SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 =   46.7

PRIMERGY TX300 S4, Intel Xeon L5310, 1.60 GHz

SPECfp_rate_base2006 =   43.1
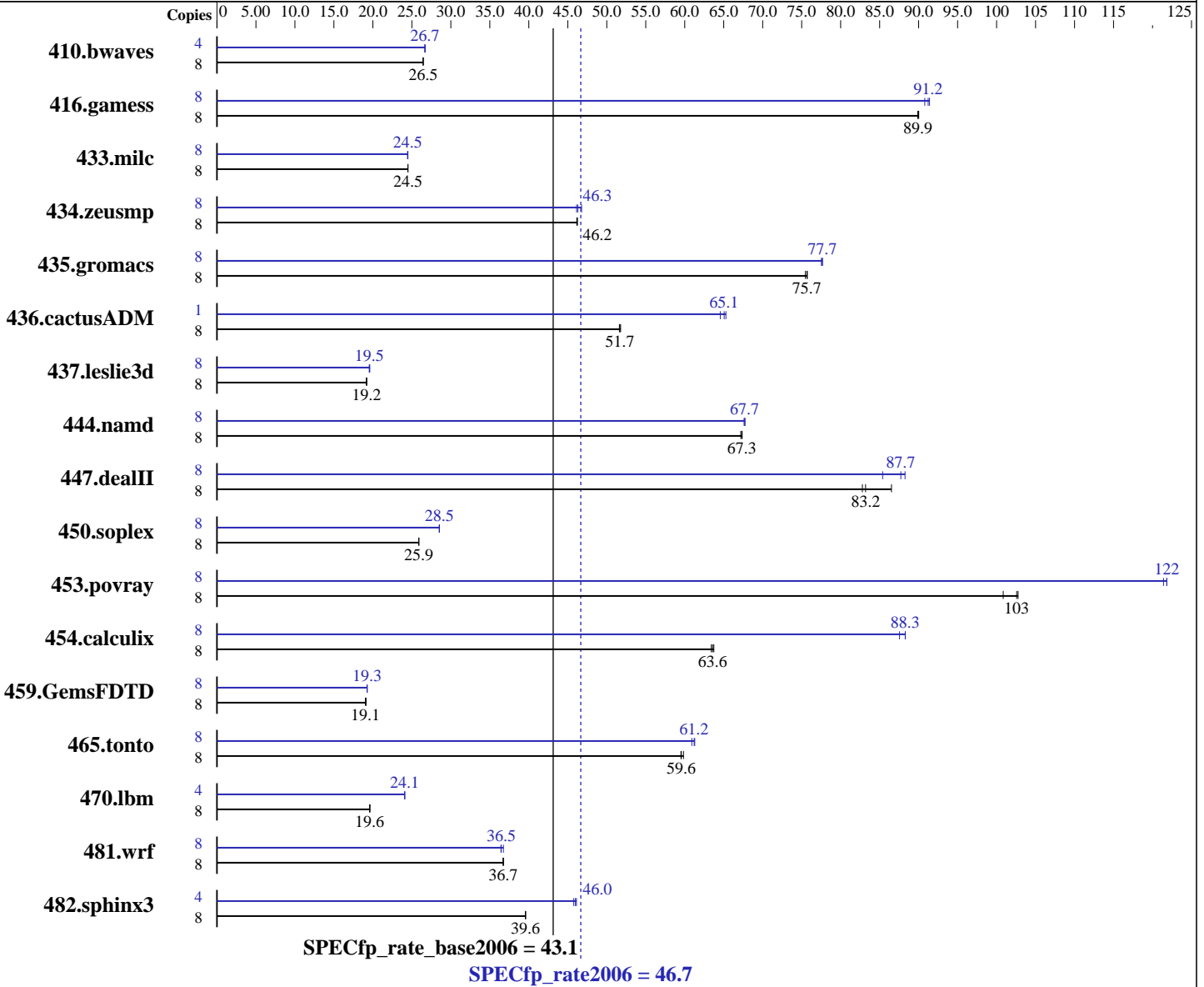
CPU2006 license: 22

Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Feb-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007

Benchmark	Copies	Result
410.bwaves	4	26.7
	8	26.5
416.gamess	8	91.2
	8	89.9
433.milc	8	24.5
	8	24.5
434.zeusmp	8	46.3
	8	46.2
435.gromacs	8	77.7
	8	75.7
436.cactusADM	1	65.1
	8	51.7
437.leslie3d	8	19.5
	8	19.2
444.namd	8	67.7
	8	67.3
447.dealII	8	87.7
	8	83.2
450.soplex	8	28.5
	8	25.9
453.povray	8	122
	8	103
454.calculix	8	88.3
	8	63.6
459.GemsFDTD	8	19.3
	8	19.1
465.tonto	8	61.2
	8	59.6
470.lbm	4	24.1
	8	19.6
481.wrf	8	36.5
	8	36.7
482.sphinx3	4	46.0
	8	39.6

