SPEC® CFP2006 Result
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Fujitsu Siemens Computers

PRIMERGY RX300 S4, Intel Xeon X5260, 3.33 GHz

$SPECfp^®\_rate2006 =$ 32.2

$SPECfp\_rate\_base2006 =$ 28.8

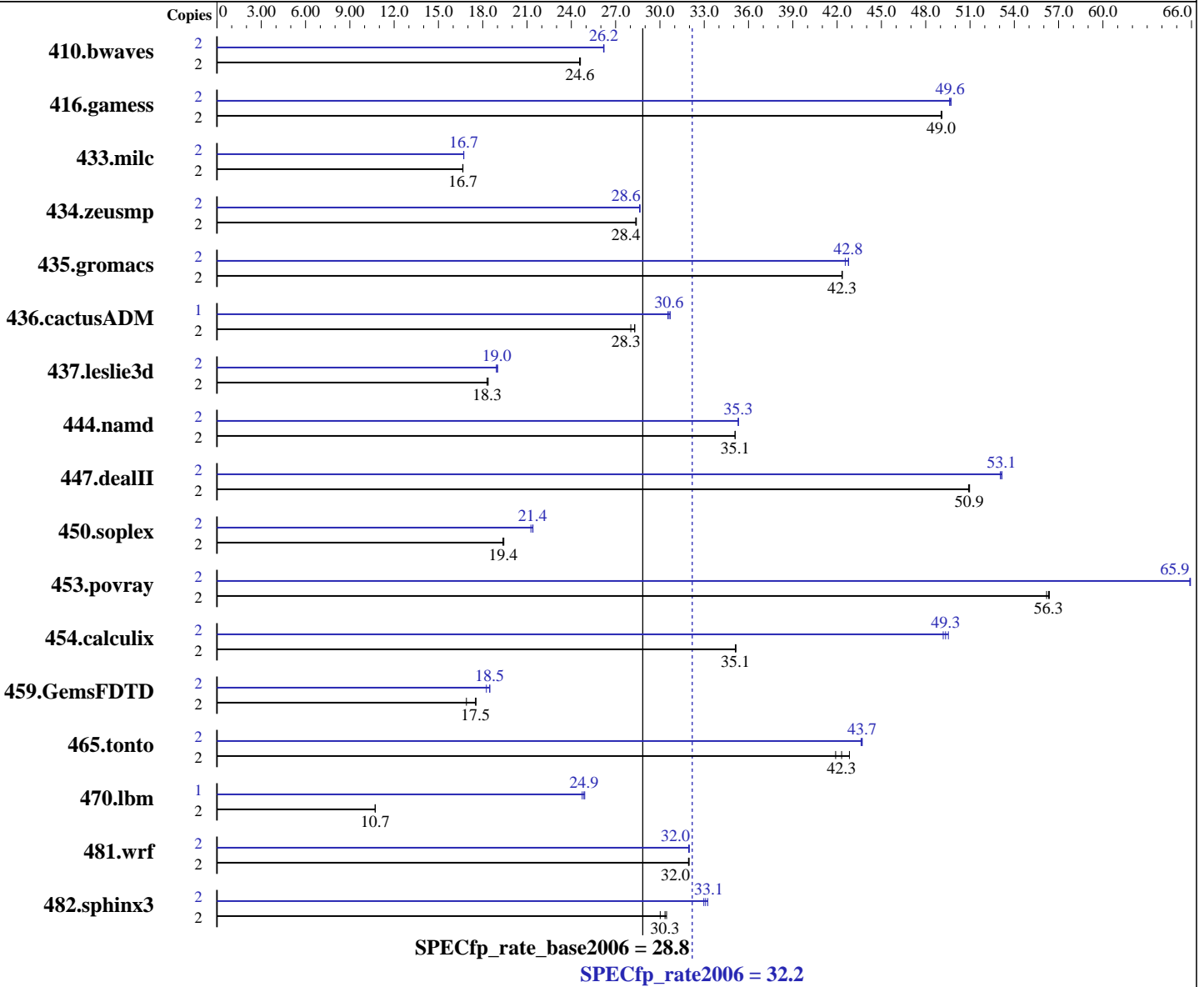**CPU2006 license:** 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

