SPEC® CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

CELSIUS R650, Intel Xeon X5470 processor

$SPECfp®2006 =$ 26.3

$SPECfp\_base2006 =$ 25.2

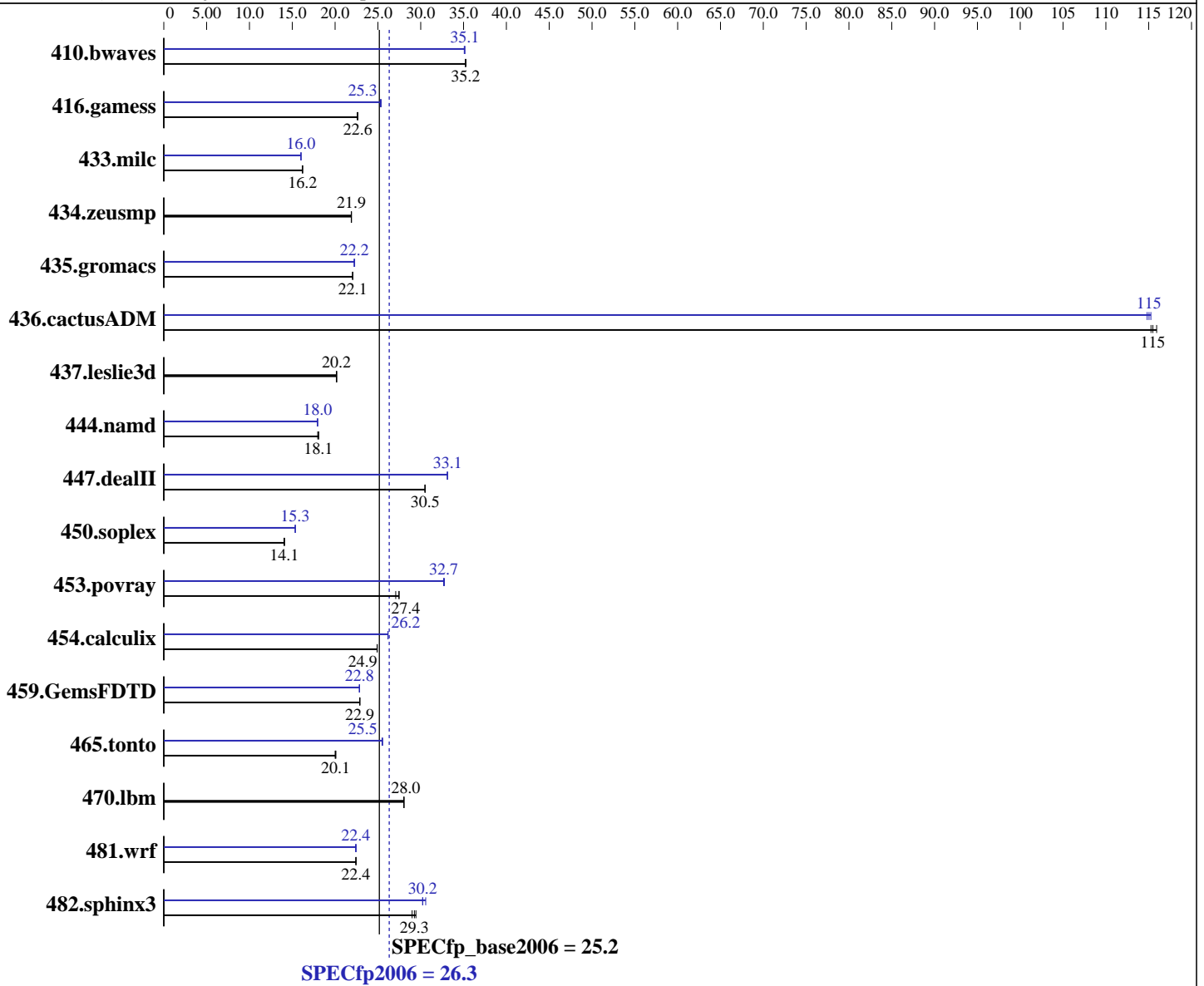**CPU2006 license:** 22

Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Sep-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2008

Benchmark	Value
410.bwaves	35.1 / 35.2
416.gamess	25.3 / 22.6
433.milc	16.0 / 16.2
434.zeusmp	21.9
435.gromacs	22.2 / 22.1
436.cactusADM	115 / 115
437.leslie3d	20.2
444.namd	18.0 / 18.1
447.dealII	33.1 / 30.5
450.soplex	15.3 / 14.1
453.povray	32.7 / 27.4
454.calculix	26.2 / 24.9
459.GemsFDTD	22.8 / 22.9
465.tonto	25.5 / 20.1
470.lbm	28.0
481.wrf	22.4 / 22.4
482.sphinx3	30.2 / 29.3

SPECfp_base2006 = 25.2

SPECfp2006 = 26.3

Hardware

CPU Name:	Intel Xeon X5470
CPU Characteristics:	
CPU MHz:	3333
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores

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 20080730 Package ID l_cproc_b_11.0.042, l_fproc_b_11.0.042
Auto Parallel:	Yes
File System:	ext3
System State:	Multi-User, Run Level 3
Base Pointers:	64-bit

