



SPEC[®] CFP2006 Result

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Supermicro

SPECfp[®]_rate2006 = 51.7

Motherboard X8SIT-F (Intel Core i3-540, 3.06 GHz)

SPECfp_rate_base2006 = 50.4

CPU2006 license: 001176

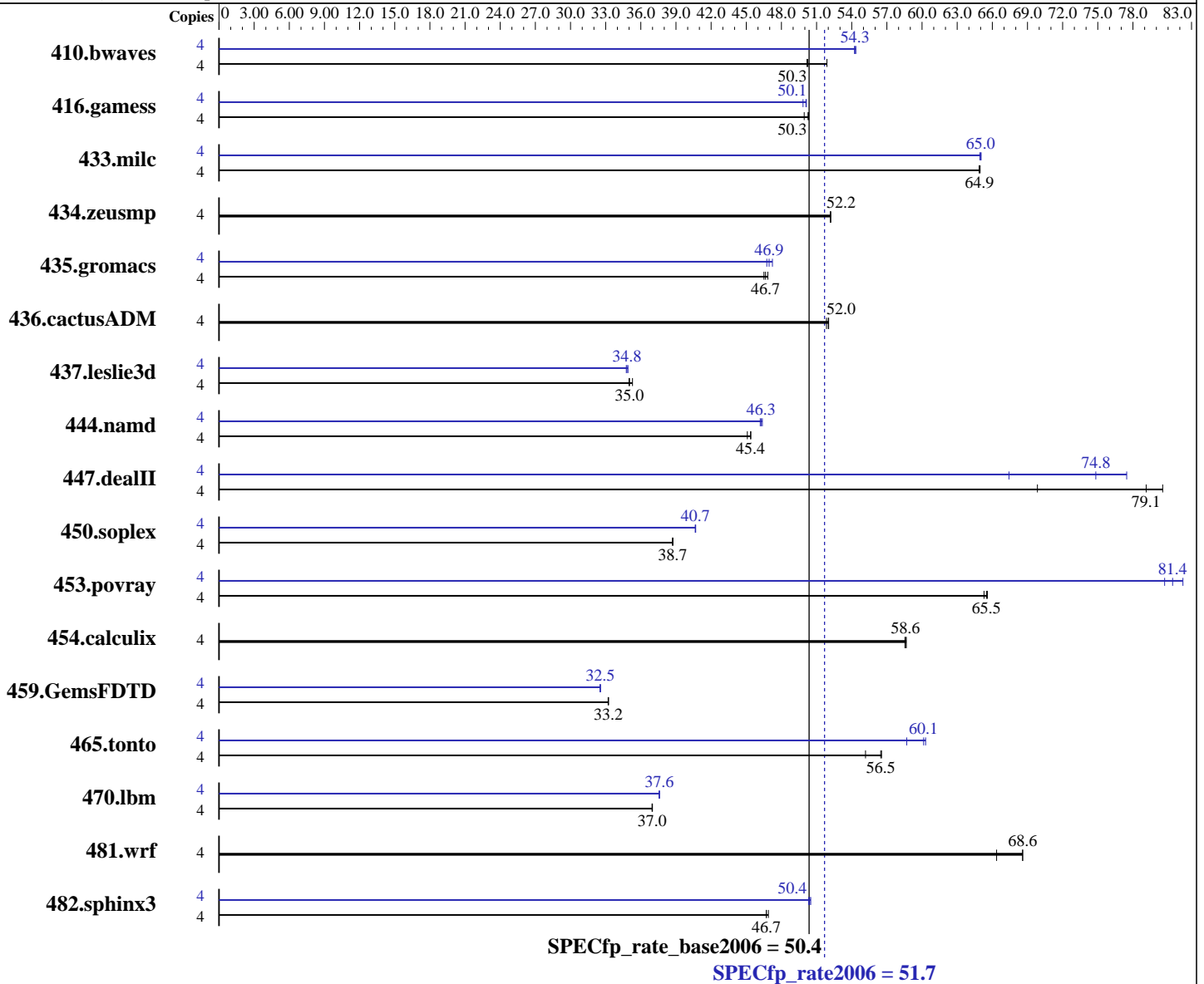
Test date: May-2010

Test sponsor: Supermicro

Hardware Availability: Mar-2010

Tested by: Supermicro

Software Availability: Jan-2010



Hardware

CPU Name: Intel Core i3-540
 CPU Characteristics: 3067
 CPU MHz: Integrated
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 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: No
 File System: ext3
 System State: Run level 3 (multi-user)

