



SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Intel Corporation

Supermicro SuperServer 7046A-T (Intel Xeon X5677, 3.46 GHz)

SPECfp®2006 = 42.7

SPECfp_base2006 = 39.9

CPU2006 license: 13

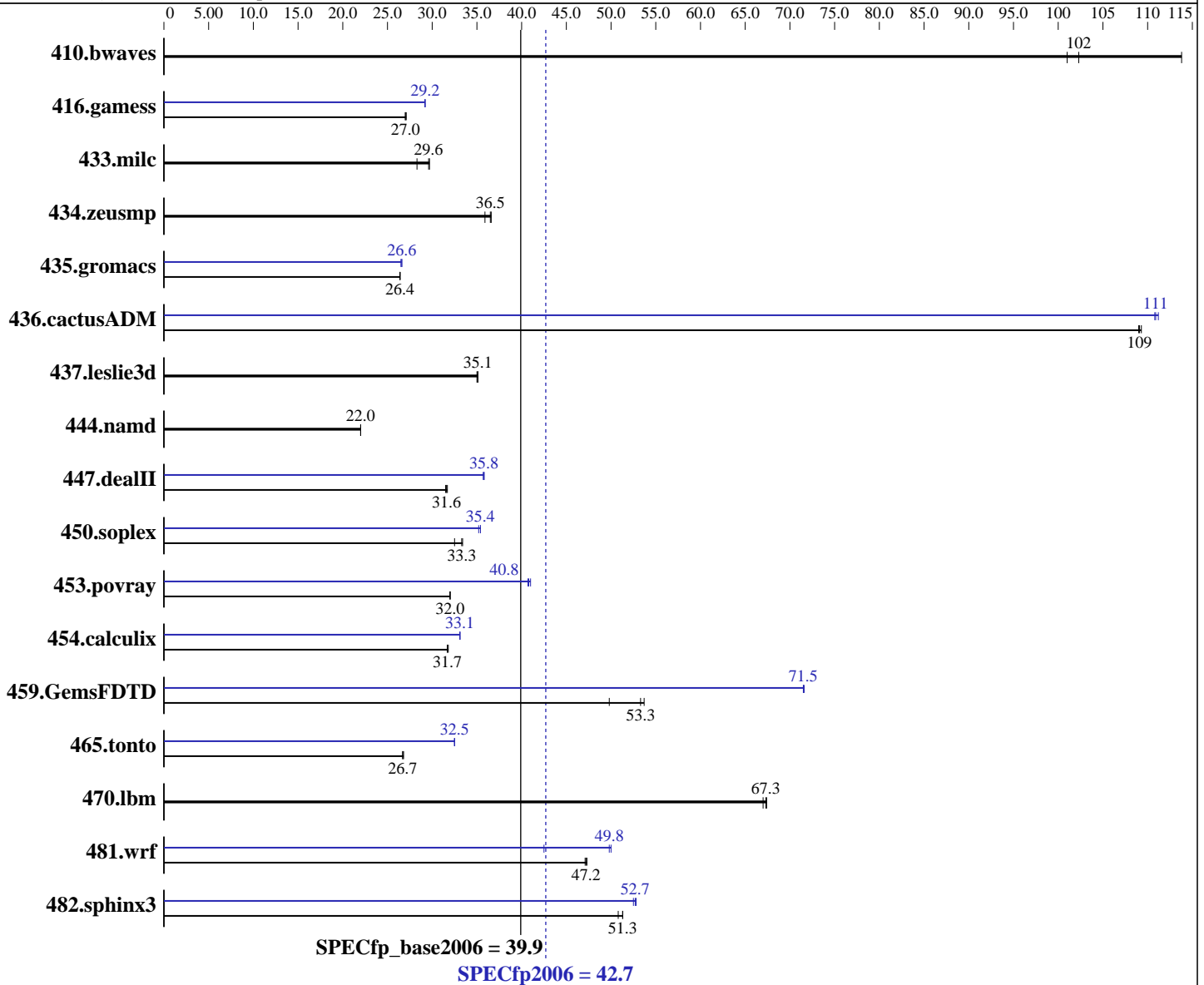
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Mar-2010

Hardware Availability: Mar-2010

Software Availability: Nov-2009



Hardware

CPU Name: Intel Xeon X5677
 CPU Characteristics: Intel Turbo Boost Technology up to 3.73 GHz
 CPU MHz: 3467
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 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 Enterprise (64-bit)
 Compiler: Intel C++ Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cproc_p_11.1.045
 Intel Visual Fortran Compiler Professional 11.1 for Intel 64 Build 20090903 Package ID: w_cprof_p_11.1.045
 Microsoft Visual Studio 2008 Professional SP1 (for libraries)
 Auto Parallel: Yes
 File System: NTFS

