SPEC® CFP2006 Result
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Fujitsu

PRIMERGY TX200 S5, Intel Xeon X5550, 2.67 GHz

$SPECfp^{®}2006 =$ 38.2

$SPECfp\_base2006 =$ 36.1

CPU2006 license: 19	**Test date:** Sep-2009
Test sponsor: Fujitsu	**Hardware Availability:** Jun-2009
Tested by: Fujitsu	**Software Availability:** Feb-2009

- 410.bwaves: 96.1
- 416.gamess: 24.3 / 22.5
- 433.milc: 36.2
- 434.zeusmp: 30.6
- 435.gromacs: 22.2 / 21.8
- 436.cactusADM: 173 / 172
- 437.leslie3d: 31.3
- 444.namd: 18.1
- 447.dealII: 34.5 / 31.1
- 450.soplex: 28.5 / 28.0
- 453.povray: 33.1 / 26.9
- 454.calculix: 26.6 / 26.4
- 459.GemsFDTD: 66.8 / 45.9
- 465.tonto: 28.2 / 24.1
- 470.lbm: 53.9
- 481.wrf: 39.4
- 482.sphinx3: 40.1

SPECfp_base2006 = 36.1

SPECfp2006 = 38.2

Hardware

CPU Name:	Intel Xeon X5550
CPU Characteristics:	Intel Turbo Boost Technology up to 3.07 GHz
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 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 20090131 Package ID: l_cproc_p_11.0.080, l_cprof_p_11.0.080
Auto Parallel:	Yes
File System:	ext3
System State:	Multi-User Run Level 3
Base Pointers:	64-bit

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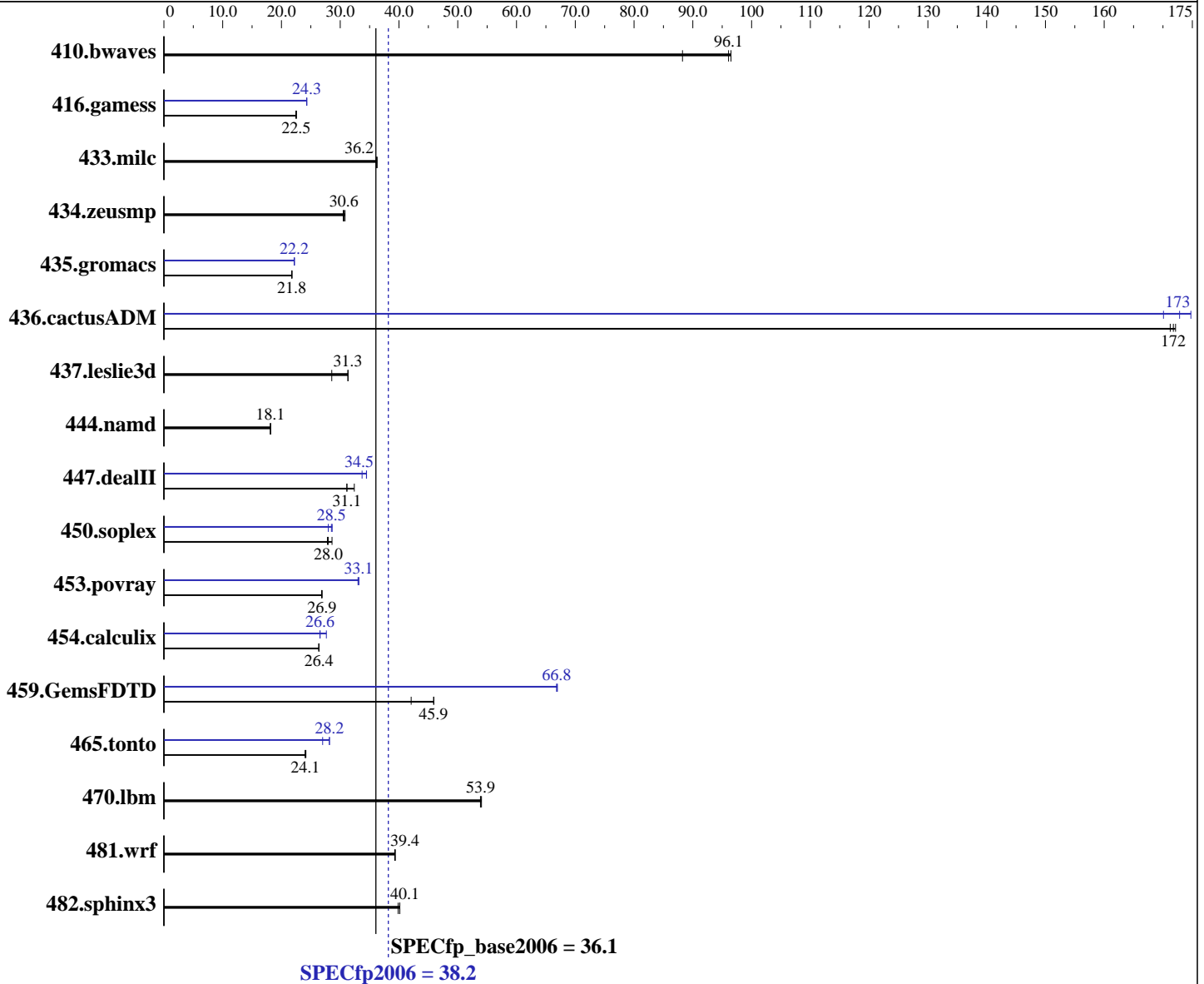| SPECfp2006 =	38.2
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L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (6x8 GB PC3-10600R, 2 rank, CL9-9-9, ECC)
Disk Subsystem:	1 x SATA, 250 GB, 7200 RPM
Other Hardware:	None

