SPEC® CFP2006 Result
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Fujitsu

PRIMERGY RX300 S6, Intel Xeon X5667, 3.06 GHz

$SPECfp^{®}2006 =$ 46.8
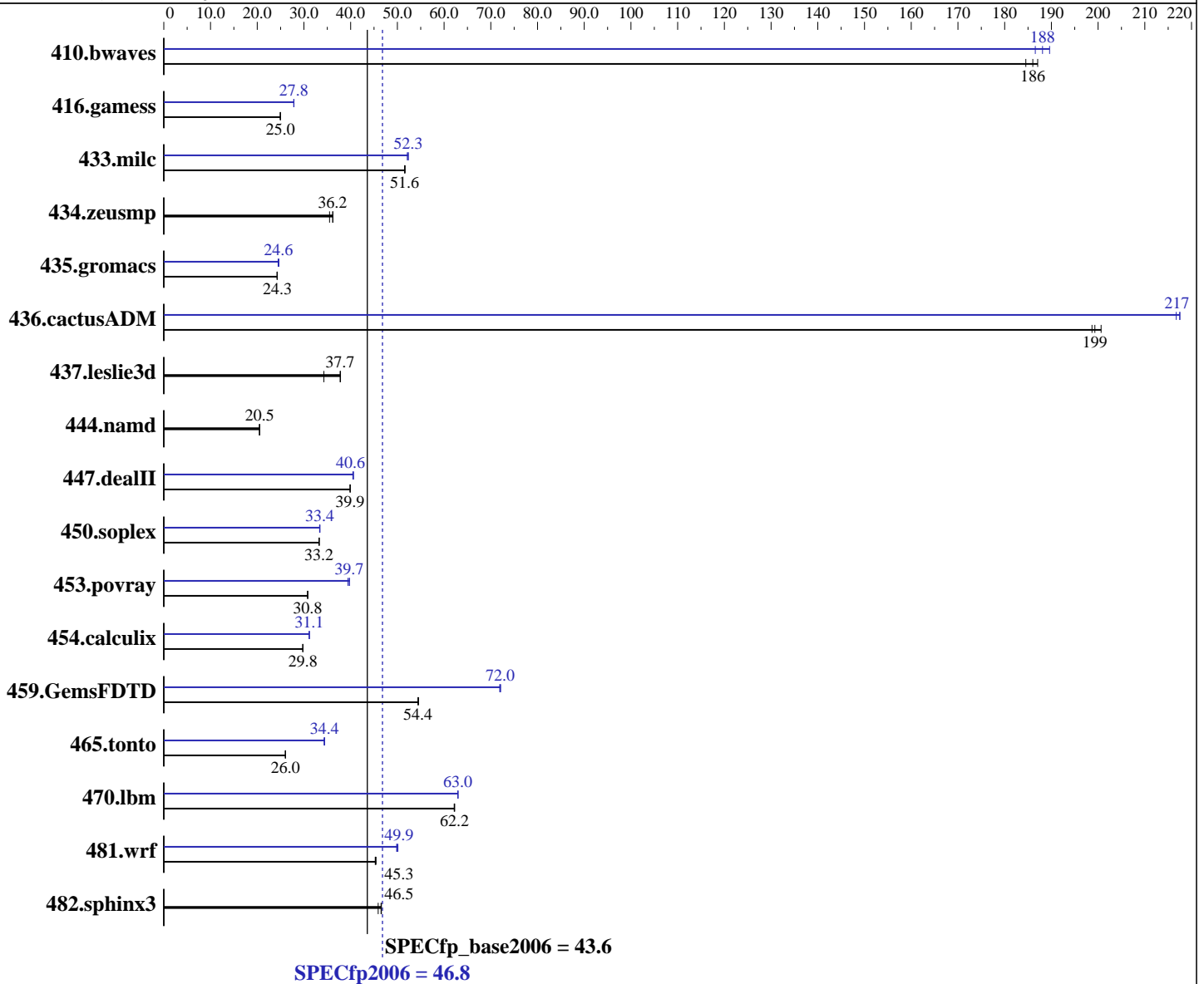
$SPECfp\_base2006 =$ 43.6

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Mar-2010
Hardware Availability: Apr-2010
Software Availability: Jan-2010

Results chart (scale 0 to 220):

