



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 = 20.5

PRIMERGY RX330 S1, AMD Opteron 2212, 2.0 GHz

SPECfp_rate_base2006 = 19.5

CPU2006 license: 22

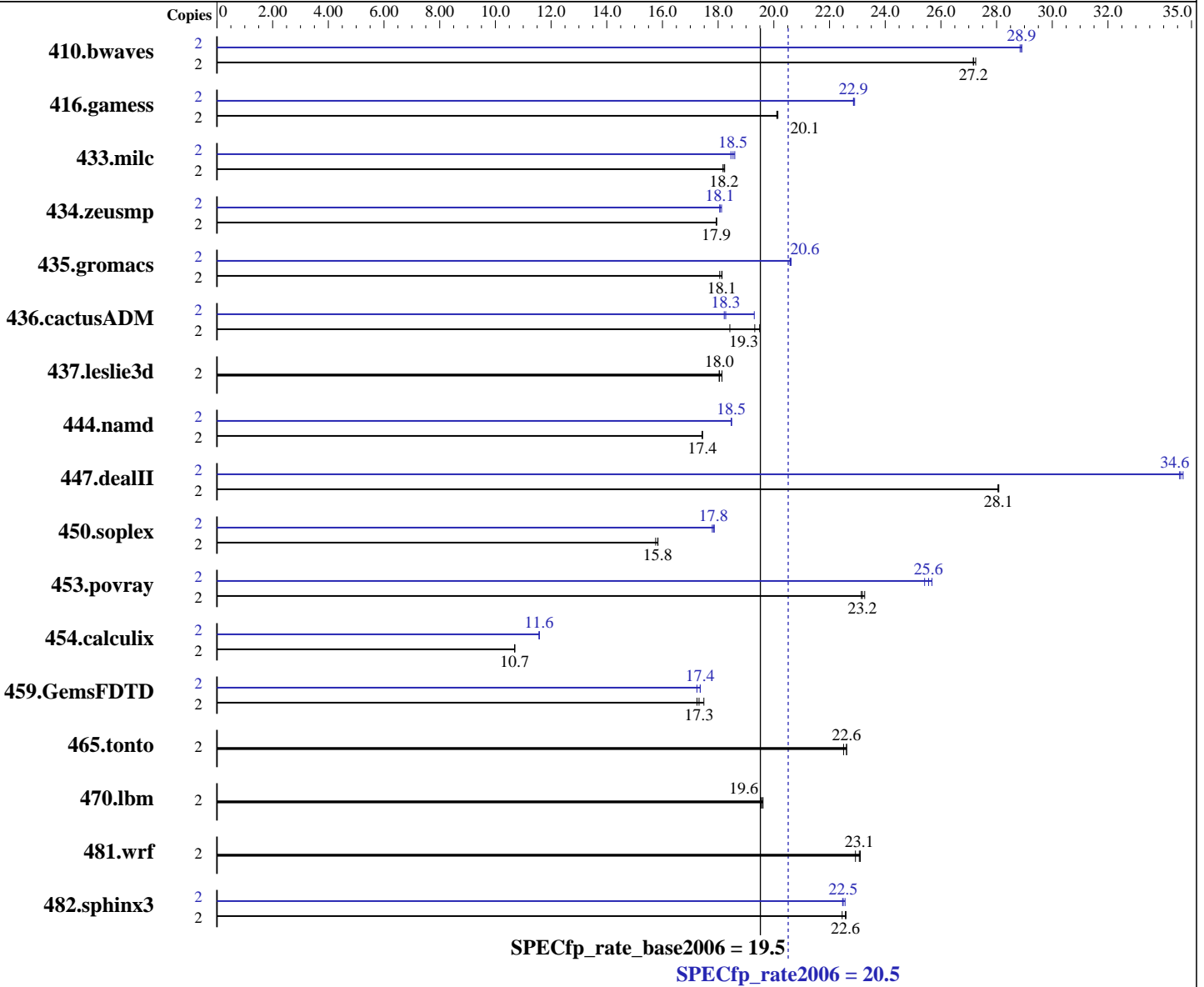
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: May-2007

Hardware Availability: May-2007

Software Availability: Mar-2007



Hardware

CPU Name: AMD Opteron 2212
 CPU Characteristics: 2212
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 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

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: 32 GB (8x4 GB DDR2 PC2-5300P, 2 rank, CAS 5-5-5, with ECC)
 Disk Subsystem: SAS (36GB 15.4 krpm)
 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	2	997	27.3	1001	27.2	1000	27.2	2	942	28.8	940	28.9	941	28.9		
416.gamess	2	1948	20.1	1946	20.1	1944	20.1	2	1713	22.9	1710	22.9	1713	22.9		
433.milc	2	1008	18.2	1010	18.2	1007	18.2	2	987	18.6	995	18.5	991	18.5		
434.zeusmp	2	1015	17.9	1014	17.9	1015	17.9	2	1004	18.1	1008	18.1	1007	18.1		
435.gromacs	2	791	18.1	787	18.1	788	18.1	2	694	20.6	693	20.6	693	20.6		
436.cactusADM	2	1226	19.5	1297	18.4	1237	19.3	2	1308	18.3	1238	19.3	1312	18.2		
437.leslie3d	2	1037	18.1	1042	18.0	1042	18.0	2	1037	18.1	1042	18.0	1042	18.0		
444.namd	2	920	17.4	920	17.4	920	17.4	2	869	18.5	868	18.5	868	18.5		
447.dealII	2	815	28.1	815	28.1	816	28.1	2	661	34.6	662	34.6	659	34.7		
450.soplex	2	1054	15.8	1053	15.8	1059	15.8	2	934	17.9	935	17.8	938	17.8		
453.povray	2	457	23.3	460	23.1	459	23.2	2	419	25.4	414	25.7	416	25.6		
454.calculix	2	1543	10.7	1543	10.7	1543	10.7	2	1426	11.6	1426	11.6	1425	11.6		
459.GemsFDTD	2	1226	17.3	1231	17.2	1213	17.5	2	1222	17.4	1231	17.2	1223	17.4		
465.tonto	2	870	22.6	870	22.6	874	22.5	2	870	22.6	870	22.6	874	22.5		
470.lbm	2	1403	19.6	1401	19.6	1406	19.5	2	1403	19.6	1401	19.6	1406	19.5		
481.wrf	2	974	22.9	967	23.1	968	23.1	2	974	22.9	967	23.1	968	23.1		
482.sphinx3	2	1736	22.5	1725	22.6	1727	22.6	2	1728	22.6	1733	22.5	1735	22.5		

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
'/usr/bin/taskset' has 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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