SPEC® CFP2006 Result
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Fujitsu

$SPECfp^®\_rate2006 =$ 82.9

PRIMERGY RX200 S5, Intel Xeon E5520, 2.27 GHz
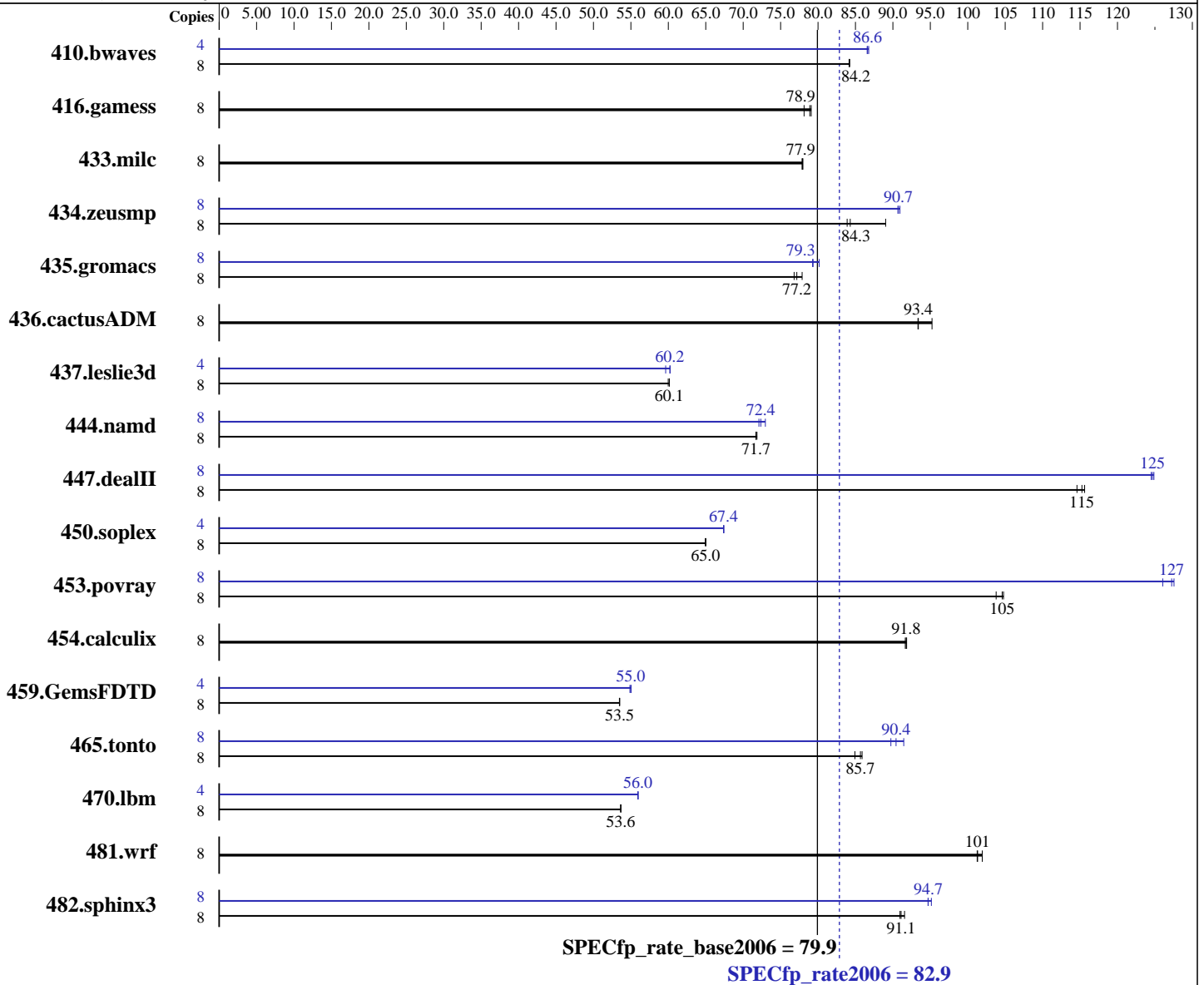
$SPECfp\_rate\_base2006 =$ 79.9

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

Copies — graph with scale 0 5.00 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0 55.0 60.0 65.0 70.0 75.0 80.0 85.0 90.0 95.0 100 105 110 115 120 130

- 410.bwaves: 4 → 86.6; 8 → 84.2
- 416.gamess: 8 → 78.9
- 433.milc: 8 → 77.9
- 434.zeusmp: 8 → 90.7; 8 → 84.3
- 435.gromacs: 8 → 79.3; 8 → 77.2
- 436.cactusADM: 8 → 93.4
- 437.leslie3d: 4 → 60.2; 8 → 60.1
- 444.namd: 8 → 72.4; 8 → 71.7
- 447.dealII: 8 → 125; 8 → 115
- 450.soplex: 4 → 67.4; 8 → 65.0
- 453.povray: 8 → 127; 8 → 105
- 454.calculix: 8 → 91.8
- 459.GemsFDTD: 4 → 55.0; 8 → 53.5
- 465.tonto: 8 → 90.4; 8 → 85.7
- 470.lbm: 4 → 56.0; 8 → 53.6
- 481.wrf: 8 → 101
- 482.sphinx3: 8 → 94.7; 8 → 91.1

