



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 = 51.5

PRIMERGY RX330 S1, AMD Opteron 2222, 3.0 GHz

SPECfp_rate_base2006 = 48.6

CPU2006 license: 22

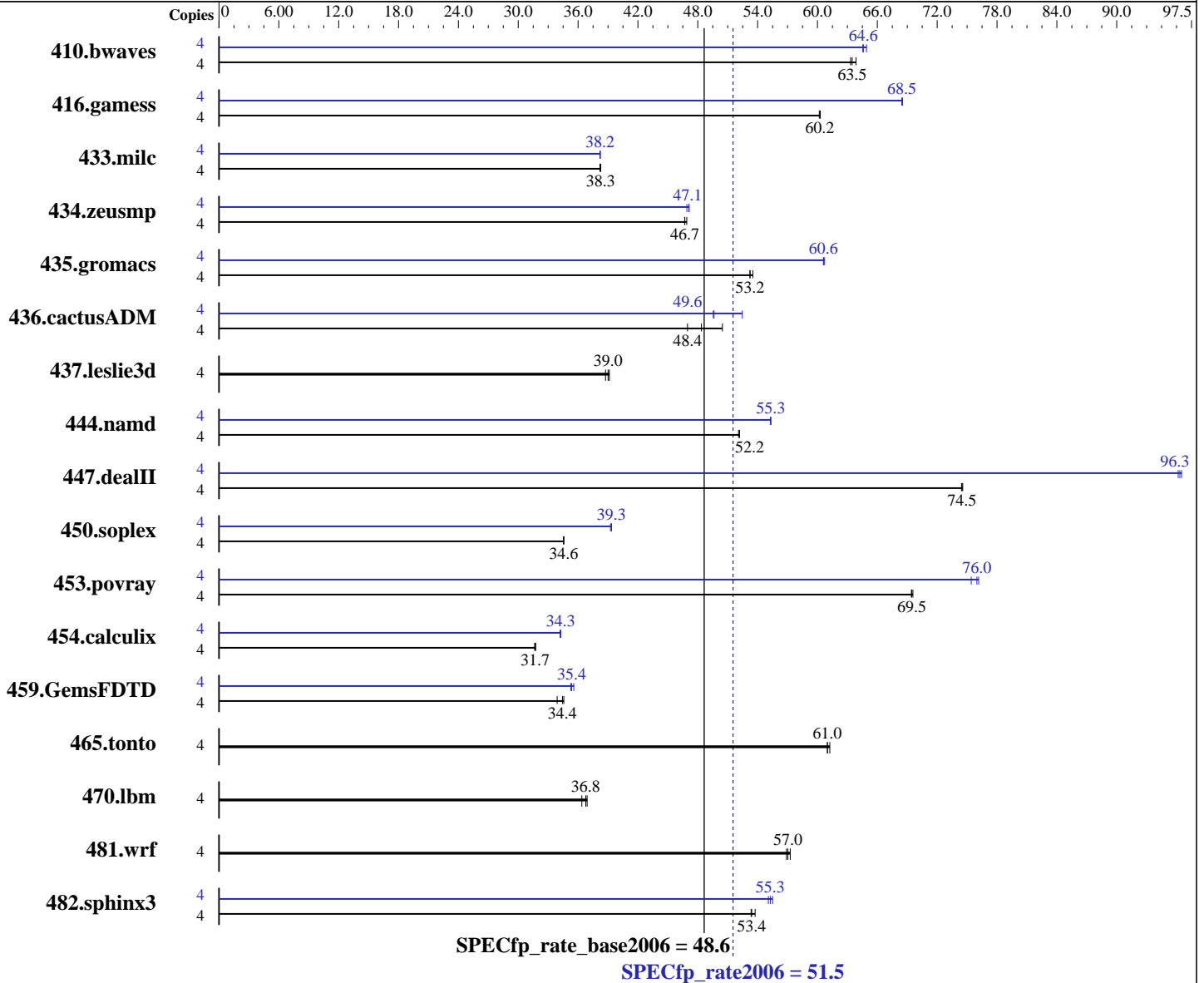
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jun-2007

Hardware Availability: Aug-2007

Software Availability: Mar-2007



Hardware

CPU Name: AMD Opteron 2222
 CPU Characteristics: 2222
 CPU MHz: 3000
 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, - Release 3.0
 Auto Parallel: No
 File System: ReiserFS
 System State: Multi-user run level 3
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit

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L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8x2 GB DDR2 PC2-5300P, 2 rank, CAS 5-5-5, with ECC)
 Disk Subsystem: Seagate ST336754SS (SAS, 36GB, 15000rpm)
 Other Hardware: None

