SPEC® CFP2006 Result
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Sun Microsystems

Sun Blade X6275 (Intel Xeon X5570 2.93GHz)

$SPECfp^{®}2006 =$ 40.3
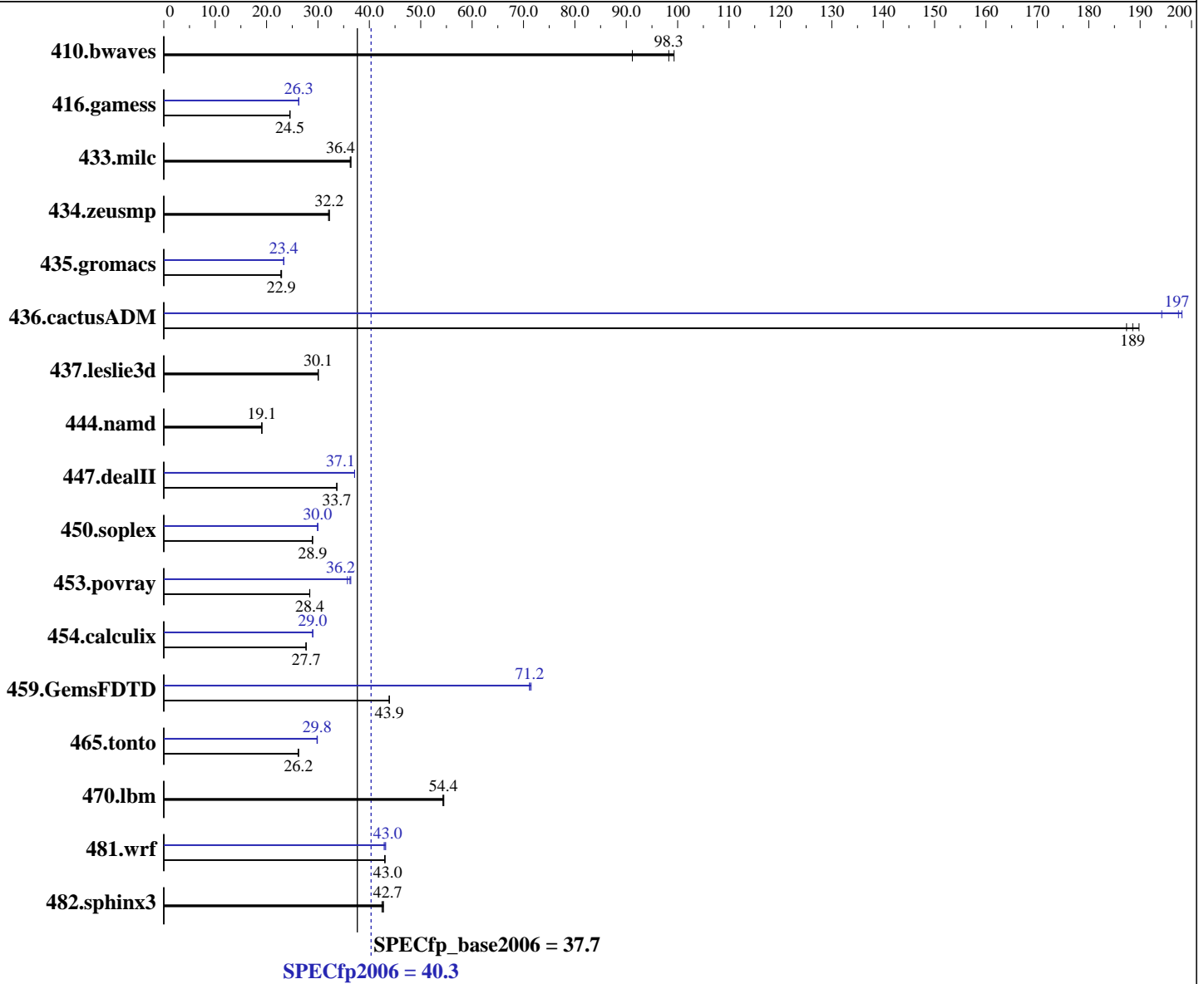
$SPECfp\_base2006 =$ 37.7

CPU2006 license: 6
Test sponsor: Sun Microsystems
Tested by: Sun Microsystems

Test date: Mar-2009
Hardware Availability: Apr-2009
Software Availability: Nov-2008