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

Benchmark	Copies	Result
410.bwaves	2	26.2
	2	24.6
416.gamess	2	49.6
	2	49.0
433.milc	2	16.7
	2	16.7
434.zeusmp	2	28.6
	2	28.4
435.gromacs	2	42.8
	2	42.3
436.cactusADM	1	30.6
	2	28.3
437.leslie3d	2	19.0
	2	18.3
444.namd	2	35.3
	2	35.1
447.dealII	2	53.1
	2	50.9
450.soplex	2	21.4
	2	19.4
453.povray	2	65.9
	2	56.3
454.calculix	2	49.3
	2	35.1
459.GemsFDTD	2	18.5
	2	17.5
465.tonto	2	43.7
	2	42.3
470.lbm	1	24.9
	2	10.7
481.wrf	2	32.0
	2	32.0
482.sphinx3	2	33.1
	2	30.3

SPECfp_rate_base2006 = 28.8
SPECfp_rate2006 = 32.2

Hardware

CPU Name: Intel Xeon X5260
CPU Characteristics: 1333 MHz system bus
CPU MHz: 3333
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 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

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: Multi-User Run Level 3
Base Pointers: 64-bit

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L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8x2 GB PC2-5300F, 2 rank, CL 5-5-5, ECC)
Disk Subsystem:	1x SAS, 73 GB, 15000 rpm
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	2	1107	24.6	**1106**	**24.6**	1104	24.6	2	1037	26.2	**1038**	**26.2**	1038	26.2
416.gamess	2	798	49.0	**798**	**49.0**	798	49.1	2	789	49.6	788	49.7	**789**	**49.6**
433.milc	2	1103	16.6	**1102**	**16.7**	1102	16.7	2	1099	16.7	1098	16.7	**1098**	**16.7**
434.zeusmp	2	**641**	**28.4**	641	28.4	642	28.4	2	**636**	**28.6**	636	28.6	635	28.7
435.gromacs	2	**337**	**42.3**	337	42.3	337	42.4	2	334	42.8	**334**	**42.8**	336	42.6
436.cactusADM	2	845	28.3	853	28.0	**845**	**28.3**	1	391	30.5	389	30.7	**390**	**30.6**
437.leslie3d	2	**1027**	**18.3**	1027	18.3	1023	18.4	2	989	19.0	993	18.9	**992**	**19.0**
444.namd	2	**457**	**35.1**	457	35.1	457	35.1	2	454	35.3	454	35.3	**454**	**35.3**
447.dealII	2	450	50.9	449	51.0	**449**	**50.9**	2	**431**	**53.1**	430	53.2	431	53.1
450.soplex	2	**861**	**19.4**	861	19.4	858	19.4	2	779	21.4	**780**	**21.4**	784	21.3
453.povray	2	189	56.2	**189**	**56.3**	189	56.4	2	**161**	**65.9**	161	65.9	161	65.9
454.calculix	2	469	35.1	470	35.1	**470**	**35.1**	2	333	49.5	**334**	**49.3**	335	49.2
459.GemsFDTD	2	1256	16.9	1209	17.5	**1212**	**17.5**	2	**1149**	**18.5**	1148	18.5	1163	18.2
465.tonto	2	459	42.8	470	41.9	**465**	**42.3**	2	**450**	**43.7**	451	43.6	450	43.7
470.lbm	2	2561	10.7	2565	10.7	**2564**	**10.7**	1	552	24.9	555	24.7	**553**	**24.9**
481.wrf	2	**699**	**32.0**	699	32.0	700	31.9	2	**699**	**32.0**	699	31.9	698	32.0
482.sphinx3	2	1280	30.5	1298	30.0	**1285**	**30.3**	2	1182	33.0	**1178**	**33.1**	1173	33.2

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)

Platform Notes

Hardware Prefetch = Enable, Adjacent Sector Prefetch = Disable

General Notes

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.

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General Notes (Continued)

```
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):
```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

  433.milc: `icc`

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

  450.soplex: `/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib`
           `-I/opt/intel/cc/10.1.008/include`

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

  437.leslie3d: `/opt/intel/fc/10.1.008/bin/ifort -L/opt/intel/fc/10.1.008/lib`
             `-I/opt/intel/fc/10.1.008/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/flags-ic101-linux-intel64.20090713.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.20090713.xml`

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