SPEC® CFP2006 Result

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Fujitsu Siemens Computers

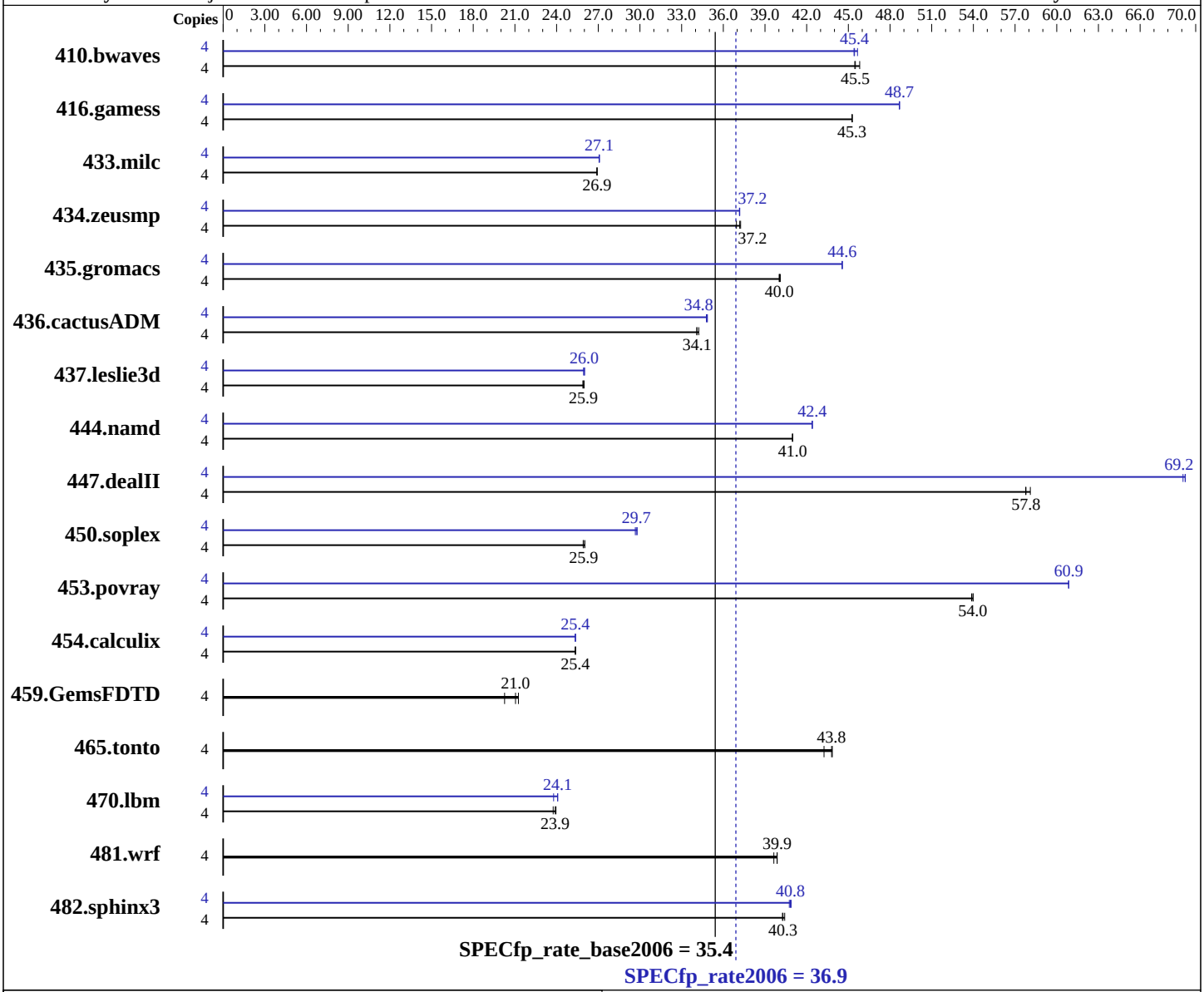
PRIMERGY RX220, AMD Opteron 280 processor, 2.40 GHz

SPECfp®_rate2006 = 36.9

SPECfp_rate_base2006 = 35.4

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Apr-2006
Hardware Availability: Dec-2005
Software Availability: Mar-2006