Benchmark	Result
410.bwaves	98.3
416.gamess	26.3 / 24.5
433.milc	36.4
434.zeusmp	32.2
435.gromacs	23.4 / 22.9
436.cactusADM	197 / 189
437.leslie3d	30.1
444.namd	19.1
447.dealII	37.1 / 33.7
450.soplex	30.0 / 28.9
453.povray	36.2 / 28.4
454.calculix	29.0 / 27.7
459.GemsFDTD	71.2 / 43.9
465.tonto	29.8 / 26.2
470.lbm	54.4
481.wrf	43.0 / 43.0
482.sphinx3	42.7

SPECfp_base2006 = 37.7
SPECfp2006 = 40.3

Hardware

CPU Name: Intel Xeon X5570
CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz: 2933
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable: 1 or 2 chips
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 10 (x86_64) SP2, kernel 2.6.16.60-0.21-smp
Compiler: Intel C++ and Fortran Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.066, l_cprof_p_11.0.066
Auto Parallel: Yes
File System: NFSv3
(See additional details below)
System State: Run level 3 (multi-user)

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L3 Cache:	8 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	24 GB (6 x 4 GB DDR3-1333)	Other Software:	Binutils 2.18.50
Disk Subsystem:	48 x SATA 250 GB 7200 RPM via NFS for SPEC CPU2006		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	137	99.3	**138**	**98.3**	149	91.2	137	99.3	**138**	**98.3**	149	91.2
416.gamess	797	24.6	**798**	**24.5**	798	24.5	745	26.3	746	26.3	**745**	**26.3**
433.milc	**252**	**36.4**	252	36.4	253	36.3	**252**	**36.4**	252	36.4	253	36.3
434.zeusmp	**283**	**32.2**	282	32.2	284	32.1	**283**	**32.2**	282	32.2	284	32.1
435.gromacs	314	22.8	311	22.9	**312**	**22.9**	306	23.4	306	23.3	**306**	**23.4**
436.cactusADM	63.0	190	**63.4**	**189**	63.8	187	**60.5**	**197**	61.5	194	60.3	198
437.leslie3d	**313**	**30.1**	313	30.1	313	30.0	**313**	**30.1**	313	30.1	313	30.0
444.namd	**420**	**19.1**	420	19.1	421	19.1	**420**	**19.1**	420	19.1	421	19.1
447.dealII	**340**	**33.7**	340	33.7	340	33.7	**308**	**37.1**	308	37.1	308	37.1
450.soplex	288	29.0	288	28.9	**288**	**28.9**	279	29.9	278	30.0	**278**	**30.0**
453.povray	187	28.4	**187**	**28.4**	187	28.4	146	36.4	149	35.7	**147**	**36.2**
454.calculix	298	27.7	298	27.7	**298**	**27.7**	285	29.0	**285**	**29.0**	285	29.0
459.GemsFDTD	242	43.9	242	43.9	**242**	**43.9**	149	71.2	148	71.5	**149**	**71.2**
465.tonto	**375**	**26.2**	375	26.2	376	26.2	329	29.9	**330**	**29.8**	330	29.8
470.lbm	252	54.5	**253**	**54.4**	253	54.3	252	54.5	**253**	**54.4**	253	54.3
481.wrf	260	43.0	**259**	**43.0**	259	43.0	**259**	**43.0**	259	43.2	261	42.9
482.sphinx3	456	42.7	**457**	**42.7**	459	42.5	456	42.7	**457**	**42.7**	459	42.5

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 stacksize to unlimited prior to run

Platform Notes

Default BIOS settings used.

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 200M
NFS for file system: NFS server, Sun Fire X4540 equipped with
48 x 250GB SATA 7200 RPM, serves the client over Gigabit

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General Notes (Continued)

    ethternet connection.

Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    icc ifort

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 -parallel -opt-prefetch

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

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

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Base Optimization Flags (Continued)

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

Peak Compiler Invocation

C benchmarks:
```
icc
```

C++ benchmarks (except as noted below):
```
icpc
```
```
450.soplex: icpc -m32
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icc ifort
```

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
       470.lbm: -DSPEC_CPU_LP64
       481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
   482.sphinx3: -DSPEC_CPU_LP64
```

Peak Optimization Flags

C benchmarks:

```
433.milc: basepeak = yes
```

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Peak Optimization Flags (Continued)

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: basepeak = yes

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- -opt-prefetch

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: basepeak = yes

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)
-unroll4 -auto

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

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Peak Optimization Flags (Continued)

454.calculix: `-xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32`

481.wrf: `-xSSE4.2 -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-ic11.0-fp-linux64-revA.20090710.09.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.09.xml

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 01:58:40 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 28 April 2009.