SPEC® CFP2006 Result

Supermicro

Motherboard X8SIU-F (Intel Pentium G6950, 2.80 GHz)

$SPECfp^{®}2006 =$ 26.4

$SPECfp\_base2006 =$ 25.5

CPU2006 license: 001176		**Test date:**	Jun-2010
Test sponsor:	Supermicro	**Hardware Availability:**	Apr-2010
Tested by:	Supermicro	**Software Availability:**	Jan-2010

SPECfp_base2006 = 25.5

SPECfp2006 = 26.4

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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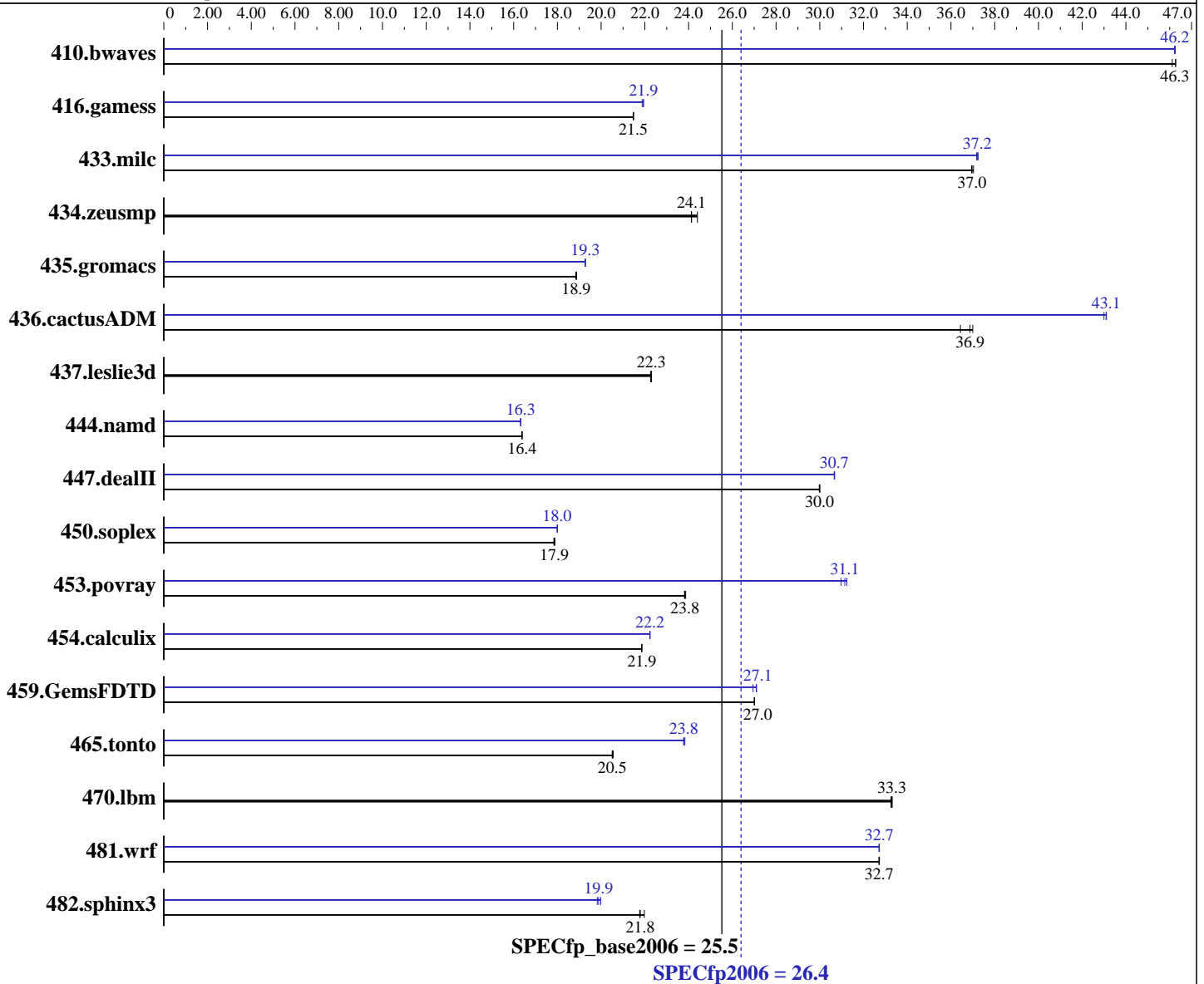|	
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L3 Cache:	3 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	None
Memory:	16 GB (4 x 4 GB 2Rx8 DDR3-1333 UDIMM, ECC, CL9)		
Disk Subsystem:	1 x 160 GB SATA II, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	295	46.1	**294**	**46.3**	294	46.3	294	46.3	**294**	**46.2**	294	46.2
416.gamess	912	21.5	**912**	**21.5**	911	21.5	893	21.9	**893**	**21.9**	895	21.9
433.milc	248	36.9	**248**	**37.0**	248	37.0	247	37.2	**247**	**37.2**	247	37.2
434.zeusmp	373	24.4	377	24.1	**377**	**24.1**	373	24.4	377	24.1	**377**	**24.1**
435.gromacs	**378**	**18.9**	378	18.9	379	18.8	370	19.3	**370**	**19.3**	371	19.3
436.cactusADM	323	37.0	**324**	**36.9**	328	36.4	**277**	**43.1**	278	43.0	277	43.1
437.leslie3d	**422**	**22.3**	421	22.3	422	22.3	**422**	**22.3**	421	22.3	422	22.3
444.namd	489	16.4	**489**	**16.4**	490	16.4	**491**	**16.3**	491	16.3	492	16.3
447.dealII	381	30.0	382	30.0	**381**	**30.0**	373	30.7	373	30.7	**373**	**30.7**
450.soplex	466	17.9	468	17.8	**467**	**17.9**	463	18.0	464	18.0	**464**	**18.0**
453.povray	223	23.8	223	23.9	**223**	**23.8**	**171**	**31.1**	170	31.2	172	31.0
454.calculix	377	21.9	**377**	**21.9**	377	21.9	371	22.2	**371**	**22.2**	371	22.2
459.GemsFDTD	393	27.0	393	27.0	**393**	**27.0**	394	26.9	**392**	**27.1**	391	27.1
465.tonto	479	20.6	**480**	**20.5**	480	20.5	413	23.8	**414**	**23.8**	414	23.8
470.lbm	**413**	**33.3**	413	33.3	413	33.3	**413**	**33.3**	413	33.3	413	33.3
481.wrf	**341**	**32.7**	341	32.7	342	32.7	**341**	**32.7**	341	32.7	342	32.7
482.sphinx3	896	21.8	**894**	**21.8**	887	22.0	983	19.8	975	20.0	**980**	**19.9**

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-815TQ-330UB chassis.
The chassis is bundled with a PWS-333-1H20 power supply, a SNK-P0046P heatsink,
and 4 FAN-0086L4 cooling fans.
```

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Test date: Jun-2010

Hardware Availability: Apr-2010

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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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Tested by: Supermicro

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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.dealII: -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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