



SPEC® CFP2006 Result

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Supermicro

Motherboard X8SIT-F (Intel Pentium G6950, 2.80 GHz)

SPECfp®2006 = 26.4

SPECfp_base2006 = 25.5

CPU2006 license: 001176

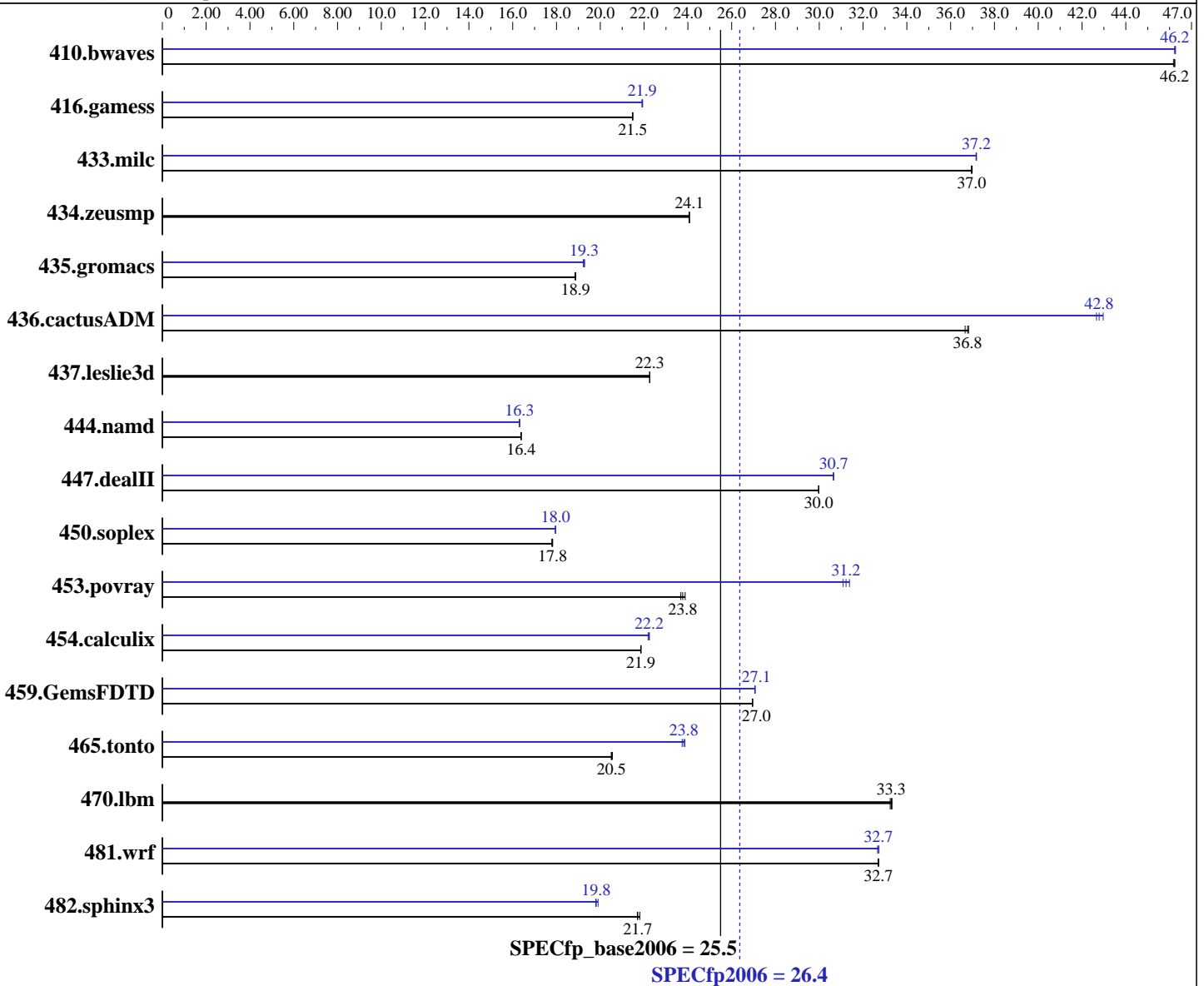
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Aug-2010

