



SPEC® CFP2006 Result

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Intel Corporation

SPECfp®2006 = 44.4

Intel DP55KG Motherboard (Intel Core i7-880)

SPECfp_base2006 = 42.8

CPU2006 license: 13

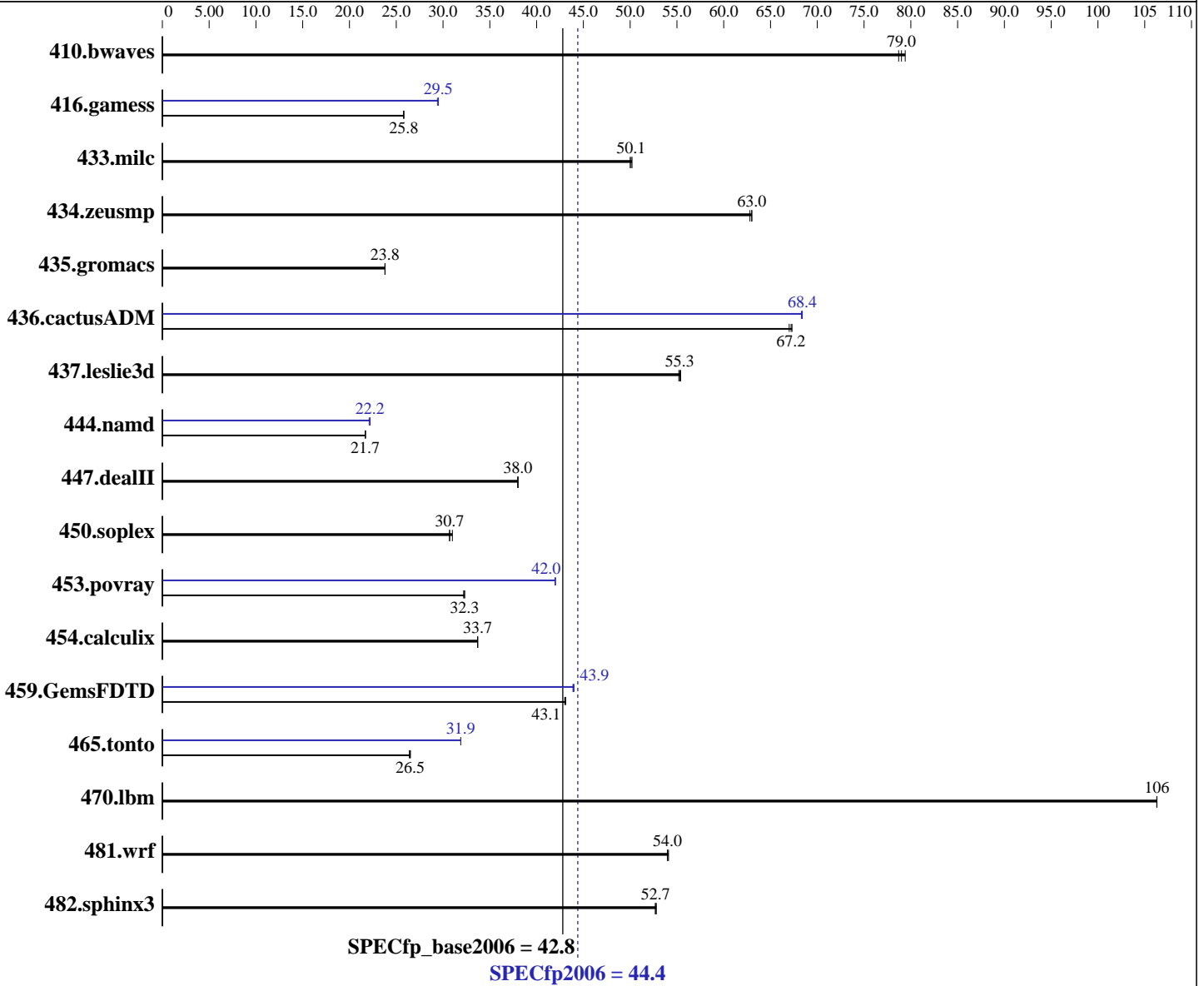
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Dec-2009

Hardware Availability: Mar-2011

Software Availability: Apr-2011



Hardware

CPU Name: Intel Core i7-880
 CPU Characteristics: Intel Turbo Boost Technology up to 3.73 GHz
 CPU MHz: 3066
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 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: 8 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	173	78.7	<u>172</u>	<u>79.0</u>	171	79.4	173	78.7	<u>172</u>	<u>79.0</u>	171	79.4
416.gamess	<u>759</u>	<u>25.8</u>	759	25.8	759	25.8	<u>664</u>	<u>29.5</u>	663	29.5	666	29.4
433.milc	183	50.2	184	50.0	<u>183</u>	<u>50.1</u>	183	50.2	184	50.0	<u>183</u>	<u>50.1</u>
434.zeusmp	145	62.8	144	63.0	<u>145</u>	<u>63.0</u>	145	62.8	144	63.0	<u>145</u>	<u>63.0</u>
435.gromacs	<u>300</u>	<u>23.8</u>	300	23.8	300	23.8	<u>300</u>	<u>23.8</u>	300	23.8	300	23.8
436.cactusADM	178	67.0	<u>178</u>	<u>67.2</u>	178	67.3	<u>175</u>	<u>68.4</u>	175	68.4	175	68.3
437.leslie3d	<u>170</u>	<u>55.3</u>	170	55.2	170	55.4	<u>170</u>	<u>55.3</u>	170	55.2	170	55.4
444.namd	<u>370</u>	<u>21.7</u>	370	21.7	370	21.7	362	22.1	362	22.2	<u>362</u>	<u>22.2</u>
447.dealII	301	38.0	<u>301</u>	<u>38.0</u>	301	38.0	301	38.0	<u>301</u>	<u>38.0</u>	301	38.0
450.soplex	272	30.7	269	31.0	<u>271</u>	<u>30.7</u>	272	30.7	269	31.0	<u>271</u>	<u>30.7</u>
453.povray	<u>165</u>	<u>32.3</u>	165	32.3	165	32.2	<u>127</u>	<u>42.0</u>	127	42.0	127	42.0
454.calculix	<u>245</u>	<u>33.7</u>	245	33.7	245	33.7	<u>245</u>	<u>33.7</u>	245	33.7	245	33.7
459.GemsFDTD	246	43.1	247	43.0	<u>246</u>	<u>43.1</u>	<u>242</u>	<u>43.9</u>	241	44.0	242	43.9
465.tonto	372	26.5	373	26.4	<u>372</u>	<u>26.5</u>	<u>309</u>	<u>31.9</u>	309	31.9	309	31.9
470.lbm	<u>129</u>	<u>106</u>	129	106	129	106	<u>129</u>	<u>106</u>	129	106	129	106
481.wrf	<u>207</u>	<u>54.0</u>	207	54.0	206	54.1	<u>207</u>	<u>54.0</u>	207	54.0	206	54.1
482.sphinx3	370	52.7	369	52.8	<u>370</u>	<u>52.7</u>	370	52.7	369	52.8	<u>370</u>	<u>52.7</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
 System was configured with an ATI HD5770 discrete graphics card

Base Compiler Invocation

C benchmarks:
 icl -Qvc9 -Qstd=c99

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Base Compiler Invocation (Continued)

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:

-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 file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.20110808.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic12-winx64-revB.20110808.xml>

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For other inquiries, please contact webmaster@spec.org.

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