Other Software: None

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
410.bwaves	4	851	63.9	856	63.5	858	63.3	4	842	64.5	837	64.9	841	64.6		
416.gamess	4	1300	60.2	1301	60.2	1299	60.3	4	1143	68.5	1144	68.5	1144	68.5		
433.milc	4	962	38.2	960	38.3	960	38.3	4	961	38.2	961	38.2	960	38.2		
434.zeusmp	4	779	46.7	780	46.7	776	46.9	4	776	46.9	773	47.1	772	47.1		
435.gromacs	4	537	53.2	536	53.2	534	53.5	4	470	60.7	471	60.6	471	60.6		
436.cactusADM	4	988	48.4	947	50.5	1018	47.0	4	911	52.5	963	49.6	965	49.6		
437.leslie3d	4	961	39.1	964	39.0	970	38.8	4	961	39.1	964	39.0	970	38.8		
444.namd	4	615	52.2	616	52.1	615	52.2	4	580	55.3	580	55.3	580	55.3		
447.dealII	4	614	74.6	615	74.4	614	74.5	4	474	96.5	476	96.2	475	96.3		
450.soplex	4	965	34.6	965	34.6	966	34.5	4	848	39.4	850	39.3	848	39.3		
453.povray	4	306	69.5	307	69.4	306	69.6	4	279	76.2	282	75.4	280	76.0		
454.calculix	4	1041	31.7	1043	31.6	1039	31.7	4	965	34.2	963	34.3	963	34.3		
459.GemsFDTD	4	1233	34.4	1252	33.9	1228	34.6	4	1193	35.6	1203	35.3	1200	35.4		
465.tonto	4	643	61.2	645	61.0	645	61.0	4	643	61.2	645	61.0	645	61.0		
470.lbm	4	1511	36.4	1495	36.8	1489	36.9	4	1511	36.4	1495	36.8	1489	36.9		
481.wrf	4	780	57.3	783	57.0	785	56.9	4	780	57.3	783	57.0	785	56.9		
482.sphinx3	4	1450	53.7	1460	53.4	1461	53.3	4	1415	55.1	1410	55.3	1405	55.5		

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
'numactl' and 'taskset' have been used to bind processes to CPUs

General Notes

BIOS settings:
Node Interleave = disabled

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Base Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

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
 436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
 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
 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

C++ benchmarks:
-Ofast

Fortran benchmarks:
-Ofast -OPT:malloc_alg=1

Benchmarks using both Fortran and C:
-Ofast -OPT:malloc_alg=1



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Base Other Flags

C benchmarks:
-IPA:max_jobs=4

C++ benchmarks:
-IPA:max_jobs=4

Fortran benchmarks:
-IPA:max_jobs=4

Benchmarks using both Fortran and C:
-IPA:max_jobs=4

Peak Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

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
436.cactusADM: -DSPEC_CPU_LP64 -fno-second-underscore
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -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



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Peak Optimization Flags

C benchmarks:

433.milc: -Ofast -CG:cflow=off -LNO:prefetch=1 -OPT:malloc_alg=1

470.lbm: basepeak = yes

482.sphinx3: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3
-OPT:Ofast -WOPT:aggstr=0 -m32

C++ benchmarks:

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

447.deallI: -Ofast -static -INLINE:aggressive=on -OPT:malloc_alg=1
-m32 -fno-exceptions

450.soplex: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -m32 -O3
-OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1
-LNO:minvariant=off -LNO:prefetch=1 -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) -O2
-OPT:Ofast -OPT:ro=3 -OPT:unroll_size=256

434.zeusmp: -Ofast -CG:local_fwd_sched=on -LNO:blocking=off
-LNO:interchange=off -LNO:fu=10 -LNO:full_unroll_outer=on

437.leslie3d: basepeak = yes

459.GemsFDTD: -Ofast -LNO:fission=2 -LNO:prefetch=0

465.tonto: basepeak = yes

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=3 -LNO:prefetch_ahead=5 -LNO:ou_prod_max=10
-LNO:full_unroll=5 -ipa

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Peak Optimization Flags (Continued)

454.calculix: -Ofast -LNO:simd=0 -WOPT:mem_opnds=on

481.wrf: basepeak = yes

Peak Other Flags

C benchmarks:

-IPA:max_jobs=4

C++ benchmarks:

-IPA:max_jobs=4

Fortran benchmarks:

-IPA:max_jobs=4

Benchmarks using both Fortran and C:

-IPA:max_jobs=4

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.10.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.10.xml

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