



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®_rate2006 = 36.7

PRIMERGY RX330 S1, AMD Opteron 2210, 1.8 GHz

SPECfp_rate_base2006 = 34.8

CPU2006 license: 22

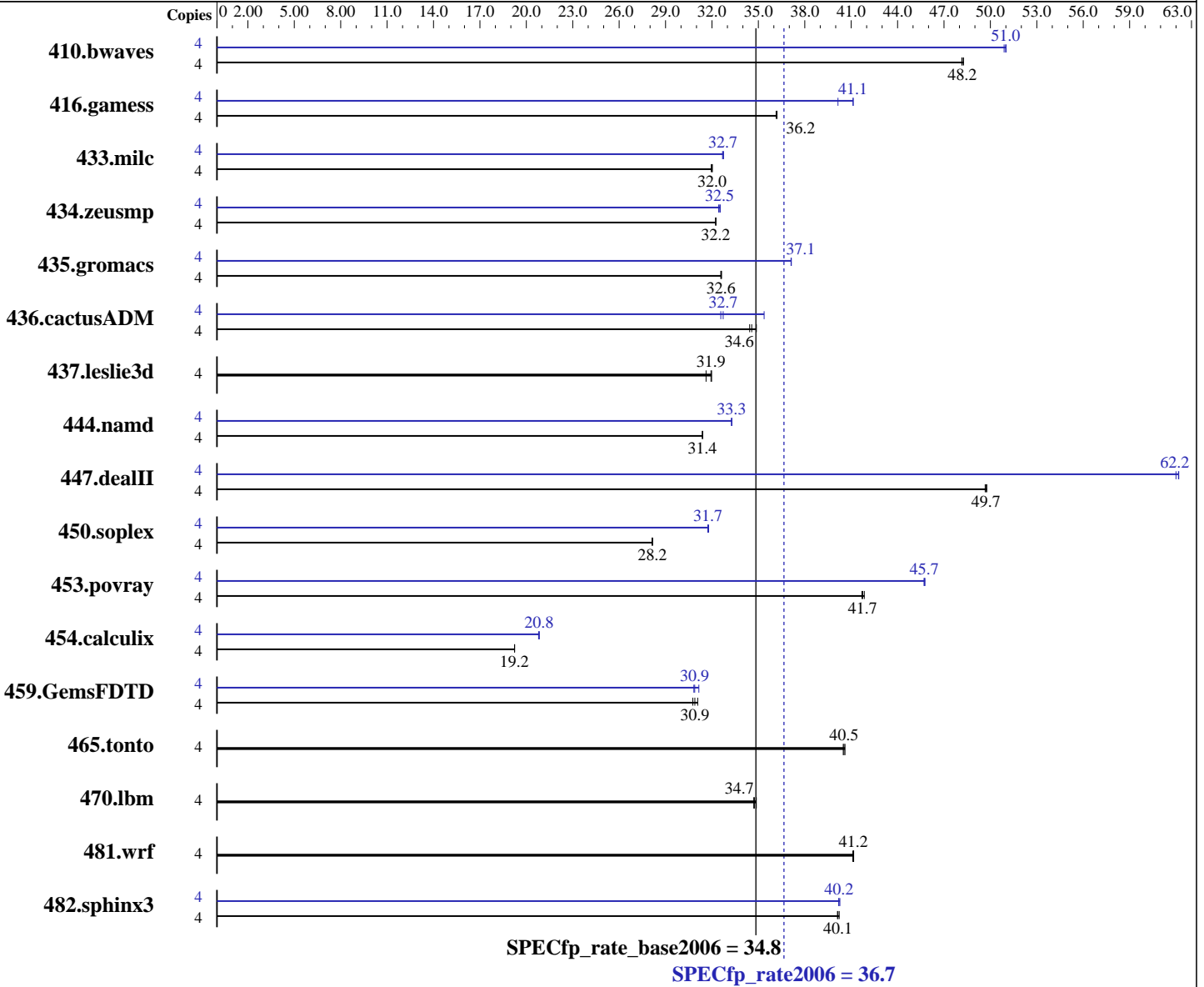
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Apr-2007

Hardware Availability: May-2007

Software Availability: Mar-2007



Hardware

CPU Name: AMD Opteron 2210
 CPU Characteristics: 2210
 CPU MHz: 1800
 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: 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	4	1126	48.3	<u>1128</u>	<u>48.2</u>	1129	48.2	4	<u>1066</u>	<u>51.0</u>	1066	51.0	1068	50.9		
416.gamess	4	<u>2163</u>	<u>36.2</u>	2163	36.2	2167	36.1	4	<u>1905</u>	<u>41.1</u>	1904	41.1	1951	40.1		
433.milc	4	1149	32.0	<u>1147</u>	<u>32.0</u>	1147	32.0	4	<u>1122</u>	<u>32.7</u>	1123	32.7	1121	32.7		
434.zeusmp	4	<u>1129</u>	<u>32.2</u>	1129	32.3	1129	32.2	4	<u>1120</u>	<u>32.5</u>	1122	32.4	1119	32.5		
435.gromacs	4	877	32.6	875	32.6	<u>876</u>	<u>32.6</u>	4	<u>769</u>	<u>37.1</u>	770	37.1	769	37.1		
436.cactusADM	4	1388	34.4	1371	34.9	<u>1383</u>	<u>34.6</u>	4	1468	32.6	<u>1461</u>	<u>32.7</u>	1351	35.4		
437.leslie3d	4	1176	32.0	<u>1177</u>	<u>31.9</u>	1189	31.6	4	1176	32.0	<u>1177</u>	<u>31.9</u>	1189	31.6		
444.namd	4	<u>1022</u>	<u>31.4</u>	1022	31.4	1022	31.4	4	<u>964</u>	<u>33.3</u>	964	33.3	964	33.3		
447.dealII	4	919	49.8	921	49.7	<u>920</u>	<u>49.7</u>	4	<u>736</u>	<u>62.2</u>	738	62.0	736	62.2		
450.soplex	4	<u>1185</u>	<u>28.2</u>	1186	28.1	1185	28.2	4	1050	31.8	1051	31.7	<u>1051</u>	<u>31.7</u>		
453.povray	4	510	41.7	<u>510</u>	<u>41.7</u>	509	41.8	4	<u>465</u>	<u>45.7</u>	466	45.7	465	45.8		
454.calculix	4	<u>1716</u>	<u>19.2</u>	1714	19.2	1716	19.2	4	<u>1585</u>	<u>20.8</u>	1583	20.8	1587	20.8		
459.GemsFDTD	4	1380	30.8	1366	31.1	<u>1374</u>	<u>30.9</u>	4	1362	31.2	1377	30.8	<u>1374</u>	<u>30.9</u>		
465.tonto	4	969	40.6	<u>971</u>	<u>40.5</u>	972	40.5	4	969	40.6	<u>971</u>	<u>40.5</u>	972	40.5		
470.lbm	4	1576	34.9	<u>1582</u>	<u>34.7</u>	1584	34.7	4	1576	34.9	<u>1582</u>	<u>34.7</u>	1584	34.7		
481.wrf	4	1087	41.1	<u>1086</u>	<u>41.2</u>	1085	41.2	4	1087	41.1	<u>1086</u>	<u>41.2</u>	1085	41.2		
482.sphinx3	4	<u>1942</u>	<u>40.1</u>	1938	40.2	1943	40.1	4	1936	40.3	1940	40.2	<u>1939</u>	<u>40.2</u>		

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.lelie3d: -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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