SPEC® CFP2006 Result
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Fujitsu

PRIMERGY TX150 S7, Intel Xeon L3406, 2.26 GHz

$SPECfp^®\_rate2006 =$ 41.2

$SPECfp\_rate\_base2006 =$ 39.8

CPU2006 license: 19	**Test date:** Jan-2010
Test sponsor: Fujitsu	**Hardware Availability:** Mar-2010
Tested by: Fujitsu	**Software Availability:** Nov-2009

Copies
410.bwaves: 2 — 45.8; 4 — 42.8
416.gamess: 4 — 37.1
433.milc: 4 — 53.3; 4 — 53.3
434.zeusmp: 4 — 40.7
435.gromacs: 4 — 34.9; 4 — 34.3
436.cactusADM: 4 — 42.0
437.leslie3d: 2 — 31.6; 4 — 29.7
444.namd: 4 — 34.1; 4 — 33.5
447.dealII: 4 — 57.6
450.soplex: 4 — 32.6
453.povray: 4 — 60.0; 4 — 48.5
454.calculix: 4 — 44.4
459.GemsFDTD: 4 — 28.1
465.tonto: 4 — 45.4; 4 — 42.8
470.lbm: 2 — 33.1; 4 — 30.4
481.wrf: 4 — 55.5
482.sphinx3: 4 — 41.9; 4 — 38.8

SPECfp_rate_base2006 = 39.8

SPECfp_rate2006 = 41.2

Hardware
CPU Name:	Intel Xeon L3406
CPU Characteristics:	Intel Turbo Boost Technology up to 2.53 GHz
CPU MHz:	2267
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
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 11 (x86_64), Kernel 2.6.27.19-5-smp
Compiler:	Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091012 Package ID: l_cproc_p_11.1.059, l_cprof_p_11.1.059
Auto Parallel:	No
File System:	ext3
System State:	Multi-User Run Level 3

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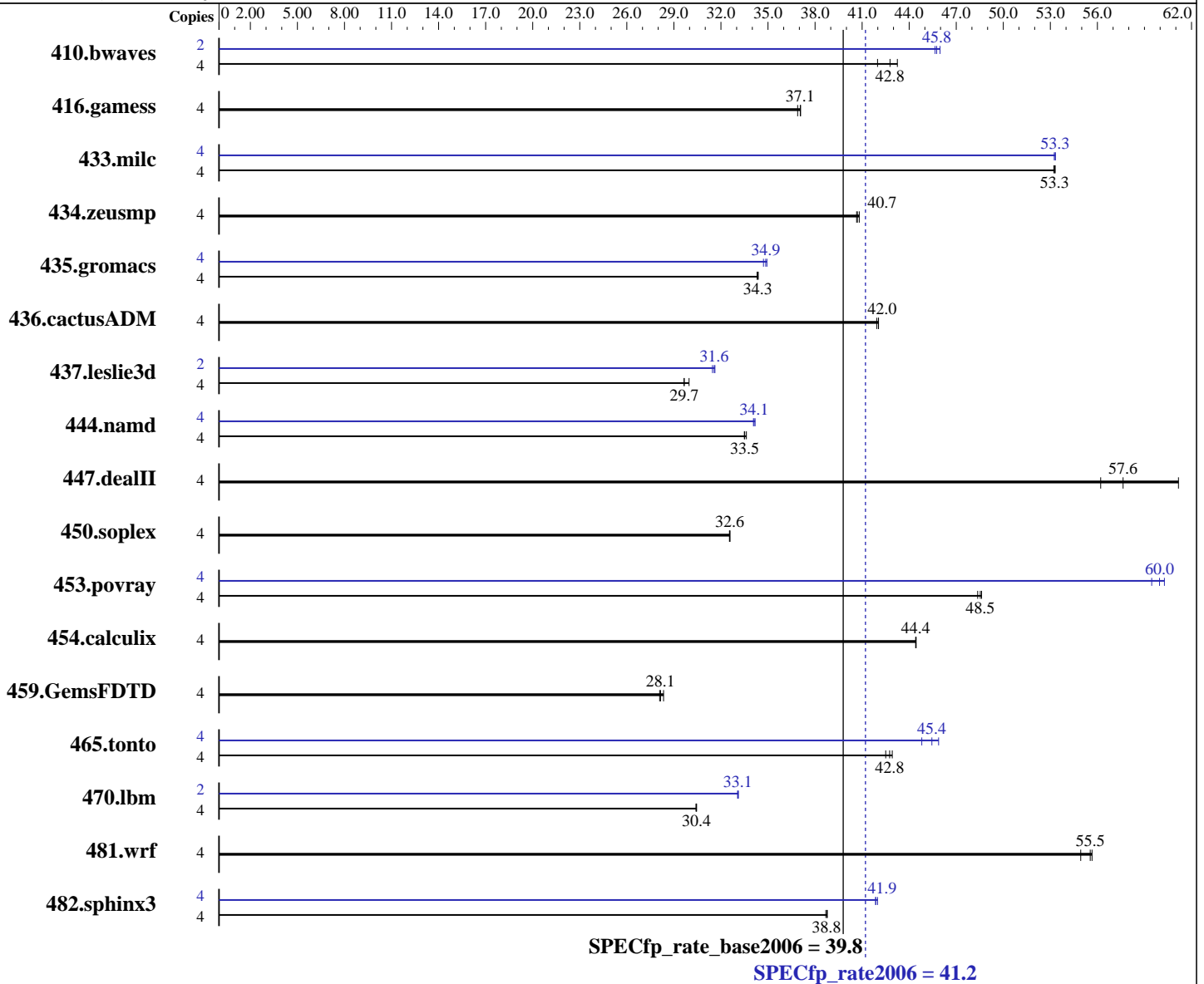$SPECfp\_rate\_base2006 =$ 39.8

