SPEC® CFP2006 Result
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Fujitsu

PRIMERGY TX200 S5, Intel Xeon E5504, 2.0 GHz

$SPECfp^{®}\_rate2006 =$ 115

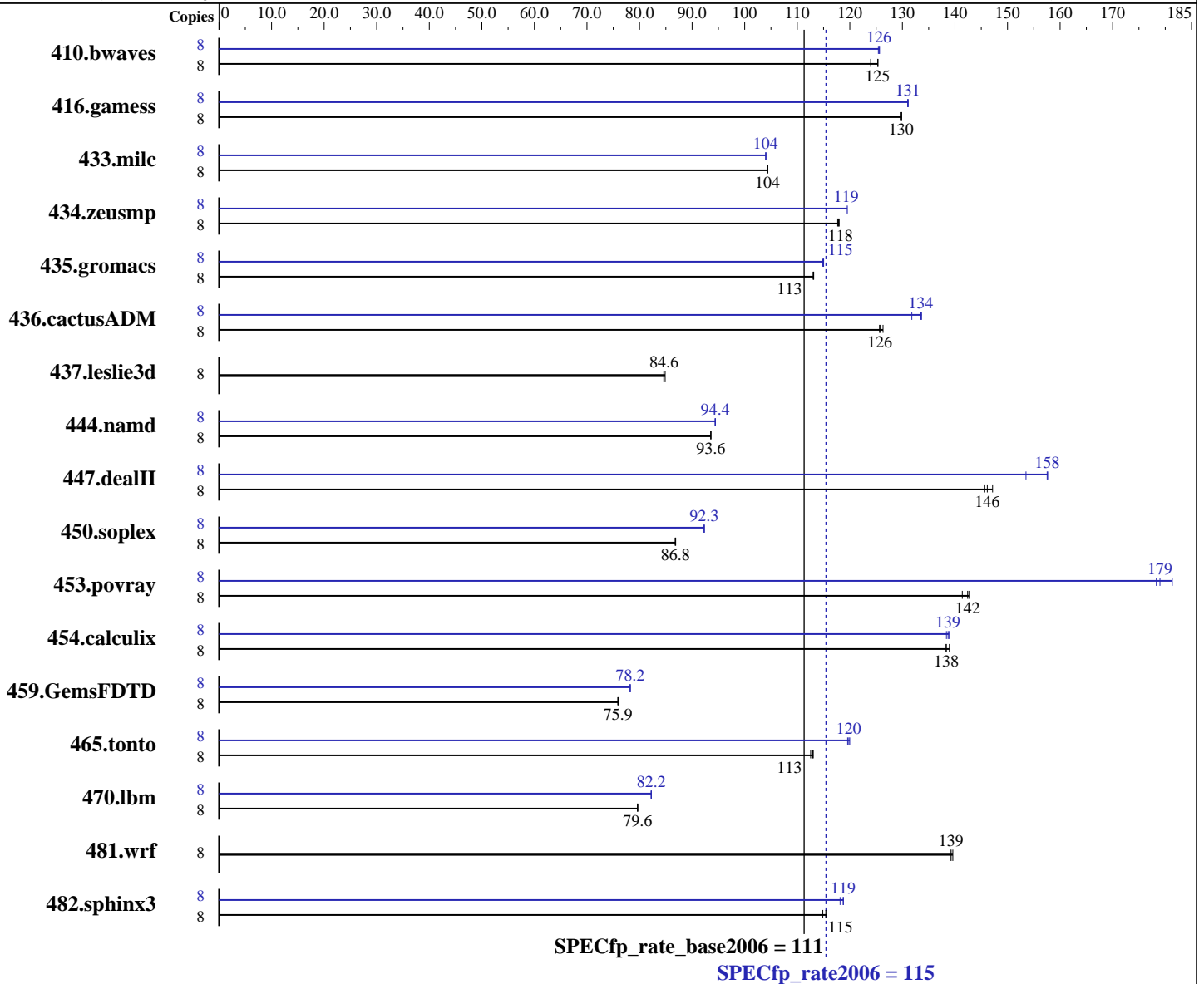$SPECfp\_rate\_base2006 =$ 111

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

Test date: Mar-2009
Hardware Availability: Jun-2009
Software Availability: Feb-2009

