SPEC® CFP2006 Result
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Supermicro

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

$SPECfp^®\_rate2006 = \quad 40.8$
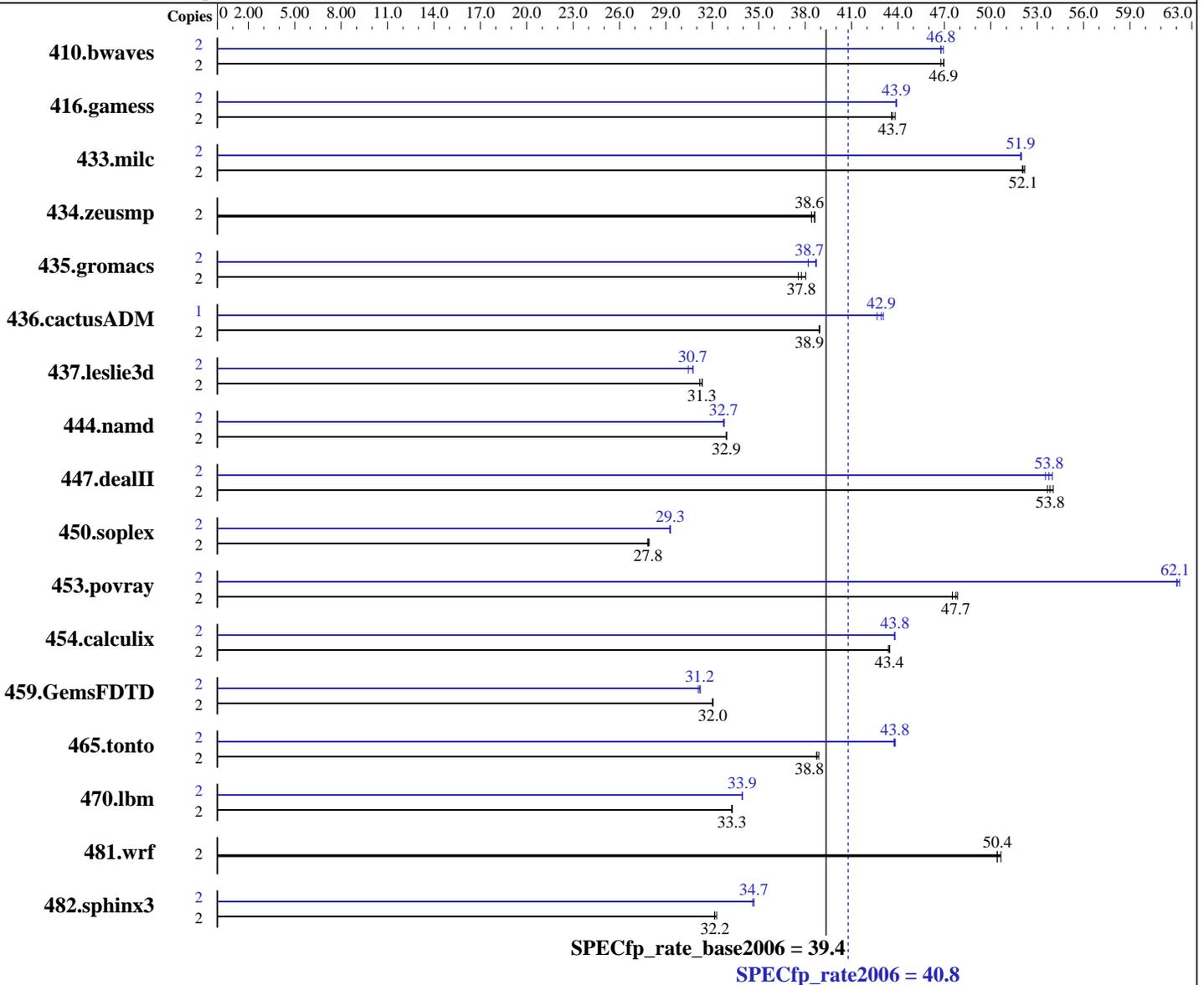
$SPECfp\_rate\_base2006 = \quad 39.4$

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

SPECfp_rate_base2006 = 39.4

SPECfp_rate2006 = 40.8

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

Continued on next page

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	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

	Base							Peak						
Benchmark	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Copies**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
410.bwaves	2	579	47.0	581	46.8	**579**	**46.9**	2	581	46.8	579	46.9	**581**	**46.8**
416.gamess	2	**897**	**43.7**	894	43.8	899	43.6	2	892	43.9	**892**	**43.9**	893	43.9
433.milc	2	**352**	**52.1**	352	52.2	353	52.0	2	**353**	**51.9**	354	51.9	353	52.0
434.zeusmp	2	471	38.6	**472**	**38.6**	474	38.4	2	471	38.6	**472**	**38.6**	474	38.4
435.gromacs	2	**378**	**37.8**	375	38.0	380	37.6	2	**369**	**38.7**	369	38.7	374	38.2
436.cactusADM	2	614	38.9	614	38.9	**614**	**38.9**	1	278	43.1	**278**	**42.9**	280	42.6
437.leslie3d	2	600	31.3	603	31.2	**600**	**31.3**	2	**612**	**30.7**	611	30.8	617	30.5
444.namd	2	487	32.9	**487**	**32.9**	488	32.9	2	489	32.8	490	32.7	**490**	**32.7**
447.dealII	2	423	54.0	426	53.7	**425**	**53.8**	2	**426**	**53.8**	424	54.0	427	53.5
450.soplex	2	597	27.9	**599**	**27.8**	599	27.8	2	570	29.3	**570**	**29.3**	570	29.2
453.povray	2	**223**	**47.7**	222	47.9	224	47.5	2	172	62.0	171	62.2	**171**	**62.1**
454.calculix	2	380	43.5	**380**	**43.4**	380	43.4	2	377	43.8	**377**	**43.8**	377	43.8
459.GemsFDTD	2	663	32.0	**663**	**32.0**	662	32.1	2	680	31.2	682	31.1	**681**	**31.2**
465.tonto	2	506	38.9	508	38.7	**508**	**38.8**	2	**449**	**43.8**	450	43.7	449	43.8
470.lbm	2	825	33.3	**826**	**33.3**	826	33.3	2	809	34.0	**810**	**33.9**	810	33.9
481.wrf	2	441	50.7	443	50.4	**443**	**50.4**	2	441	50.7	443	50.4	**443**	**50.4**
482.sphinx3	2	1213	32.1	1207	32.3	**1212**	**32.2**	2	1123	34.7	1126	34.6	**1124**	**34.7**

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.

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

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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.
```

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
```

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Base Optimization Flags

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

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

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

Benchmarks using both Fortran and C:
```
-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
```

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.dealII: -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
```

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Peak Portability Flags (Continued)

```
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

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: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
         -auto-ilp32

482.sphinx3: -xSSSE3 -ipo -O3 -no-prec-div -static -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-

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

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

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: -xSSSE3 -ipo -O3 -no-prec-div -static

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

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

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Test sponsor:	Supermicro	**Hardware Availability:**	Apr-2010
Tested by:	Supermicro	**Software Availability:**	Jan-2010

Peak Optimization Flags (Continued)

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: 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.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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
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