SPEC® CFP2006 Result
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Fujitsu

PRIMERGY TX300 S5, Intel Xeon E5506, 2.13 GHz

$SPECfp®\_rate2006 = \quad 119$

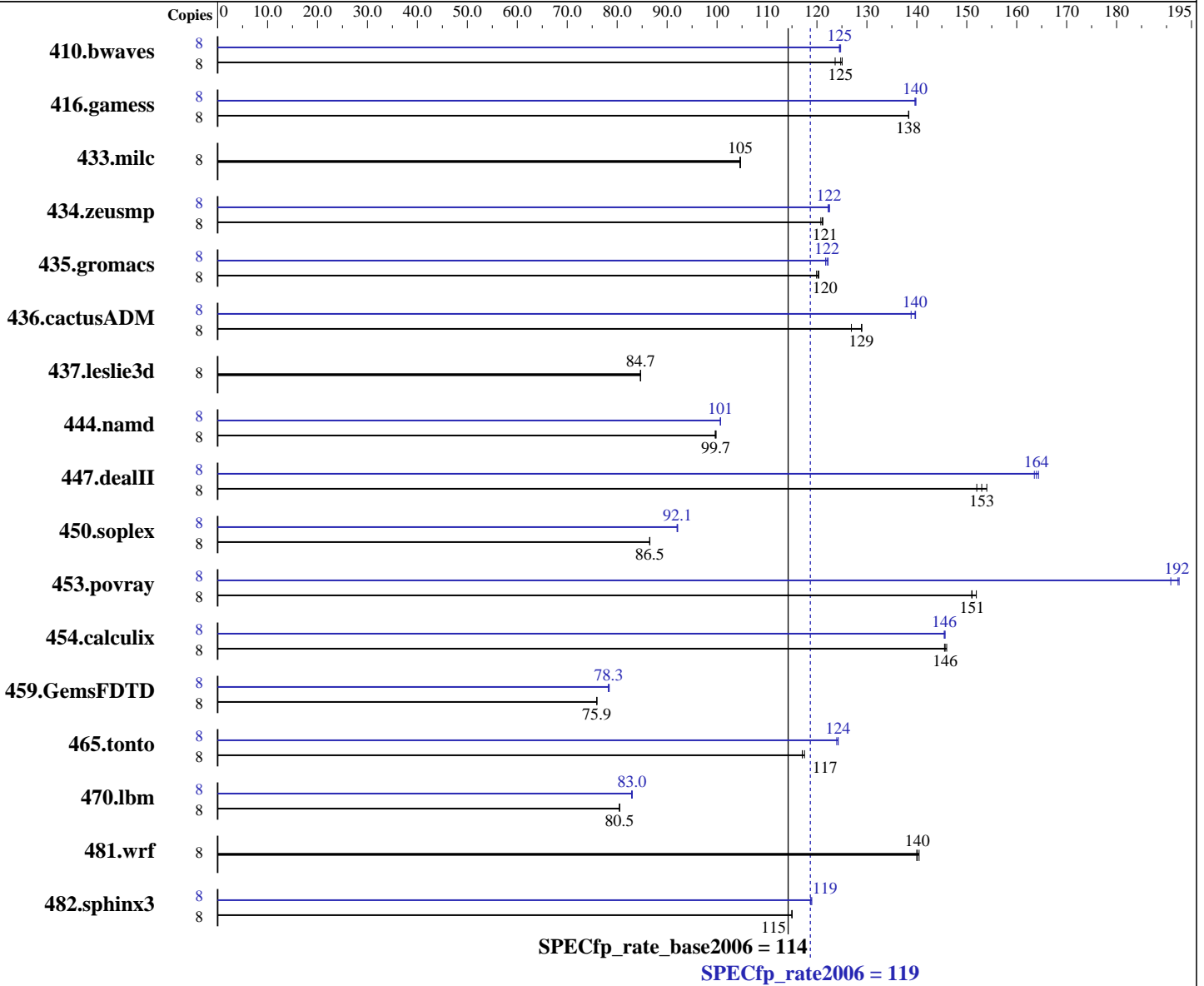$SPECfp\_rate\_base2006 = \quad 114$

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

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

Copies		
410.bwaves	8	125
	8	125
416.gamess	8	140
	8	138
433.milc	8	105
434.zeusmp	8	122
	8	121
435.gromacs	8	122
	8	120
436.cactusADM	8	140
	8	129
437.leslie3d	8	84.7
444.namd	8	101
	8	99.7
447.dealII	8	164
	8	153
450.soplex	8	92.1
	8	86.5
453.povray	8	192
	8	151
454.calculix	8	146
	8	146
459.GemsFDTD	8	78.3
	8	75.9
465.tonto	8	124
	8	117
470.lbm	8	83.0
	8	80.5
481.wrf	8	140
482.sphinx3	8	119
	8	115

SPECfp_rate_base2006 = 114

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Hardware
CPU Name: Intel Xeon E5506
CPU Characteristics:
CPU MHz: 2133
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

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: 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
Other Cache:	None
Memory:	72 GB (18x4 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	879	124	869	125	**871**	**125**	8	872	125	**873**	**125**	873	124
416.gamess	8	**1132**	**138**	1132	138	1132	138	8	**1122**	**140**	1120	140	1122	140
433.milc	8	701	105	**702**	**105**	702	105	8	701	105	**702**	**105**	702	105
434.zeusmp	8	**601**	**121**	601	121	603	121	8	**595**	**122**	594	123	595	122
435.gromacs	8	**475**	**120**	474	120	476	120	8	469	122	467	122	**468**	**122**
436.cactusADM	8	741	129	**742**	**129**	753	127	8	688	139	**685**	**140**	684	140
437.leslie3d	8	888	84.7	888	84.7	**888**	**84.7**	8	888	84.7	888	84.7	**888**	**84.7**
444.namd	8	644	99.6	**643**	**99.7**	643	99.8	8	637	101	637	101	**637**	**101**
447.dealII	8	594	154	602	152	**598**	**153**	8	**558**	**164**	560	164	557	164
450.soplex	8	771	86.6	771	86.5	**771**	**86.5**	8	725	92.0	**725**	**92.1**	724	92.1
453.povray	8	**282**	**151**	282	151	280	152	8	**221**	**192**	223	191	221	193
454.calculix	8	**453**	**146**	453	146	452	146	8	453	146	454	145	**454**	**146**
459.GemsFDTD	8	**1118**	**75.9**	1118	75.9	1118	75.9	8	1082	78.4	**1084**	**78.3**	1085	78.2
465.tonto	8	672	117	670	118	**672**	**117**	8	634	124	635	124	**634**	**124**
470.lbm	8	**1366**	**80.5**	1366	80.5	1366	80.5	8	1324	83.0	**1325**	**83.0**	1326	82.9
481.wrf	8	636	140	**638**	**140**	638	140	8	636	140	**638**	**140**	638	140
482.sphinx3	8	1356	115	1355	115	**1356**	**115**	8	**1312**	**119**	1311	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

General Notes

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

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

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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`

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

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

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

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

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:

        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`

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Peak Optimization Flags (Continued)

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:

    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

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Peak Optimization Flags (Continued)

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.

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