Benchmark	Copies	Result (blue)	Result (black)
410.bwaves	8 / 8	126	125
416.gamess	8 / 8	131	130
433.milc	8 / 8	104	104
434.zeusmp	8 / 8	119	118
435.gromacs	8 / 8	115	113
436.cactusADM	8 / 8	134	126
437.leslie3d	8		84.6
444.namd	8 / 8	94.4	93.6
447.dealII	8 / 8	158	146
450.soplex	8 / 8	92.3	86.8
453.povray	8 / 8	179	142
454.calculix	8 / 8	139	138
459.GemsFDTD	8 / 8	78.2	75.9
465.tonto	8 / 8	120	113
470.lbm	8 / 8	82.2	79.6
481.wrf	8		139
482.sphinx3	8 / 8	119	115

SPECfp_rate_base2006 = 111

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Hardware

CPU Name: Intel Xeon E5504
CPU Characteristics:
CPU MHz: 2000
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 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:	4 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	Binutils 2.18.50.0.7.20080502
Memory:	48 GB (12x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes)		
Disk Subsystem:	1 x SATA, 250 GB, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	8	877	124	867	125	**868**	**125**	8	865	126	**866**	**126**	867	125
416.gamess	8	1206	130	**1207**	**130**	1209	130	8	1195	131	1196	131	**1195**	**131**
433.milc	8	703	104	**704**	**104**	704	104	8	**706**	**104**	706	104	706	104
434.zeusmp	8	617	118	**618**	**118**	619	118	8	610	119	**610**	**119**	609	120
435.gromacs	8	**505**	**113**	506	113	505	113	8	**497**	**115**	497	115	497	115
436.cactusADM	8	757	126	**760**	**126**	761	126	8	**716**	**134**	725	132	715	134
437.leslie3d	8	886	84.9	**888**	**84.6**	889	84.6	8	886	84.9	**888**	**84.6**	889	84.6
444.namd	8	**686**	**93.6**	686	93.6	686	93.6	8	**680**	**94.4**	679	94.4	680	94.4
447.dealII	8	622	147	**626**	**146**	628	146	8	596	154	581	158	**581**	**158**
450.soplex	8	**769**	**86.8**	768	86.9	769	86.8	8	723	92.3	**723**	**92.3**	723	92.3
453.povray	8	**299**	**142**	301	141	298	143	8	**238**	**179**	235	181	239	178
454.calculix	8	475	139	**477**	**138**	477	138	8	477	138	475	139	**476**	**139**
459.GemsFDTD	8	1118	75.9	1119	75.9	**1118**	**75.9**	8	**1085**	**78.2**	1085	78.2	1085	78.2
465.tonto	8	696	113	699	113	**697**	**113**	8	656	120	658	120	**657**	**120**
470.lbm	8	1381	79.6	**1380**	**79.6**	1380	79.7	8	1337	82.2	**1337**	**82.2**	1337	82.2
481.wrf	8	640	140	642	139	**642**	**139**	8	640	140	642	139	**642**	**139**
482.sphinx3	8	1349	116	**1351**	**115**	1357	115	8	1320	118	1313	119	**1313**	**119**

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 copies to the cores

Operating System Notes

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

Platform Notes

    The system automatically configures the memory to run at 800 MHz.

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General Notes

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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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:
```
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
```

Peak Optimization Flags

C benchmarks:

Fujitsu

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Peak Optimization Flags (Continued)

```
  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)
            -fno-alias

  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: -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: -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: 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

  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:

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Peak Optimization Flags (Continued)

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 -auto-ilp32`

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

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.20090710.04.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.20090710.04.xml`

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

Tested with SPEC CPU2006 v1.1.
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