



SPEC[®] CFP2006 Result

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Supermicro

SPECfp[®]2006 = 40.9

Motherboard X8SIT-F (Intel Xeon X3480, 3.06 GHz)

SPECfp_base2006 = 38.9

CPU2006 license: 001176

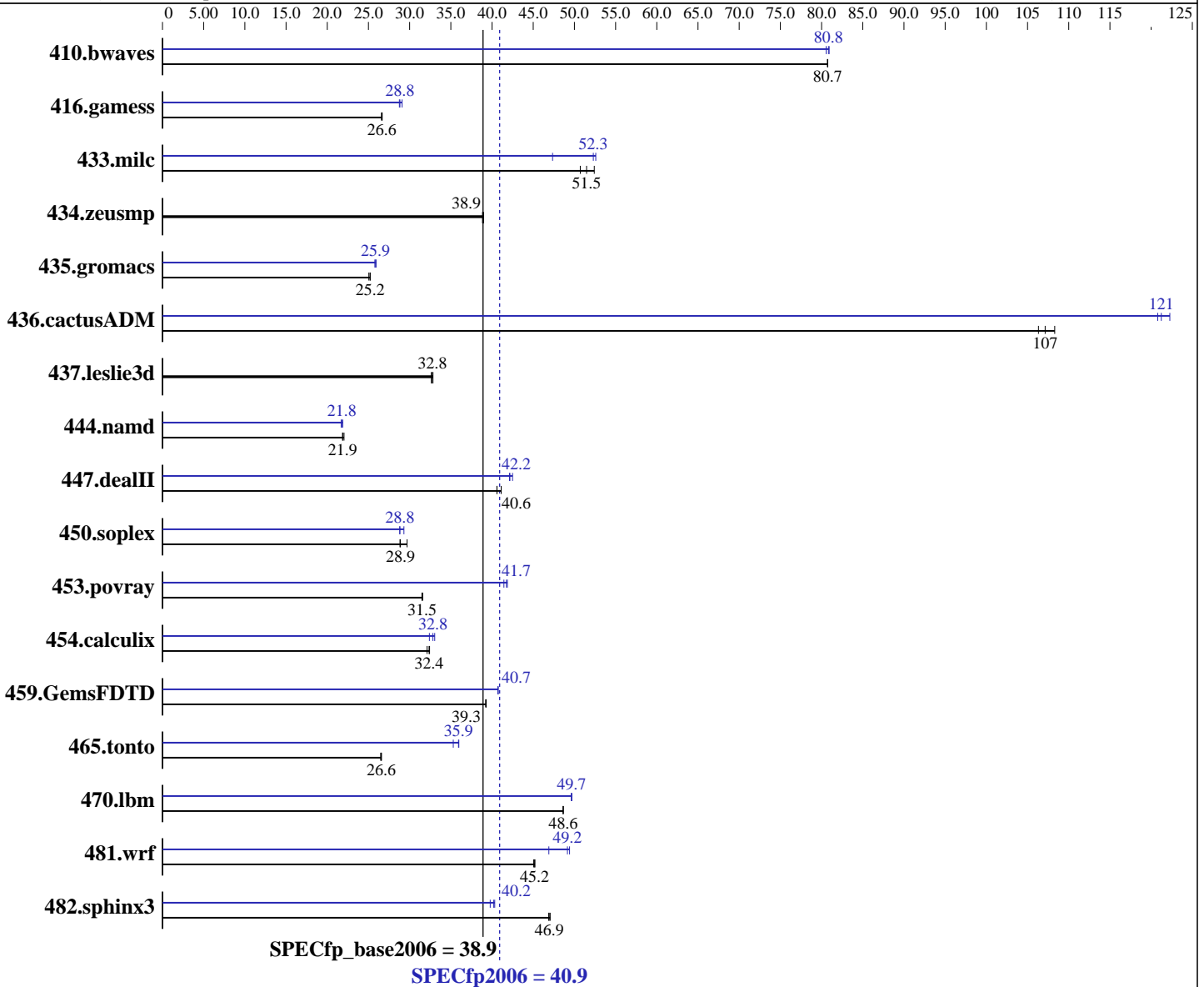
Test date: Aug-2010

Test sponsor: Supermicro

Hardware Availability: Jun-2010

Tested by: Supermicro

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon X3480
 CPU Characteristics: Intel Turbo Boost Technology up to 3.73 GHz
 CPU MHz: 3067
 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: SUSE Linux Enterprise Server 11 (x86_64)
 Kernel 2.6.27.19-5-default
 Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1
 Build 20091130 Package ID: l_cproc_p_11.1.064, l_cprof_p_11.1.064
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB 2Rx8 DDR3-1333 RDIMM, ECC, CL9)
Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	168	80.7	168	80.7	<u>168</u>	<u>80.7</u>	168	80.9	169	80.6	<u>168</u>	<u>80.8</u>
416.gamess	737	26.6	734	26.7	<u>735</u>	<u>26.6</u>	681	28.8	673	29.1	<u>679</u>	<u>28.8</u>
433.milc	<u>178</u>	<u>51.5</u>	181	50.7	175	52.4	194	47.4	<u>176</u>	<u>52.3</u>	175	52.6
434.zeusmp	234	39.0	<u>234</u>	<u>38.9</u>	234	38.8	234	39.0	<u>234</u>	<u>38.9</u>	234	38.8
435.gromacs	283	25.2	<u>283</u>	<u>25.2</u>	285	25.0	277	25.8	<u>276</u>	<u>25.9</u>	275	25.9
436.cactusADM	<u>112</u>	<u>107</u>	110	108	112	106	<u>98.6</u>	<u>121</u>	97.7	122	98.9	121
437.leslie3d	<u>287</u>	<u>32.8</u>	286	32.8	288	32.6	<u>287</u>	<u>32.8</u>	286	32.8	288	32.6
444.namd	367	21.9	<u>367</u>	<u>21.9</u>	364	22.0	370	21.7	367	21.9	<u>368</u>	<u>21.8</u>
447.dealII	278	41.1	<u>282</u>	<u>40.6</u>	282	40.6	<u>271</u>	<u>42.2</u>	272	42.1	269	42.5
450.soplex	281	29.7	<u>289</u>	<u>28.9</u>	289	28.8	285	29.3	<u>289</u>	<u>28.8</u>	290	28.8
453.povray	169	31.5	<u>169</u>	<u>31.5</u>	168	31.6	<u>127</u>	<u>41.7</u>	127	41.9	128	41.4
454.calculix	257	32.1	254	32.4	<u>255</u>	<u>32.4</u>	250	33.0	<u>251</u>	<u>32.8</u>	255	32.4
459.GemsFDTD	270	39.2	270	39.3	<u>270</u>	<u>39.3</u>	<u>260</u>	<u>40.7</u>	260	40.7	261	40.7