Hardware Availability: Jun-2010

Software Availability: Jan-2010



Hardware

CPU Name: Intel Pentium G6950
 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: SUSE Linux Enterprise Server 11 (x86_64)
 Kernel 2.6.27.19-5-default
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1
 Build 20091130 Package ID: l_cproc_p_11.1.064
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit

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L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB 2Rx8 DDR3-1333 UDIMM, ECC, CL9)
Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM
Other Hardware: None

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	294	46.2	<u>294</u>	<u>46.2</u>	294	46.2	<u>294</u>	<u>46.2</u>	294	46.3	294	46.2
416.gamess	912	21.5	<u>911</u>	<u>21.5</u>	911	21.5	<u>893</u>	<u>21.9</u>	893	21.9	894	21.9
433.milc	248	37.0	<u>248</u>	<u>37.0</u>	248	36.9	247	37.2	247	37.2	<u>247</u>	<u>37.2</u>
434.zeusmp	378	24.1	378	24.1	<u>378</u>	<u>24.1</u>	378	24.1	378	24.1	<u>378</u>	<u>24.1</u>
435.gromacs	378	18.9	<u>378</u>	<u>18.9</u>	379	18.8	370	19.3	<u>371</u>	<u>19.3</u>	371	19.2
436.cactusADM	326	36.7	325	36.8	<u>325</u>	<u>36.8</u>	278	43.0	<u>279</u>	<u>42.8</u>	280	42.7
437.leslie3d	<u>422</u>	<u>22.3</u>	422	22.3	422	22.3	<u>422</u>	<u>22.3</u>	422	22.3	422	22.3
444.namd	489	16.4	<u>489</u>	<u>16.4</u>	490	16.4	491	16.3	492	16.3	<u>492</u>	<u>16.3</u>
447.dealII	382	30.0	382	30.0	<u>382</u>	<u>30.0</u>	373	30.7	<u>373</u>	<u>30.7</u>	373	30.6
450.soplex	<u>468</u>	<u>17.8</u>	468	17.8	469	17.8	465	17.9	<u>464</u>	<u>18.0</u>	464	18.0
453.povray	<u>224</u>	<u>23.8</u>	225	23.7	223	23.9	<u>170</u>	<u>31.2</u>	170	31.4	171	31.1
454.calculix	<u>377</u>	<u>21.9</u>	377	21.9	378	21.8	<u>371</u>	<u>22.2</u>	371	22.2	372	22.2
459.GemsFDTD	394	26.9	<u>394</u>	<u>27.0</u>	394	27.0	<u>392</u>	<u>27.1</u>	392	27.1	392	27.1
465.tonto	479	20.6	480	20.5	<u>480</u>	<u>20.5</u>	412	23.9	<u>413</u>	<u>23.8</u>	415	23.7
470.lbm	412	33.3	<u>413</u>	<u>33.3</u>	413	33.2	412	33.3	<u>413</u>	<u>33.3</u>	413	33.2
481.wrf	<u>342</u>	<u>32.7</u>	341	32.7	342	32.7	341	32.7	342	32.7	<u>342</u>	<u>32.7</u>
482.sphinx3	<u>898</u>	<u>21.7</u>	894	21.8	899	21.7	979	19.9	<u>984</u>	<u>19.8</u>	985	19.8

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-001111L4 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:
-xSSSE3 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

`-xSSSE3 -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: `-prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -fno-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `-xSSSE3 -ipo -O3 -no-prec-div -static -auto-ilp32 -unroll2`

C++ benchmarks:

444.namd: `-prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -fno-alias -auto-ilp32`

447.deallI: `-prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias -scalar-rep -opt-prefetch`

450.soplex: `-prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -opt-malloc-options=3 -auto-ilp32`

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Peak Optimization Flags (Continued)

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -ansi-alias
-scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -opt-prefetch
-parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -opt-prefetch -parallel
-auto-ilp32

454.calculix: -xSSSE3 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel -auto-ilp32

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>

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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