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB DDR3-1333 UDIMM, ECC, CL9)
Disk Subsystem: 1 x 160 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1083	50.2	<u>1082</u>	<u>50.3</u>	1048	51.9	4	<u>1002</u>	<u>54.3</u>	1002	54.2	1000	54.4
416.gamess	4	1557	50.3	1568	49.9	<u>1558</u>	<u>50.3</u>	4	<u>1564</u>	<u>50.1</u>	1571	49.8	1562	50.1
433.milc	4	<u>566</u>	<u>64.9</u>	565	65.0	566	64.9	4	565	65.0	<u>565</u>	<u>65.0</u>	566	64.9
434.zeusmp	4	<u>697</u>	<u>52.2</u>	697	52.2	698	52.2	4	<u>697</u>	<u>52.2</u>	697	52.2	698	52.2
435.gromacs	4	<u>612</u>	<u>46.7</u>	614	46.5	610	46.8	4	<u>608</u>	<u>46.9</u>	605	47.2	611	46.8
436.cactusADM	4	<u>919</u>	<u>52.0</u>	922	51.8	919	52.0	4	<u>919</u>	<u>52.0</u>	922	51.8	919	52.0
437.leslie3d	4	<u>1073</u>	<u>35.0</u>	1065	35.3	1074	35.0	4	1077	34.9	<u>1080</u>	<u>34.8</u>	1082	34.8
444.namd	4	<u>707</u>	<u>45.4</u>	707	45.4	711	45.1	4	695	46.2	<u>693</u>	<u>46.3</u>	692	46.4
447.dealII	4	655	69.8	568	80.5	<u>578</u>	<u>79.1</u>	4	<u>612</u>	<u>74.8</u>	679	67.4	591	77.5
450.soplex	4	861	38.7	<u>861</u>	<u>38.7</u>	862	38.7	4	<u>821</u>	<u>40.7</u>	820	40.7	821	40.7
453.povray	4	326	65.3	<u>325</u>	<u>65.5</u>	325	65.6	4	259	82.3	264	80.7	<u>261</u>	<u>81.4</u>
454.calculix	4	563	58.7	564	58.5	<u>563</u>	<u>58.6</u>	4	563	58.7	564	58.5	<u>563</u>	<u>58.6</u>
459.GemsFDTD	4	1277	33.2	1278	33.2	<u>1277</u>	<u>33.2</u>	4	1305	32.5	1304	32.6	<u>1304</u>	<u>32.5</u>
465.tonto	4	713	55.2	<u>697</u>	<u>56.5</u>	696	56.5	4	671	58.7	<u>655</u>	<u>60.1</u>	653	60.3
470.lbm	4	1486	37.0	1487	37.0	<u>1487</u>	<u>37.0</u>	4	1462	37.6	<u>1463</u>	<u>37.6</u>	1463	37.6
481.wrf	4	651	68.6	<u>651</u>	<u>68.6</u>	673	66.4	4	651	68.6	<u>651</u>	<u>68.6</u>	673	66.4
482.sphinx3	4	1663	46.9	<u>1669</u>	<u>46.7</u>	1669	46.7	4	<u>1546</u>	<u>50.4</u>	1544	50.5	1549	50.3

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

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

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

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

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

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):
icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:
ifort -m64

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

Peak 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.deallI: -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

Peak Optimization Flags

C benchmarks:

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Peak Optimization Flags (Continued)

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)
-fno-alias -opt-prefetch

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)
-opt-malloc-options=3 -ansi-alias -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -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.dealII: -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-

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

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

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: -xSSE4.2 -ipo -O3 -no-prec-div -static

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

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)
-unroll4 -auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

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Peak Optimization Flags (Continued)

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: basepeak = yes

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-ic11.1-linux64-revE.20100804.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100804.xml>

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

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