SPECfp_rate_base2006 = 43.1

SPECfp_rate2006 = 46.7

Hardware

CPU Name: Intel Xeon L5310

CPU Characteristics: 1067 MHz system bus

CPU MHz: 1600

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: 8 MB I+D on chip per chip, 4 MB shared / 2 cores

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp

Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 Version 10.1 - Build 20070725

Auto Parallel: Yes

File System: ext2

System State: Multiuser, Runlevel 3

Base Pointers: 64-bit

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L3 Cache:	None	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	None
Memory:	16 GB (8x2 GB PC2-5300F, 2 rank, CAS 5-5-5, with ECC)		
Disk Subsystem:	Seagate ST973451SS (SAS, 73GB, 15000rpm)		
Other Hardware:	None		

Results Table

	Base						Peak						
Benchmark	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	4112	26.4	4109	26.5	**4110**	**26.5**	4	2037	26.7	2037	26.7	**2037**	**26.7**
416.gamess	8	1742	89.9	1740	90.0	**1742**	**89.9**	8	1714	91.4	1725	90.8	**1717**	**91.2**
433.milc	8	2997	24.5	2999	24.5	**2998**	**24.5**	8	2998	24.5	**3002**	**24.5**	3003	24.5
434.zeusmp	8	1575	46.2	1577	46.2	**1576**	**46.2**	8	**1573**	**46.3**	1578	46.1	1556	46.8
435.gromacs	8	**755**	**75.7**	754	75.7	757	75.5	8	735	77.7	**736**	**77.7**	737	77.5
436.cactusADM	8	1852	51.6	**1850**	**51.7**	1846	51.8	1	185	64.6	**184**	**65.1**	183	65.3
437.leslie3d	8	3915	19.2	**3920**	**19.2**	3922	19.2	8	**3847**	**19.5**	3847	19.5	3835	19.6
444.namd	8	952	67.4	955	67.2	**953**	**67.3**	8	**948**	**67.7**	949	67.6	947	67.7
447.dealII	8	1058	86.5	1106	82.8	**1100**	**83.2**	8	1072	85.4	1037	88.3	**1043**	**87.7**
450.soplex	8	2575	25.9	2578	25.9	**2578**	**25.9**	8	2338	28.5	2339	28.5	**2339**	**28.5**
453.povray	8	422	101	**415**	**103**	414	103	8	349	122	351	121	**349**	**122**
454.calculix	8	1041	63.4	**1038**	**63.6**	1036	63.7	8	747	88.3	754	87.6	**748**	**88.3**
459.GemsFDTD	8	4440	19.1	4454	19.1	**4452**	**19.1**	8	4407	19.3	**4406**	**19.3**	4406	19.3
465.tonto	8	**1322**	**59.6**	1316	59.8	1323	59.5	8	1292	60.9	1285	61.3	**1286**	**61.2**
470.lbm	8	5607	19.6	**5607**	**19.6**	5606	19.6	4	**2282**	**24.1**	2282	24.1	2282	24.1
481.wrf	8	**2433**	**36.7**	2434	36.7	2433	36.7	8	2453	36.4	**2451**	**36.5**	2432	36.7
482.sphinx3	8	3938	39.6	3941	39.6	**3940**	**39.6**	4	**1696**	**46.0**	1703	45.8	1691	46.1

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
'OMP_NUM_THREADS' set to number of cores (default)

General Notes

This result has been produced with binaries provided and compiled by Intel.

All binaries were built with 64-bit Intel compiler except:
437.leslie3d, 450.soplex, 470.lbm and 482.sphinx3 in peak were built with
32-bit Intel compiler by changing the path for include and library files.

BIOS configuration:

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General Notes (Continued)

```
Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable

For information about Fujitsu Siemens Computers please see:
http://www.fujitsu-siemens.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:
    -fast

C++ benchmarks:
    -fast

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Base Optimization Flags (Continued)

Fortran benchmarks:
```
-fast
```

Benchmarks using both Fortran and C:
```
-fast
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

   433.milc: `icc`

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

  450.soplex: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc`
           `-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
           `-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

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

  437.leslie3d: `/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort`
           `-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib`
           `-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include`

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`

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Peak Portability Flags (Continued)

```
465.tonto: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
          -auto-ilp32

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
         -scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2
```

C++ benchmarks:

```
444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
          -auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
            -ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast
            -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4
            -ansi-alias
```

Fortran benchmarks:

```
410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
            -ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch
              -opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0
              -prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto
```

Benchmarks using both Fortran and C:

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Peak Optimization Flags (Continued)

435.gromacs: `-prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch -auto-ilp32`

436.cactusADM: `-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -prefetch -parallel -auto-ilp32`

454.calculix: `-fast -unroll-aggressive -auto-ilp32`

481.wrf: `-fast -auto-ilp32`

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090713.02.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090713.02.xml

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

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