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L3 Cache:	4 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2x4 GB PC3-10600E, 2 rank, CL9-9-9, ECC)
Disk Subsystem:	1 x SATA, 250 GB, 7200 RPM
Other Hardware:	None

Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	Binutils 2.18.50.0.7.20080502

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1295	42.0	1257	43.2	**1271**	**42.8**	2	595	45.7	591	46.0	**594**	**45.8**
416.gamess	4	2123	36.9	**2114**	**37.1**	2112	37.1	4	2123	36.9	**2114**	**37.1**	2112	37.1
433.milc	4	**689**	**53.3**	689	53.3	690	53.2	4	**689**	**53.3**	689	53.3	690	53.2
434.zeusmp	4	**894**	**40.7**	895	40.7	892	40.8	4	**894**	**40.7**	895	40.7	892	40.8
435.gromacs	4	831	34.4	**832**	**34.3**	833	34.3	4	823	34.7	**819**	**34.9**	818	34.9
436.cactusADM	4	1137	42.0	**1137**	**42.0**	1140	41.9	4	1137	42.0	**1137**	**42.0**	1140	41.9
437.leslie3d	4	1255	30.0	1268	29.6	**1268**	**29.7**	2	**596**	**31.6**	598	31.5	595	31.6
444.namd	4	954	33.6	**957**	**33.5**	958	33.5	4	939	34.2	**940**	**34.1**	942	34.1
447.dealII	4	814	56.2	**794**	**57.6**	748	61.2	4	814	56.2	**794**	**57.6**	748	61.2
450.soplex	4	1025	32.5	1024	32.6	**1024**	**32.6**	4	1025	32.5	1024	32.6	**1024**	**32.6**
453.povray	4	440	48.4	438	48.6	**438**	**48.5**	4	**355**	**60.0**	358	59.5	353	60.3
454.calculix	4	742	44.4	**743**	**44.4**	743	44.4	4	742	44.4	**743**	**44.4**	743	44.4
459.GemsFDTD	4	1497	28.3	1511	28.1	**1508**	**28.1**	4	1497	28.3	1511	28.1	**1508**	**28.1**
465.tonto	4	917	42.9	926	42.5	**921**	**42.8**	4	858	45.9	878	44.8	**866**	**45.4**
470.lbm	4	1808	30.4	**1806**	**30.4**	1805	30.4	2	830	33.1	831	33.1	**831**	**33.1**
481.wrf	4	803	55.7	813	54.9	**804**	**55.5**	4	803	55.7	813	54.9	**804**	**55.5**
482.sphinx3	4	2015	38.7	**2012**	**38.8**	2010	38.8	4	1857	42.0	1862	41.9	**1862**	**41.9**

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

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

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Test date: Jan-2010
Hardware Availability: Mar-2010
Software Availability: Nov-2009

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
```

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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Tested by: Fujitsu		**Software Availability:**	Nov-2009

Peak Compiler Invocation

C benchmarks (except as noted below):
      `icc    -m64`

      482.sphinx3: `icc -m32`

C++ benchmarks:
      `icpc   -m64`

Fortran benchmarks:
      `ifort -m64`

Benchmarks using both Fortran and C:
      `icc    -m64 ifort -m64`

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`
        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`

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)`
                `-fno-alias -opt-prefetch`

         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)`
                `-opt-malloc-options=3 -ansi-alias -auto-ilp32`

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Peak Optimization Flags (Continued)

        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: `basepeak = yes`

        450.soplex: `basepeak = yes`

        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: `basepeak = yes`

        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: `basepeak = yes`

        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 -inline-calloc -opt-malloc-options=3`

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: `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-ic11.1-fp-linux64-revF.20100202.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-ic11.1-fp-linux64-revF.20100202.xml

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

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