0

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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