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	154	88.2	141	96.5	**141**	**96.1**	154	88.2	141	96.5	**141**	**96.1**
416.gamess	869	22.5	**869**	**22.5**	872	22.4	806	24.3	**806**	**24.3**	805	24.3
433.milc	253	36.3	**254**	**36.2**	254	36.2	253	36.3	**254**	**36.2**	254	36.2
434.zeusmp	298	30.5	**297**	**30.6**	295	30.8	298	30.5	**297**	**30.6**	295	30.8
435.gromacs	328	21.8	328	21.8	**328**	**21.8**	**322**	**22.2**	322	22.2	322	22.2
436.cactusADM	69.4	172	**69.6**	**172**	69.8	171	70.3	170	**69.1**	**173**	68.4	175
437.leslie3d	300	31.3	**300**	**31.3**	329	28.6	300	31.3	**300**	**31.3**	329	28.6
444.namd	**442**	**18.1**	442	18.1	442	18.2	**442**	**18.1**	442	18.1	442	18.2
447.dealII	**367**	**31.1**	353	32.4	367	31.1	339	33.7	332	34.5	**332**	**34.5**
450.soplex	**298**	**28.0**	300	27.8	292	28.6	291	28.6	**293**	**28.5**	298	28.0
453.povray	198	26.8	**198**	**26.9**	198	26.9	160	33.2	161	33.0	**161**	**33.1**
454.calculix	**313**	**26.4**	313	26.4	313	26.3	**310**	**26.6**	298	27.6	311	26.6
459.GemsFDTD	**231**	**45.9**	252	42.1	231	45.9	158	67.0	**159**	**66.8**	159	66.8
465.tonto	407	24.2	409	24.0	**409**	**24.1**	364	27.0	349	28.2	**350**	**28.2**
470.lbm	255	53.9	**255**	**53.9**	254	54.0	255	53.9	**255**	**53.9**	254	54.0
481.wrf	284	39.3	**284**	**39.4**	284	39.4	284	39.3	**284**	**39.4**	284	39.4
482.sphinx3	**486**	**40.1**	489	39.9	486	40.1	**486**	**40.1**	489	39.9	486	40.1

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

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
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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

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

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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`

     470.lbm: `basepeak = yes`

    482.sphinx3: `basepeak = yes`

C++ benchmarks:

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Peak Optimization Flags (Continued)

```
        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

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

          481.wrf: basepeak = yes
```

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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.20091013.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.20091013.xml`