- **410.bwaves** — 188 / 186
- **416.gamess** — 27.8 / 25.0
- **433.milc** — 52.3 / 51.6
- **434.zeusmp** — 36.2
- **435.gromacs** — 24.6 / 24.3
- **436.cactusADM** — 217 / 199
- **437.leslie3d** — 37.7
- **444.namd** — 20.5
- **447.dealII** — 40.6 / 39.9
- **450.soplex** — 33.4 / 33.2
- **453.povray** — 39.7 / 30.8
- **454.calculix** — 31.1 / 29.8
- **459.GemsFDTD** — 72.0 / 54.4
- **465.tonto** — 34.4 / 26.0
- **470.lbm** — 63.0 / 62.2
- **481.wrf** — 49.9 / 45.3
- **482.sphinx3** — 46.5

SPECfp_base2006 = 43.6
SPECfp2006 = 46.8

Hardware

CPU Name: Intel Xeon X5667
CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz
CPU MHz: 3067
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: 256 KB I+D on chip per core

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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: Multi-User Run Level 3

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L3 Cache:	12 MB I+D on chip per chip	Base Pointers:	64-bit
Other Cache:	None	Peak Pointers:	32/64-bit
Memory:	48 GB (12x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC)	Other Software:	Binutils 2.18.50.0.7.20080502
Disk Subsystem:	1 x SATA, 250 GB, 5.4 krpm		
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	73.6	185	**73.1**	**186**	72.6	187	**72.2**	**188**	72.8	187	71.7	190
416.gamess	784	25.0	**784**	**25.0**	786	24.9	703	27.9	704	27.8	**703**	**27.8**
433.milc	**178**	**51.6**	178	51.7	178	51.5	**175**	**52.3**	176	52.1	175	52.3
434.zeusmp	251	36.2	**252**	**36.2**	256	35.5	251	36.2	**252**	**36.2**	256	35.5
435.gromacs	**294**	**24.3**	294	24.3	295	24.2	290	24.6	**290**	**24.6**	292	24.5
436.cactusADM	60.1	199	59.6	201	**60.0**	**199**	54.9	218	**54.9**	**217**	55.1	217
437.leslie3d	248	37.8	**249**	**37.7**	274	34.3	248	37.8	**249**	**37.7**	274	34.3
444.namd	391	20.5	**391**	**20.5**	392	20.5	391	20.5	**391**	**20.5**	392	20.5
447.dealII	287	39.9	287	39.9	**287**	**39.9**	283	40.5	**282**	**40.6**	282	40.6
450.soplex	251	33.3	251	33.2	**251**	**33.2**	250	33.4	250	33.3	**250**	**33.4**
453.povray	173	30.8	**173**	**30.8**	173	30.8	134	39.7	135	39.4	**134**	**39.7**
454.calculix	277	29.8	**277**	**29.8**	277	29.8	265	31.2	**265**	**31.1**	265	31.1
459.GemsFDTD	195	54.5	**195**	**54.4**	195	54.4	**147**	**72.0**	147	72.1	148	71.9
465.tonto	378	26.1	378	26.0	**378**	**26.0**	286	34.4	287	34.3	**286**	**34.4**
470.lbm	221	62.3	**221**	**62.2**	221	62.2	**218**	**63.0**	218	63.0	218	62.9
481.wrf	**247**	**45.3**	246	45.4	247	45.3	223	50.1	**224**	**49.9**	224	49.9
482.sphinx3	418	46.6	425	45.9	**419**	**46.5**	418	46.6	425	45.9	**419**	**46.5**

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

    BIOS configuration:
    Data Reuse Optimization = Disable
    Intel HT Technology = Disable

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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CPU2006 license: 19
Test sponsor: Fujitsu
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Test date: Mar-2010
Hardware Availability: Apr-2010
Software Availability: Jan-2010

General Notes (Continued)

 This result was measured on the PRIMERGY TX300 S6. The PRIMERGY TX300 S6
 and the PRIMERGY RX300 S6 are electronically equivalent.

 For information about Fujitsu please visit: http://www.fujitsu.com

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 -parallel -opt-prefetch

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

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Base Optimization Flags (Continued)

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
```

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)`
             `-parallel -ansi-alias -auto-ilp32`

  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- -auto-ilp32`

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CPU2006 license: 19	**Test date:** Mar-2010
Test sponsor: Fujitsu	**Hardware Availability:** Apr-2010
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Peak Optimization Flags (Continued)

     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`
           `-parallel`

     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`

     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.20100330.02.html`

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You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-icl1.1-linux64-revE.20100330.02.xml

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

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