



SPEC® CFP2006 Result

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Intel Corporation

SPECfp®2006 = 38.8

Intel DH67BLB3 Motherboard (Intel Pentium G840)

SPECfp_base2006 = 37.9

CPU2006 license: 13

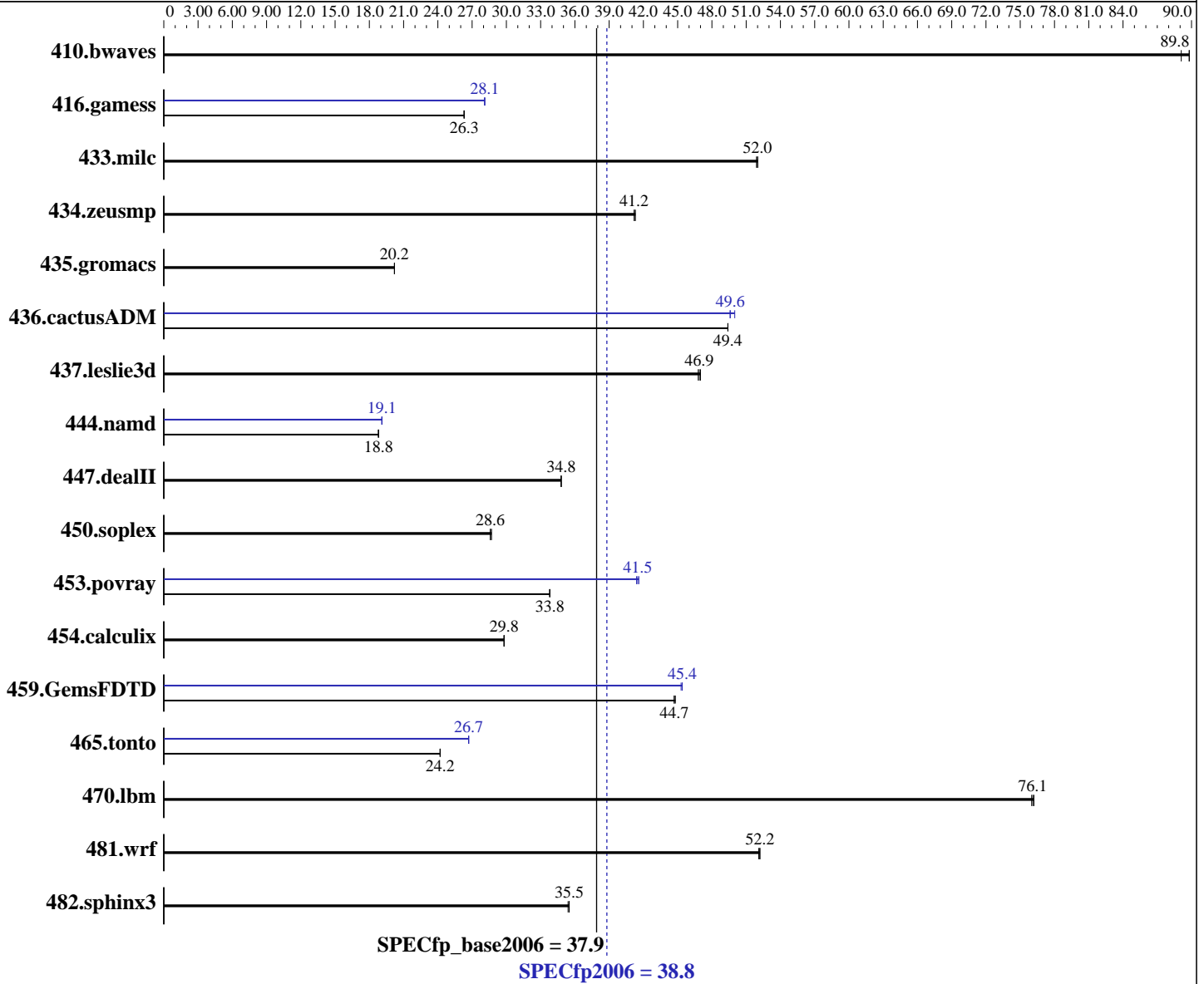
Test date: Jul-2011

Test sponsor: Intel Corporation

Hardware Availability: May-2011

Tested by: Intel Corporation

Software Availability: Apr-2011



Hardware

CPU Name: Intel Pentium G840
 CPU Characteristics:
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 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 12.0.3.176 Build 20110309
 Intel Visual Fortran Compiler XE for Intel64
 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: 3 MB I+D on chip per chip
 Other Cache: None
 Memory: 4 GB (2 x 2 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	153	89.1	151	89.8	<u>151</u>	<u>89.8</u>	153	89.1	151	89.8	<u>151</u>	<u>89.8</u>
416.gamess	744	26.3	744	26.3	<u>744</u>	<u>26.3</u>	<u>697</u>	<u>28.1</u>	697	28.1	697	28.1
433.milc	177	52.0	177	51.9	<u>177</u>	<u>52.0</u>	177	52.0	177	51.9	<u>177</u>	<u>52.0</u>
434.zeusmp	221	41.2	221	41.3	<u>221</u>	<u>41.2</u>	221	41.2	221	41.3	<u>221</u>	<u>41.2</u>
435.gromacs	353	20.2	353	20.2	<u>353</u>	<u>20.2</u>	353	20.2	353	20.2	<u>353</u>	<u>20.2</u>
436.cactusADM	242	49.4	<u>242</u>	<u>49.4</u>	242	49.4	<u>241</u>	<u>49.6</u>	239	50.0	241	49.6
437.leslie3d	201	46.8	<u>201</u>	<u>46.9</u>	200	47.0	201	46.8	<u>201</u>	<u>46.9</u>	200	47.0
444.namd	427	18.8	<u>427</u>	<u>18.8</u>	427	18.8	420	19.1	420	19.1	<u>420</u>	<u>19.1</u>
447.dealII	<u>329</u>	<u>34.8</u>	329	34.8	328	34.8	<u>329</u>	<u>34.8</u>	329	34.8	328	34.8
