



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 = 45.3

CELSIUS V840, AMD Opteron 2218

SPECfp_rate_base2006 = 44.1

CPU2006 license: 22

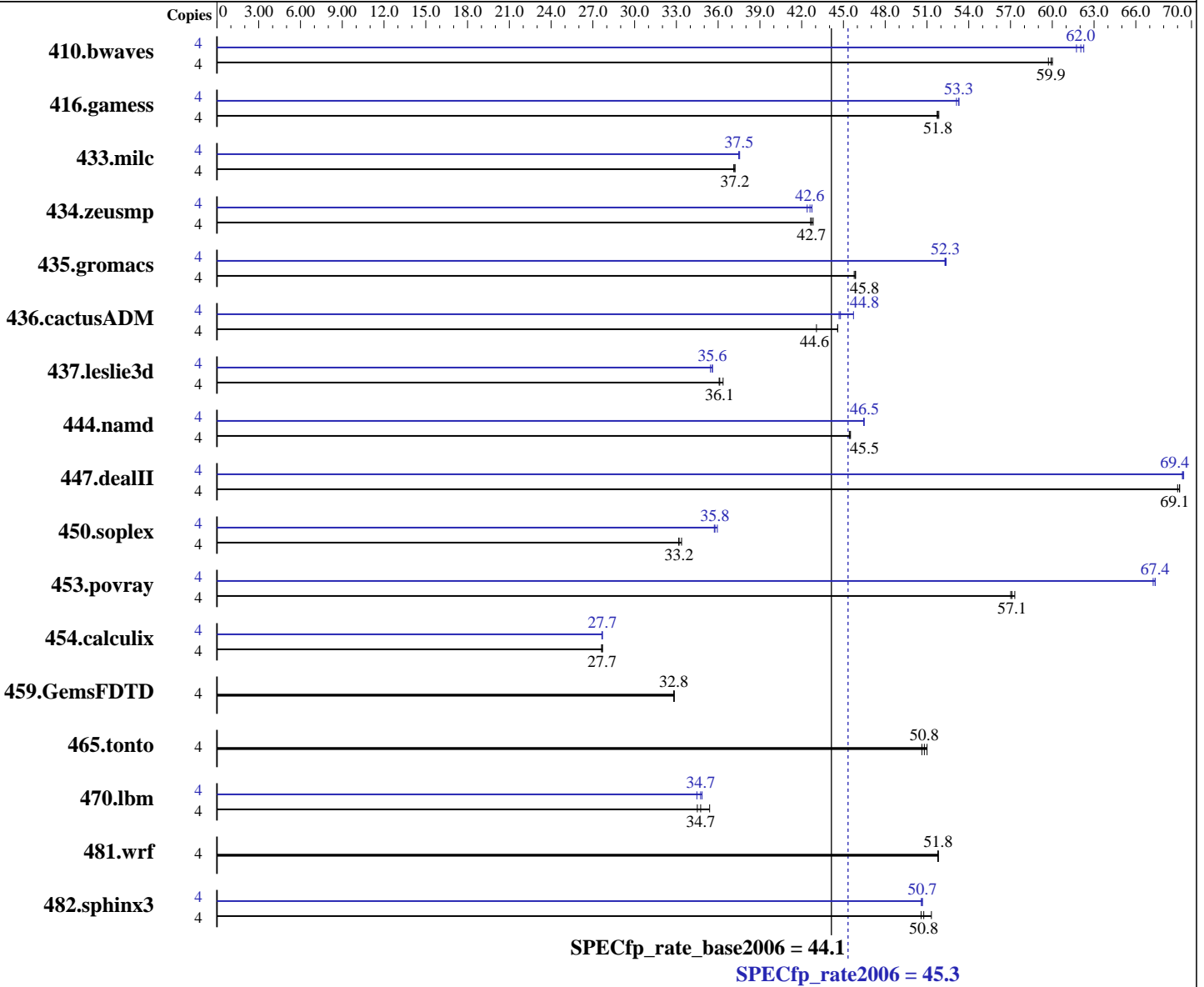
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jan-2007

Hardware Availability: Nov-2006

Software Availability: Aug-2006



Hardware

CPU Name: AMD Opteron 2218
 CPU Characteristics: Dual Core, 2.6 GHz, 2 MB L2-cache
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core

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Software

Operating System: SLES 10 for AMD64/EM64T
 Compiler: QLogic Pathscale Compiler Suite 2.5
 Auto Parallel: No
 File System: ext3
 System State: Multi-User SuSE Run Level 3
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other Software: --