Hardware

CPU Name:	AMD Opteron 280
CPU Characteristics:	Opteron 280
CPU MHz:	2400
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:	SuSE Linux Enterprise Server 9 (x86_64) + SP3
Compiler:	QLogic Pathscale Compiler Suite 2.4
Auto Parallel:	No
File System:	ext3
System State:	Multi-user run level 3
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8x2 GB DDR PC-3200R 2-rank CAS 3-3-3)
Disk Subsystem: Western Digital WD2500 (SATA, 7.2krpm)
Other Hardware: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1186	45.8	**1195**	**45.5**	1196	45.5	4	1191	45.7	1197	45.4	**1196**	**45.4**
416.gamess	4	**1730**	**45.3**	1730	45.3	1730	45.3	4	1609	48.7	**1609**	**48.7**	1609	48.7
433.milc	4	1364	26.9	**1364**	**26.9**	1365	26.9	4	**1356**	**27.1**	1357	27.1	1356	27.1
434.zeusmp	4	977	37.2	**979**	**37.2**	985	36.9	4	979	37.2	980	37.2	**979**	**37.2**
435.gromacs	4	714	40.0	712	40.1	**713**	**40.0**	4	641	44.6	641	44.6	**641**	**44.6**
436.cactusADM	4	**1402**	**34.1**	1396	34.2	1402	34.1	4	1374	34.8	1371	34.9	**1373**	**34.8**
437.leslie3d	4	1447	26.0	**1450**	**25.9**	1452	25.9	4	1445	26.0	**1446**	**26.0**	1450	25.9
444.namd	4	783	41.0	**783**	**41.0**	783	41.0	4	756	42.4	757	42.4	**757**	**42.4**
447.dealII	4	**792**	**57.8**	788	58.1	792	57.8	4	661	69.3	662	69.1	**661**	**69.2**
450.soplex	4	1281	26.0	1287	25.9	**1286**	**25.9**	4	1119	29.8	**1122**	**29.7**	1125	29.7
453.povray	4	394	54.0	**394**	**54.0**	395	53.9	4	**350**	**60.9**	350	60.9	350	60.9
454.calculix	4	1301	25.4	**1302**	**25.4**	1302	25.4	4	**1301**	**25.4**	1302	25.3	1301	25.4
459.GemsFDTD	4	2095	20.3	1997	21.3	**2017**	**21.0**	4	2095	20.3	1997	21.3	**2017**	**21.0**
465.tonto	4	**899**	**43.8**	898	43.8	910	43.2	4	**899**	**43.8**	898	43.8	910	43.2
470.lbm	4	**2299**	**23.9**	2314	23.8	2294	24.0	4	2311	23.8	2282	24.1	**2283**	**24.1**
481.wrf	4	**1121**	**39.9**	1120	39.9	1127	39.6	4	**1121**	**39.9**	1120	39.9	1127	39.6
482.sphinx3	4	1929	40.4	**1935**	**40.3**	1937	40.3	4	1913	40.7	**1910**	**40.8**	1907	40.9

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

```
taskset has been used to bind processes to CPUs

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http://www.fujitsu-siemens.com/countries
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Base Compiler Invocation

C benchmarks:
pathcc

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Base Compiler Invocation (Continued)

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 -DSPEC_CPU_TABLE_WORKAROUND
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

Benchmarks using both Fortran and C:
-Ofast

Peak Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -Ofast

470.lbm: Same as 433.milc

482.sphinx3: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -LNO:sclrze=off -LNO:prefetch=1

C++ benchmarks:

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

447.dealII: -Ofast -m32 -fno-exceptions

450.soplex: -m32 -O3 -OPT:IEEE_arith=3 -CG:load_exe=0 -CG:movnti=1 -LNO:minvariant=off -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

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Peak Optimization Flags (Continued)

416.gamess: `-fb_create fbdata`(pass 1) `-fb_opt fbdata`(pass 2) `-Ofast`

434.zeusmp: `-O3 -CG:load_exe=0`

437.leslie3d: `-O3 -OPT:Ofast`

459.GemsFDTD: `basepeak = yes`

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_ahead=5 -LNO:ou_prod_max=10 -LNO:full_unroll=5 -ipa`

454.calculix: `-Ofast`

481.wrf: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.02.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.02.xml`

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