SPEC® CFP2006 Result
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Fujitsu Siemens Computers

PRIMERGY RX200 S4, Intel Xeon L5240, 3.0 GHz

$SPECfp®\_rate2006 =$ 54.1

$SPECfp\_rate\_base2006 =$ 48.1

Benchmark	Copies	Result
410.bwaves	4 / 4	37.2 / 36.0
416.gamess	4 / 4	89.4 / 88.0
433.milc	4 / 4	23.6 / 23.6
434.zeusmp	4 / 4	53.5 / 53.1
435.gromacs	4 / 4	77.1 / 76.3
436.cactusADM	1 / 4	64.2 / 52.9
437.leslie3d	4 / 4	28.5 / 27.2
444.namd	4 / 4	63.5 / 63.2
447.dealII	4 / 4	94.1 / 87.9
450.soplex	4 / 4	34.4 / 31.1
453.povray	4 / 4	118 / 98.6
454.calculix	4 / 4	90.0 / 62.7
459.GemsFDTD	4 / 4	26.7 / 25.4
465.tonto	4 / 4	76.7 / 73.6
470.lbm	2 / 4	40.2 / 18.6
481.wrf	4 / 4	50.8 / 50.8
482.sphinx3	2 / 4	54.3 / 47.4

SPECfp_rate_base2006 = 48.1

SPECfp_rate2006 = 54.1

Hardware

CPU Name: Intel Xeon L5240
CPU Characteristics: 1333 MHz system bus
CPU MHz: 3000
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 6 MB I+D on chip per chip

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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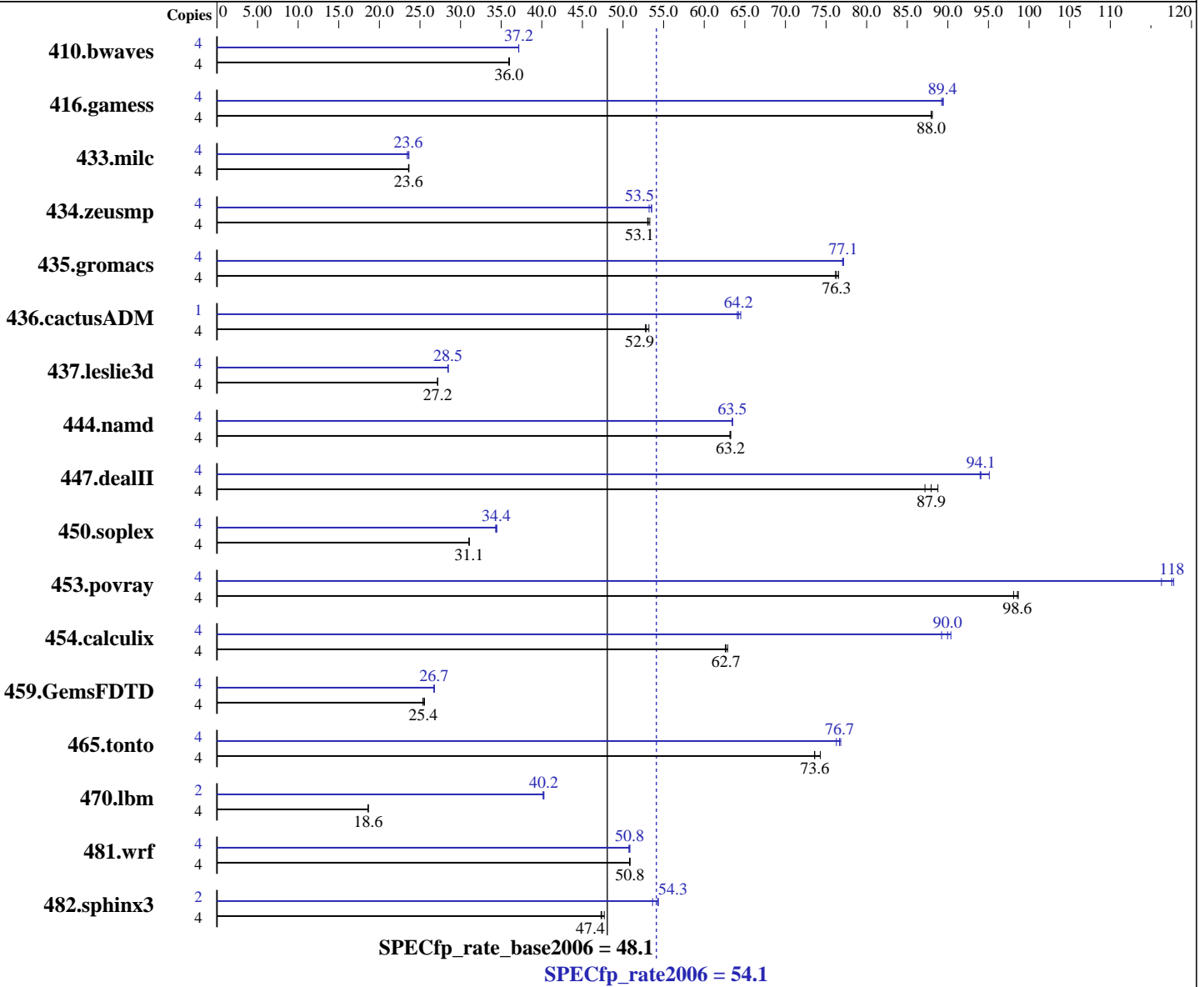**CPU2006 license:** 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Feb-2008
Hardware Availability: May-2008
Software Availability: Nov-2007