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Hardware (Continued)

L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8x2GB DDR2-667 CL5 dual rank ECC DIMMs registered)
 Disk Subsystem: SATA II, 80 GB
 Other Hardware: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	907	59.9	906	60.0	910	59.7	4	876	62.0	873	62.3	880	61.7
416.gamess	4	1514	51.7	1512	51.8	1510	51.9	4	1474	53.1	1470	53.3	1470	53.3
433.milc	4	989	37.1	987	37.2	987	37.2	4	978	37.5	980	37.5	979	37.5
434.zeusmp	4	850	42.8	852	42.7	854	42.6	4	855	42.6	859	42.4	852	42.7
435.gromacs	4	623	45.8	623	45.9	624	45.8	4	546	52.3	546	52.3	545	52.4
436.cactusADM	4	1072	44.6	1110	43.1	1072	44.6	4	1070	44.7	1067	44.8	1045	45.7
437.leslie3d	4	1041	36.1	1034	36.4	1042	36.1	4	1057	35.6	1056	35.6	1061	35.4
444.namd	4	706	45.5	705	45.5	706	45.4	4	690	46.5	690	46.5	690	46.5
447.dealII	4	663	69.0	662	69.1	662	69.1	4	660	69.3	660	69.4	659	69.4
450.soplex	4	1000	33.4	1005	33.2	1006	33.2	4	928	35.9	934	35.7	933	35.8
453.povray	4	373	57.1	371	57.3	373	57.0	4	316	67.4	316	67.4	316	67.2
454.calculix	4	1192	27.7	1195	27.6	1192	27.7	4	1192	27.7	1192	27.7	1193	27.7
459.GemsFDTD	4	1292	32.8	1293	32.8	1293	32.8	4	1292	32.8	1293	32.8	1293	32.8
465.tonto	4	772	51.0	775	50.8	777	50.6	4	772	51.0	775	50.8	777	50.6
470.lbm	4	1553	35.4	1582	34.7	1593	34.5	4	1577	34.8	1582	34.7	1594	34.5
481.wrf	4	862	51.8	863	51.8	863	51.8	4	862	51.8	863	51.8	863	51.8
482.sphinx3	4	1519	51.3	1541	50.6	1536	50.8	4	1539	50.7	1539	50.7	1541	50.6

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

powersave -f is applied to set CPU to maximum frequency prior to run
 stacksize is set to unlimited prior to run
 taskset utility used to bind CPU(s) to processes
 numactl utility used to assign to each chip its local memory

General Notes

Binaries are generated on an Opteron-based system running Suse 9.3.

BIOS default settings with

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General Notes (Continued)

Node memory interleave disabled, SRAT enabled

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<http://www.fujitsu-siemens.com/countries>

Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

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
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.deall: -DSPEC_CPU_LP64 -DSPEC_CPU_TABLE_WORKAROUND
450.soplex: -DSPEC_CPU_LP64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX -fno-second-underscore
482.sphinx3: -DSPEC_CPU_LP64

```

Base Optimization Flags

C benchmarks:
-Ofast

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Base Optimization Flags (Continued)

C++ benchmarks:

-Ofast

Fortran benchmarks:

-Ofast

Benchmarks using both Fortran and C:

-Ofast

Peak Optimization Flags

C benchmarks:

433.milc: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

470.lbm: Same as 433.milc

482.sphinx3: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-LNO:sclrze=off -LNO:prefetch=1

C++ benchmarks:

444.namd: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

447.deallI: -Ofast -fno-exceptions

450.soplex: -O3 -OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1
-LNO:minvariant=off -fno-exceptions

453.povray: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast
-fno-fast-math

Fortran benchmarks:

410.bwaves: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:Ofast -OPT:IEEE_arith=3 -LNO:blocking=off
-LNO:ignore_feedback=off

416.gamess: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

434.zeusmp: -O3 -CG:load_exe=0

437.leslie3d: -O3 -OPT:Ofast

459.GemsFDTD: basepeak = yes

465.tonto: basepeak = yes

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -O3 -OPT:rsqrt=2 -OPT:ro=3

436.cactusADM: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-LNO:prefetch_ahead=5 -LNO:ou_prod_max=10 -LNO:full_unroll=5
-ipa

454.calculix: -Ofast

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.13.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.13.xml

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For other inquiries, please contact webmaster@spec.org.

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