



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 = 25.9

PRIMERGY RX330 S1, AMD Opteron 2222, 3.0 GHz

SPECfp_rate_base2006 = 24.5

CPU2006 license: 22

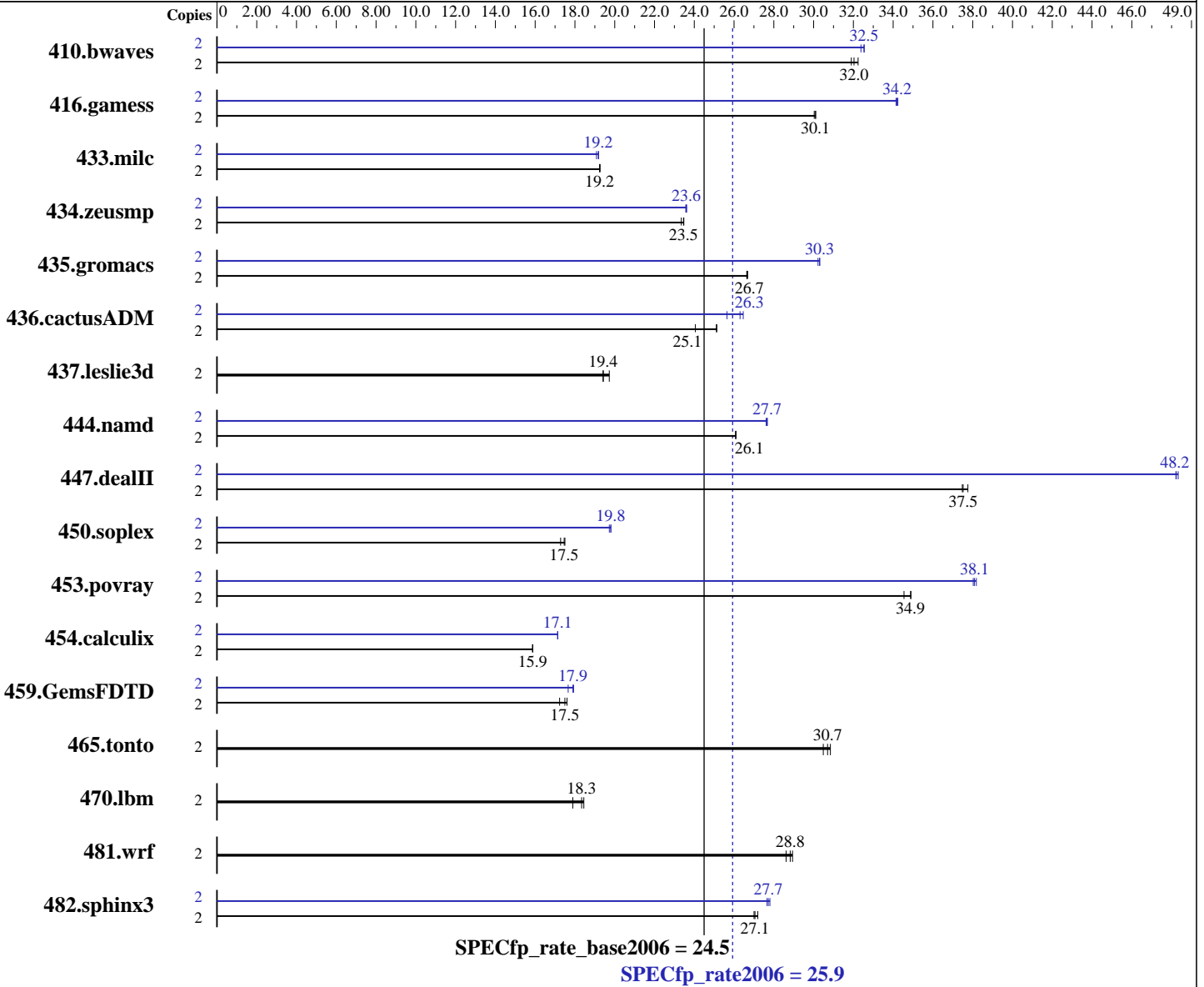
Test date: Jun-2007

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Aug-2007

Tested by: Fujitsu Siemens Computers

Software Availability: Mar-2007



Hardware

CPU Name: AMD Opteron 2222
 CPU Characteristics: 2222
 CPU MHz: 3000
 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

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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	2	849	32.0	843	32.2	852	31.9	2	839	32.4	835	32.5	836	32.5
416.gamess	2	1304	30.0	1301	30.1	1301	30.1	2	1144	34.2	1145	34.2	1147	34.1
433.milc	2	954	19.2	954	19.2	953	19.3	2	957	19.2	962	19.1	958	19.2
434.zeusmp	2	775	23.5	776	23.5	780	23.3	2	771	23.6	771	23.6	772	23.6
435.gromacs	2	536	26.7	536	26.6	535	26.7	2	471	30.3	473	30.2	471	30.3
436.cactusADM	2	994	24.1	951	25.1	952	25.1	2	932	25.6	903	26.5	909	26.3
437.leslie3d	2	953	19.7	968	19.4	968	19.4	2	953	19.7	968	19.4	968	19.4
444.namd	2	615	26.1	615	26.1	615	26.1	2	580	27.7	580	27.7	581	27.6
447.dealII	2	610	37.5	611	37.5	606	37.8	2	474	48.2	473	48.3	475	48.2
450.soplex	2	955	17.5	965	17.3	953	17.5	2	842	19.8	845	19.7	842	19.8
453.povray	2	305	34.9	308	34.5	305	34.9	2	280	38.0	279	38.2	279	38.1
454.calculix	2	1040	15.9	1039	15.9	1039	15.9	2	963	17.1	963	17.1	963	17.1
459.GemsFDTD	2	1232	17.2	1206	17.6	1213	17.5	2	1186	17.9	1202	17.7	1183	17.9
465.tonto	2	638	30.8	641	30.7	646	30.5	2	638	30.8	641	30.7	646	30.5
470.lbm	2	1536	17.9	1490	18.4	1499	18.3	2	1536	17.9	1490	18.4	1499	18.3
481.wrf	2	781	28.6	772	28.9	775	28.8	2	781	28.6	772	28.9	775	28.8
482.sphinx3	2	1434	27.2	1441	27.1	1443	27.0	2	1402	27.8	1406	27.7	1409	27.7

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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Tested with SPEC CPU2006 v1.0.

Report generated on Tue Sep 13 11:22:21 2016 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 24 July 2007.