SPECfp_rate_base2006 = 79.9

SPECfp_rate2006 = 82.9

Hardware

CPU Name:	Intel Xeon E5520
CPU Characteristics:	Intel Turbo Boost Technology up to 2.53 GHz
CPU MHz:	2267
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 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

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:	No
File System:	ext3
System State:	Multi-User Run Level 3
Base Pointers:	64-bit

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6x4 GB PC3-8500R, 2 rank, CL7-7-7, 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	1292	84.1	1291	84.2	**1291**	**84.2**	4	628	86.6	627	86.8	**628**	**86.6**
416.gamess	8	**1985**	**78.9**	2005	78.1	1981	79.1	8	**1985**	**78.9**	2005	78.1	1981	79.1
433.milc	8	942	78.0	**943**	**77.9**	943	77.9	8	942	78.0	**943**	**77.9**	943	77.9
434.zeusmp	8	868	83.9	**864**	**84.3**	818	89.0	8	801	90.9	**802**	**90.7**	803	90.7
435.gromacs	8	744	76.8	**740**	**77.2**	733	77.9	8	721	79.3	**720**	**79.3**	713	80.2
436.cactusADM	8	1024	93.3	1004	95.2	**1024**	**93.4**	8	1024	93.3	1004	95.2	**1024**	**93.4**
437.leslie3d	8	1250	60.1	**1251**	**60.1**	1254	60.0	4	**625**	**60.2**	624	60.2	630	59.6
444.namd	8	895	71.7	**895**	**71.7**	893	71.8	8	**887**	**72.4**	890	72.1	879	73.0
447.dealII	8	792	116	**794**	**115**	799	115	8	733	125	**734**	**125**	735	125
450.soplex	8	1026	65.0	1027	64.9	**1027**	**65.0**	4	**495**	**67.4**	495	67.4	495	67.4
453.povray	8	406	105	410	104	**407**	**105**	8	**334**	**127**	338	126	334	128
454.calculix	8	720	91.7	719	91.8	**719**	**91.8**	8	720	91.7	719	91.8	**719**	**91.8**
459.GemsFDTD	8	1586	53.5	1588	53.5	**1587**	**53.5**	4	773	54.9	**772**	**55.0**	771	55.0
465.tonto	8	917	85.9	927	84.9	**919**	**85.7**	8	**871**	**90.4**	877	89.7	861	91.4
470.lbm	8	2049	53.7	**2049**	**53.6**	2049	53.6	4	983	55.9	**982**	**56.0**	982	56.0
481.wrf	8	877	102	883	101	**882**	**101**	8	877	102	883	101	**882**	**101**
482.sphinx3	8	1703	91.6	1714	90.9	**1712**	**91.1**	8	1639	95.1	1647	94.7	**1646**	**94.7**

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 processes to cores and its local memory.
     Details may be found in the config file.
```

Operating System Notes

```
    'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
```

General Notes

```
    This result was measured on the PRIMERGY RX300 S5. The PRIMERGY TX300 S5
    and the PRIMERGY RX300 S5 are electronically equivalent.
```

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PRIMERGY RX200 S5, Intel Xeon E5520, 2.27 GHz

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SPECfp_rate_base2006 = 79.9

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

Test date: May-2009
Hardware Availability: Apr-2009
Software Availability: Feb-2009

General Notes (Continued)

For information about Fujitsu please visit: http://www.fujitsu.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:
    -xSSE4.2 -ipo -O3 -no-prec-div -static

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

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

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Test sponsor:	Fujitsu	**Hardware Availability:**	Apr-2009
Tested by:	Fujitsu	**Software Availability:**	Feb-2009

Base Optimization Flags (Continued)

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

Peak Compiler Invocation

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

482.sphinx3: `icc -m32`

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

450.soplex: `icpc -m32`

Fortran benchmarks (except as noted below):
```
ifort
```

437.leslie3d: `ifort -m32`

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`
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`

Peak Optimization Flags

C benchmarks:

Fujitsu

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Peak Optimization Flags (Continued)

```
433.milc: basepeak = yes

470.lbm: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch
         -auto-ilp32

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

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-

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

416.gamess: basepeak = yes

434.zeusmp: -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)

437.leslie3d: -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 -opt-prefetch

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

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
```

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Test sponsor: Fujitsu		**Hardware Availability:**	Apr-2009
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Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

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.20090901.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.20090901.xml

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