450.soplex	<u>291</u>	<u>28.6</u>	291	28.7	291	28.6	<u>291</u>	<u>28.6</u>	291	28.7	291	28.6
453.povray	157	33.8	157	33.8	<u>157</u>	<u>33.8</u>	128	41.6	128	41.4	<u>128</u>	<u>41.5</u>
454.calculix	<u>277</u>	<u>29.8</u>	277	29.8	277	29.8	<u>277</u>	<u>29.8</u>	277	29.8	277	29.8
459.GemsFDTD	<u>237</u>	<u>44.7</u>	237	44.7	237	44.8	234	45.4	234	45.3	<u>234</u>	<u>45.4</u>
465.tonto	407	24.2	<u>407</u>	<u>24.2</u>	407	24.2	<u>369</u>	<u>26.7</u>	369	26.7	369	26.7
470.lbm	181	76.0	<u>181</u>	<u>76.1</u>	180	76.2	181	76.0	<u>181</u>	<u>76.1</u>	180	76.2
481.wrf	214	52.2	<u>214</u>	<u>52.2</u>	214	52.1	214	52.2	<u>214</u>	<u>52.2</u>	214	52.1
482.sphinx3	550	35.4	548	35.5	<u>549</u>	<u>35.5</u>	550	35.4	548	35.5	<u>549</u>	<u>35.5</u>

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:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qauto-ilp32 /F1000000000

C++ benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch -Qcxx-features -Qauto-ilp32 /F1000000000 shlw64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qansi-alias
-Qopt-prefetch /F1000000000

Benchmarks using both Fortran and C:

-QxSSE4.2 -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: -QxSSE4.2(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: -QxSSE4.2(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: -QxSSE4.2(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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch -Qparallel
/F1000000000

465.tonto: -QxSSE4.2(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: -QxSSE4.2(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 other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.

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