L3 Cache:	None
Other Cache:	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

Peak Pointers:	32/64-bit
Other Software:	binutils-2.17.50.0.5-0.1.x86_64

Results Table

Benchmark	Base						Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	**1511**	**36.0**	1512	35.9	1509	36.0	4	**1463**	**37.2**	1463	37.1	1463	37.2
416.gamess	4	889	88.1	**890**	**88.0**	890	88.0	4	**876**	**89.4**	876	89.4	878	89.2
433.milc	4	1553	23.6	**1555**	**23.6**	1557	23.6	4	1567	23.4	1553	23.6	**1558**	**23.6**
434.zeusmp	4	686	53.0	683	53.3	**685**	**53.1**	4	680	53.5	**680**	**53.5**	684	53.2
435.gromacs	4	**374**	**76.3**	373	76.6	375	76.2	4	**370**	**77.1**	370	77.2	371	77.0
436.cactusADM	4	906	52.8	899	53.2	**904**	**52.9**	1	187	64.1	**186**	**64.2**	185	64.5
437.leslie3d	4	1383	27.2	**1383**	**27.2**	1384	27.2	4	1320	28.5	**1321**	**28.5**	1322	28.4
444.namd	4	**507**	**63.2**	507	63.3	508	63.2	4	505	63.5	505	63.5	**505**	**63.5**
447.dealII	4	525	87.2	515	88.8	**520**	**87.9**	4	**486**	**94.1**	481	95.1	487	94.0
450.soplex	4	1074	31.1	1075	31.0	**1074**	**31.1**	4	968	34.5	**970**	**34.4**	972	34.3
453.povray	4	216	98.7	217	98.1	**216**	**98.6**	4	181	118	**181**	**118**	183	116
454.calculix	4	**527**	**62.7**	525	62.9	527	62.6	4	370	89.2	**367**	**90.0**	365	90.4
459.GemsFDTD	4	**1670**	**25.4**	1661	25.6	1672	25.4	4	1585	26.8	1588	26.7	**1588**	**26.7**
465.tonto	4	530	74.3	535	73.6	**535**	**73.6**	4	512	76.8	516	76.3	**513**	**76.7**
470.lbm	4	2951	18.6	**2951**	**18.6**	2951	18.6	2	**683**	**40.2**	683	40.3	684	40.2
481.wrf	4	878	50.9	**879**	**50.8**	880	50.8	4	879	50.8	**879**	**50.8**	881	50.7
482.sphinx3	4	1635	47.7	**1646**	**47.4**	1648	47.3	2	727	53.6	717	54.4	**718**	**54.3**

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.

For information about Fujitsu Siemens Computers please see:

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General Notes (Continued)

    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

Fortran benchmarks:
    -fast

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Base Optimization Flags (Continued)

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

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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:

    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`

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Peak Optimization Flags (Continued)

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`

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