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L3 Cache: 12 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6x 4GB DDR3-1333, ECC, CL9)
Disk Subsystem: 1 x 300 GB SATA, 10000 RPM
Other Hardware: None

System State: Default
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: SmartHeap Library Version 8.1 from <http://www.microquill.com/>

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	135	101	119	114	<u>133</u>	<u>102</u>	135	101	119	114	<u>133</u>	<u>102</u>
416.gamess	726	27.0	724	27.1	<u>724</u>	<u>27.0</u>	670	29.2	<u>670</u>	<u>29.2</u>	671	29.2
433.milc	309	29.7	<u>310</u>	<u>29.6</u>	325	28.3	309	29.7	<u>310</u>	<u>29.6</u>	325	28.3
434.zeusmp	249	36.6	253	35.9	<u>249</u>	<u>36.5</u>	249	36.6	253	35.9	<u>249</u>	<u>36.5</u>
435.gromacs	<u>271</u>	<u>26.4</u>	270	26.4	271	26.4	269	26.5	268	26.6	<u>269</u>	<u>26.6</u>
436.cactusADM	110	109	<u>110</u>	<u>109</u>	109	109	108	111	108	111	<u>108</u>	<u>111</u>
437.leslie3d	268	35.1	<u>268</u>	<u>35.1</u>	268	35.0	268	35.1	<u>268</u>	<u>35.1</u>	268	35.0
444.namd	<u>364</u>	<u>22.0</u>	365	22.0	364	22.0	<u>364</u>	<u>22.0</u>	365	22.0	364	22.0
447.dealII	363	31.5	<u>362</u>	<u>31.6</u>	361	31.7	320	35.8	320	35.7	<u>320</u>	<u>35.8</u>
450.soplex	257	32.5	250	33.4	<u>250</u>	<u>33.3</u>	<u>236</u>	<u>35.4</u>	235	35.4	237	35.2
453.povray	<u>166</u>	<u>32.0</u>	166	32.0	166	32.0	<u>131</u>	<u>40.8</u>	131	40.7	130	41.0
454.calculix	259	31.8	<u>260</u>	<u>31.7</u>	261	31.7	249	33.1	<u>249</u>	<u>33.1</u>	249	33.1
459.GemsFDTD	<u>199</u>	<u>53.3</u>	213	49.8	198	53.7	148	71.5	148	71.6	<u>148</u>	<u>71.5</u>
465.tonto	<u>368</u>	<u>26.7</u>	368	26.8	368	26.7	303	32.5	<u>303</u>	<u>32.5</u>	303	32.5
470.lbm	205	67.0	204	67.4	<u>204</u>	<u>67.3</u>	205	67.0	204	67.4	<u>204</u>	<u>67.3</u>
481.wrf	237	47.1	236	47.3	<u>237</u>	<u>47.2</u>	223	50.0	<u>224</u>	<u>49.8</u>	263	42.5
482.sphinx3	<u>380</u>	<u>51.3</u>	383	50.8	380	51.3	371	52.5	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 is used with tower case,
PC Power and Cooling dual 865W power supplys
OMP_NUM_THREADS set to number of processors cores
KMP_AFFINITY set to granularity=fine,scatter
System was configured with nVidia Quadro FX 370 discrete graphics card

Base Compiler Invocation

C benchmarks:
icl -Qvc9 -Qstd=c99

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Base Compiler Invocation (Continued)

C++ benchmarks:

ic1 -Qvc9

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ic1 -Qvc9 -Qstd=c99 ifort

Base Portability Flags

410.bwaves: -DSPEC_CPU_P64 /Qlowercase
 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 -Qlowercase /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 -Qlowercase
 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 -Qopt-prefetch
-Qauto-ilp32 /F1000000000

C++ benchmarks:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -Qopt-prefetch
-Qcxx-features -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qparallel -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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qauto-ilp32 /F1000000000

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qunroll2 -Qopt-prefetch
-Qansi-alias -Qscalar-rep- -Qauto-ilp32 /F1000000000
shlW64M.lib -link /FORCE:MULTIPLE

450.soplex: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
-link /FORCE:MULTIPLE

453.povray: -QxSSE4.2(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

Fortran benchmarks:

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Peak Optimization Flags (Continued)

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

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: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
-Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000

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: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F1000000000

481.wrf: Same as 454.calculix

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.xml>

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

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