



SPEC[®] CFP2006 Result

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Fujitsu Siemens Computers

SPECfp[®]_rate2006 = 51.9

CELSIUS V840, Opteron 2222, 64-bit Linux

SPECfp_rate_base2006 = 49.1

CPU2006 license: 22

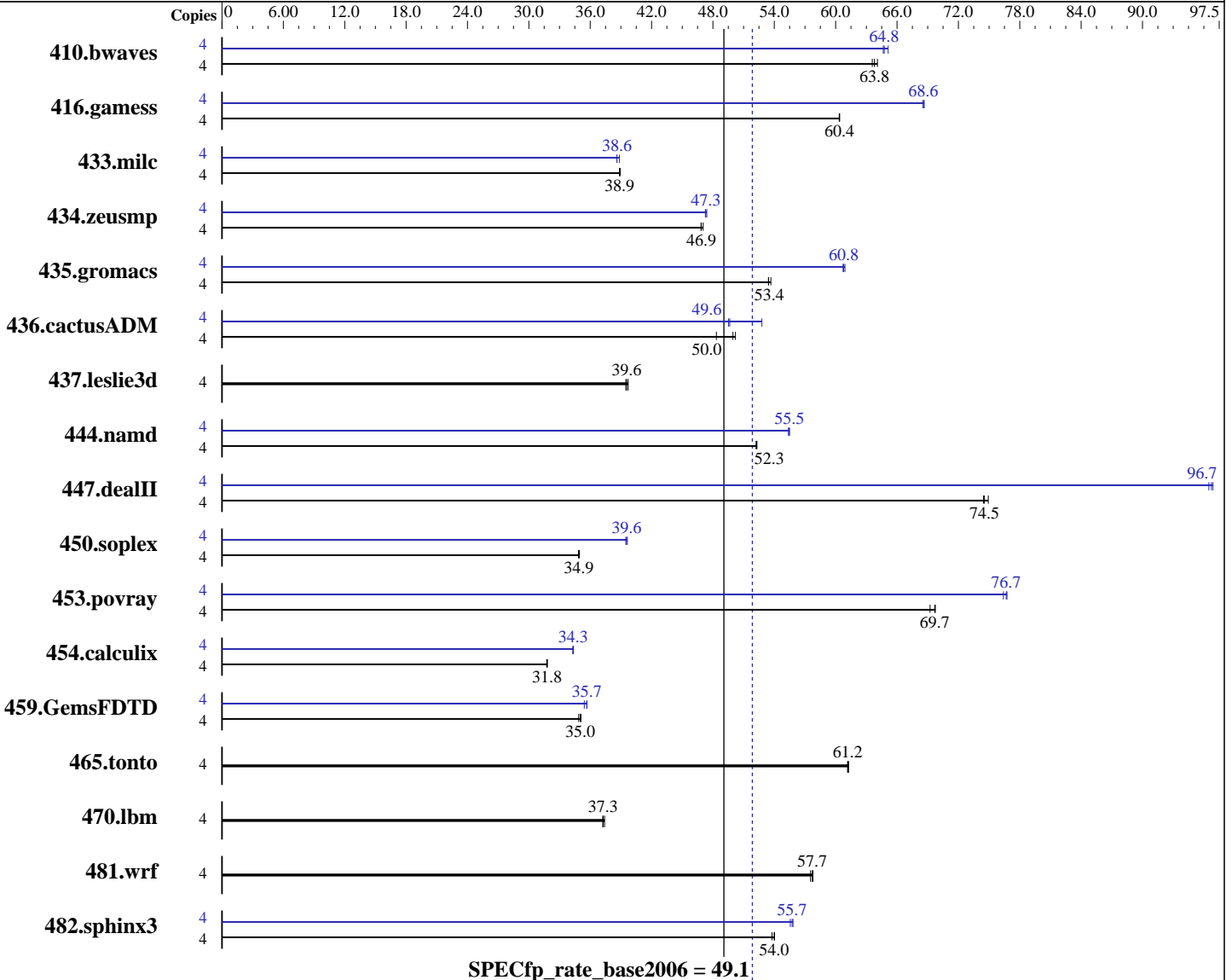
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jul-2007

Hardware Availability: Jul-2007

Software Availability: Mar-2007



Hardware

CPU Name: AMD Opteron 2222
 CPU Characteristics: Dual Core, 3.0 GHz, 2 MB L2-cache
 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: ext3
 System State: Multi-User SuSE Run Level 3
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit

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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

Software (Continued)

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	848	64.1	852	63.8	855	63.6	4	841	64.7	835	65.1	840	64.8
416.gamess	4	1297	60.4	1298	60.3	1297	60.4	4	1141	68.7	1143	68.5	1142	68.6
433.milc	4	945	38.9	943	38.9	945	38.9	4	951	38.6	945	38.9	951	38.6
434.zeusmp	4	774	47.0	777	46.9	777	46.8	4	768	47.4	769	47.3	770	47.3
435.gromacs	4	534	53.4	535	53.4	532	53.7	4	470	60.7	469	60.9	470	60.8
436.cactusADM	4	957	50.0	952	50.2	989	48.3	4	965	49.5	963	49.6	905	52.8
437.leslie3d	4	947	39.7	952	39.5	950	39.6	4	947	39.7	952	39.5	950	39.6
444.namd	4	614	52.2	614	52.3	613	52.3	4	578	55.5	578	55.5	579	55.4
447.dealII	4	611	74.9	614	74.5	615	74.5	4	472	96.9	474	96.5	473	96.7
450.soplex	4	957	34.9	956	34.9	955	34.9	4	843	39.6	845	39.5	842	39.6
453.povray	4	305	69.7	305	69.7	307	69.2	4	277	76.8	278	76.7	279	76.4
454.calculix	4	1039	31.7	1037	31.8	1038	31.8	4	960	34.4	961	34.3	962	34.3
459.GemsFDTD	4	1212	35.0	1209	35.1	1217	34.9	4	1190	35.7	1190	35.7	1198	35.4
465.tonto	4	642	61.3	643	61.2	643	61.2	4	642	61.3	643	61.2	643	61.2
470.lbm	4	1469	37.4	1475	37.3	1476	37.2	4	1469	37.4	1475	37.3	1476	37.2
481.wrf	4	773	57.8	774	57.7	776	57.5	4	773	57.8	774	57.7	776	57.5
482.sphinx3	4	1444	54.0	1443	54.0	1450	53.8	4	1396	55.8	1403	55.6	1398	55.7

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

General Notes

BIOS default settings with
Node memory interleave disabled, SRAT enabled
'taskset \$MYMASK \$command' has been used to bind processes to CPUs
The Linux command 'taskset \$MYMASK \$command' executes the specified command;
only the processors specified in \$MYMASK are allowed to execute the application.
See the Linux documentation for detailed description of taskset.

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General Notes (Continued)

For information about Fujitsu Siemens Computers in your country please see:
<http://www.fujitsu-siemens.com/countries>

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

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Base Optimization Flags (Continued)

Fortran benchmarks:

-Ofast -OPT:malloc_alg=1

Benchmarks using both Fortran and C:

-Ofast -OPT:malloc_alg=1

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

Same as Base Compiler Invocation

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

Same as Base Other Flags

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.28.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.28.xml

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 14 17:48:15 2009 by SPEC CPU2006 PS/PDF formatter v6323.