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

CELSIUS R650, Intel Xeon X5470 processor

SPECfp2006 =	26.3
SPECfp_base2006 =	25.2

L3 Cache:	None
Other Cache:	None
Memory:	8 GB (8x1 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	1 x SATA II, 400 GB, 7200 rpm
Other Hardware:	None
Peak Pointers:	32/64-bit
Other Software:	Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	386	35.2	**386**	**35.2**	385	35.3	387	35.1	387	35.1	**387**	**35.1**
416.gamess	867	22.6	**865**	**22.6**	864	22.7	772	25.4	**773**	**25.3**	774	25.3
433.milc	**567**	**16.2**	566	16.2	567	16.2	**573**	**16.0**	573	16.0	573	16.0
434.zeusmp	**415**	**21.9**	415	21.9	416	21.9	**415**	**21.9**	415	21.9	416	21.9
435.gromacs	324	22.0	324	22.1	**324**	**22.1**	321	22.2	320	22.3	**321**	**22.2**
436.cactusADM	**103**	**115**	104	115	103	116	104	115	**104**	**115**	104	115
437.leslie3d	**466**	**20.2**	466	20.2	467	20.1	**466**	**20.2**	466	20.2	467	20.1
444.namd	446	18.0	444	18.1	**444**	**18.1**	446	18.0	**446**	**18.0**	447	17.9
447.dealII	**375**	**30.5**	375	30.5	375	30.5	345	33.1	**345**	**33.1**	346	33.1
450.soplex	592	14.1	**592**	**14.1**	594	14.0	543	15.3	**543**	**15.3**	543	15.4
453.povray	**194**	**27.4**	196	27.1	194	27.5	163	32.7	162	32.8	**163**	**32.7**
454.calculix	331	24.9	331	24.9	**331**	**24.9**	**315**	**26.2**	315	26.2	315	26.2
459.GemsFDTD	464	22.9	**464**	**22.9**	463	22.9	**464**	**22.8**	465	22.8	464	22.8
465.tonto	492	20.0	490	20.1	**491**	**20.1**	385	25.6	**386**	**25.5**	386	25.5
470.lbm	490	28.0	**490**	**28.0**	490	28.1	490	28.0	**490**	**28.0**	490	28.1
481.wrf	**498**	**22.4**	497	22.5	498	22.4	499	22.4	497	22.5	**498**	**22.4**
482.sphinx3	**666**	**29.3**	662	29.4	672	29.0	637	30.6	**645**	**30.2**	645	30.2

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
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
KMP_STACKSIZE set to 200M
```

Platform Notes

```
BIOS configuration:
Enhanced Speedstep Technology = Disable
C1 Enhanced Mode = Disable
Hardware Prefetch = Enable, Adjacent Sector Prefetch = Enable
SnoopFilter = Disable
```

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

CELSIUS R650, Intel Xeon X5470 processor

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Sep-2008
Hardware Availability: Sep-2008
Software Availability: Nov-2008

General Notes

For information about Fujitsu Siemens Computers please see:
http://www.fujitsu-siemens.com

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:
    -xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:
    -xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

CELSIUS R650, Intel Xeon X5470 processor

SPECfp2006 =	26.3
SPECfp_base2006 =	25.2

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Sep-2008
Hardware Availability: Sep-2008
Software Availability: Nov-2008

Base Optimization Flags (Continued)

Fortran benchmarks:
```
-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc
```

```
482.sphinx3: /opt/intel/Compiler/11.0/042/bin/ia32/icc
        -L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
        -I/opt/intel/Compiler/11.0/042/ipp/ia32/include
```

C++ benchmarks (except as noted below):
```
icpc
```

```
450.soplex: /opt/intel/Compiler/11.0/042/bin/ia32/icpc
        -L/opt/intel/Compiler/11.0/042/ipp/ia32/lib
        -I/opt/intel/Compiler/11.0/042/ipp/ia32/include
```

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
```

Fujitsu Siemens Computers

CELSIUS R650, Intel Xeon X5470 processor

$SPECfp2006 =$ 26.3

$SPECfp\_base2006 =$ 25.2

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Sep-2008
Hardware Availability: Sep-2008
Software Availability: Nov-2008

Peak Optimization Flags

C benchmarks:

> 433.milc: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
> `-no-prec-div -static -fno-alias`

> 470.lbm: `basepeak = yes`

> 482.sphinx3: `-xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2`

C++ benchmarks:

> 444.namd: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
> `-no-prec-div -static -fno-alias -auto-ilp32`

> 447.dealII: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
> `-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-`
> `-opt-prefetch`

> 450.soplex: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
> `-no-prec-div -static -opt-malloc-options=3`

> 453.povray: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
> `-no-prec-div -static -unroll4 -ansi-alias`

Fortran benchmarks:

> 410.bwaves: `-xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch`
> `-parallel`

> 416.gamess: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -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) -xSSE4.1 -ipo -O3`
> `-no-prec-div -static -unroll2 -Ob0 -opt-prefetch`
> `-parallel`

> 465.tonto: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
> `-no-prec-div -static -unroll4 -auto`

Benchmarks using both Fortran and C:

> 435.gromacs: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
> `-no-prec-div -static -opt-prefetch -auto-ilp32`

Fujitsu Siemens Computers

CELSIUS R650, Intel Xeon X5470 processor

$SPECfp2006 =$ 26.3

$SPECfp\_base2006 =$ 25.2

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Sep-2008
Hardware Availability: Sep-2008
Software Availability: Nov-2008

Peak Optimization Flags (Continued)

```
436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
               -no-prec-div -static -unroll2 -opt-prefetch -parallel
               -auto-ilp32

   454.calculix: -xSSE4.1 -ipo -O3 -no-prec-div -static -auto-ilp32

       481.wrf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch
                -parallel -auto-ilp32
```

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.11.html
http://www.spec.org/cpu2006/flags/FSC-SLES10-Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090713.11.xml
http://www.spec.org/cpu2006/flags/FSC-SLES10-Platform.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 Tue Jul 22 22:19:17 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 October 2008.