465.tonto	<u>370</u>	<u>26.6</u>	372	26.5	370	26.6	<u>274</u>	<u>35.9</u>	274	36.0	279	35.3
470.lbm	<u>283</u>	<u>48.6</u>	282	48.7	283	48.6	277	49.6	<u>277</u>	<u>49.7</u>	277	49.7
481.wrf	247	45.2	<u>247</u>	<u>45.2</u>	248	45.1	226	49.4	238	46.9	<u>227</u>	<u>49.2</u>
482.sphinx3	416	46.9	414	47.1	<u>415</u>	<u>46.9</u>	<u>485</u>	<u>40.2</u>	483	40.3	490	39.8

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M

Platform Notes

Fan speed set to Full Speed in BIOS Setup.
As tested, the system used a Supermicro CSE-827H-R920B chassis.
The chassis is bundled with a PWS-920P-1R power supply, SNK-P0046P heatsink,
and 4 FAN-00111L4 cooling fans.



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General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Fortran benchmarks:
ifort -m64

Benchmarks using both Fortran and C:
icc -m64 ifort -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Peak Compiler Invocation

C benchmarks:

`icc -m64`

C++ benchmarks:

`icpc -m64`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-ansi-alias`

470.lbm: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-parallel -ansi-alias -auto-ilp32`

482.sphinx3: `-xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
-unroll2`

C++ benchmarks:

444.namd: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32`

447.dealIII: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias -scalar-rep- -auto-ilp32`

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Peak Optimization Flags (Continued)

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-malloc-options=3 -auto-ilp32

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -Ob0 -opt-prefetch -parallel

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
-unroll2 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

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-ic11.1-linux64-revE.20100915.html>



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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100915.xml>

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