SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

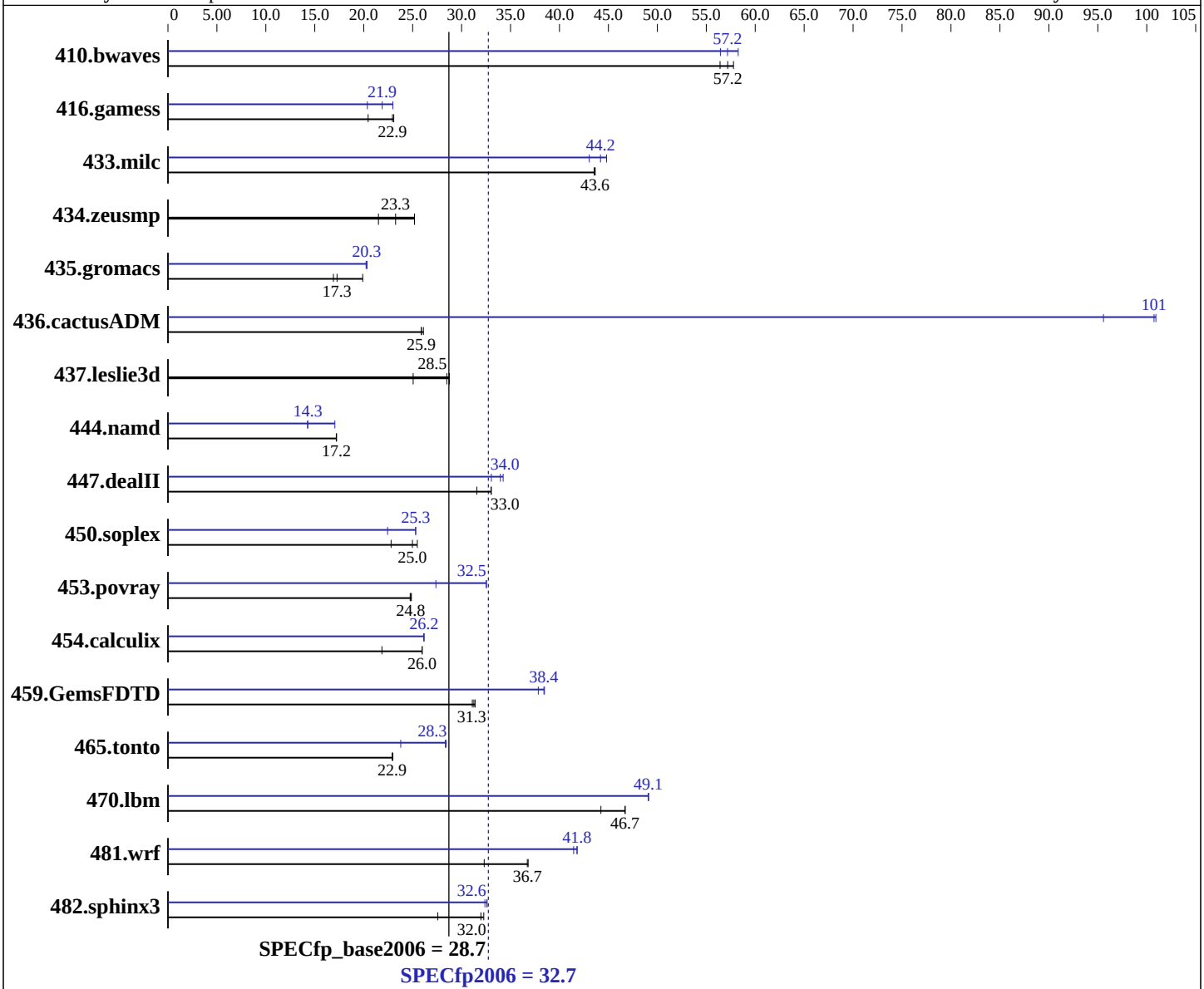
Motherboard X8SIL (Intel Xeon X3440, 2.53 GHz)

SPECfp®2006 = 32.7

SPECfp_base2006 = 28.7

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: May-2011
Hardware Availability: Jan-2010
Software Availability: Jan-2010



Hardware

CPU Name:	Intel Xeon X3440
CPU Characteristics:	Intel Turbo Boost Technology up to 2.93 GHz
CPU MHz:	2533
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

Continued on next page

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)

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Motherboard X8SIL (Intel Xeon X3440, 2.53 GHz)

SPECfp2006 = 32.7

SPECfp_base2006 = 28.7

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: May-2011
Hardware Availability: Jan-2010
Software Availability: Jan-2010

L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (4 x 4 GB 2Rx8 PC3-10600R-9, ECC)
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	235	57.8	241	56.4	**238**	**57.2**	233	58.3	241	56.4	**238**	**57.2**
416.gamess	**854**	**22.9**	957	20.5	849	23.1	**895**	**21.9**	852	23.0	961	20.4
433.milc	210	43.6	211	43.5	**210**	**43.6**	205	44.8	213	43.0	**208**	**44.2**
434.zeusmp	**391**	**23.3**	361	25.2	423	21.5	**391**	**23.3**	361	25.2	423	21.5
435.gromacs	422	16.9	**413**	**17.3**	359	19.9	351	20.3	**352**	**20.3**	353	20.2
436.cactusADM	458	26.1	**462**	**25.9**	462	25.9	125	95.6	**119**	**101**	118	101
437.leslie3d	**330**	**28.5**	375	25.1	327	28.7	**330**	**28.5**	375	25.1	327	28.7
444.namd	465	17.2	466	17.2	**466**	**17.2**	**561**	**14.3**	470	17.1	563	14.3
447.dealII	362	31.6	346	33.0	**346**	**33.0**	**337**	**34.0**	334	34.2	346	33.0
450.soplex	327	25.5	366	22.8	**334**	**25.0**	**330**	**25.3**	372	22.4	329	25.3
453.povray	215	24.7	**214**	**24.8**	214	24.9	163	32.5	**164**	**32.5**	194	27.4
454.calculix	318	26.0	**318**	**26.0**	377	21.9	315	26.2	315	26.2	**315**	**26.2**
459.GemsFDTD	338	31.4	**339**	**31.3**	341	31.1	**276**	**38.4**	280	37.8	276	38.5
465.tonto	**429**	**22.9**	429	22.9	428	23.0	**347**	**28.3**	414	23.8	346	28.4
470.lbm	311	44.2	**294**	**46.7**	294	46.7	280	49.1	280	49.1	**280**	**49.1**
481.wrf	346	32.3	**304**	**36.7**	304	36.8	270	41.4	267	41.8	**267**	**41.8**
482.sphinx3	**610**	**32.0**	604	32.3	707	27.6	602	32.4	598	32.6	**598**	**32.6**

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
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-111T-560CB chassis.
The system includes a PWS-562-1H power supply, SNK-P0046P heatsink,
and 3 FAN-0106L4 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

Base Optimization Flags

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

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

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

Benchmarks using both Fortran and C:
`-xSSE4.2 -ipo -O3 -no-prec-div -static -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) `-ansi-alias -parallel -auto-ilp32`

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

Continued on next page

Peak Optimization Flags (Continued)

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- -auto-ilp32

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

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

Continued on next page

Peak Optimization Flags (Continued)

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.20100316.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.20100316.xml`

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 18:25:25 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 June 2011.