



SPEC® CFP2006 Result

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Fujitsu Siemens Computers

SPECfp®2006 = 17.4

CELSIUS V840, Opteron 2222, 64-bit Linux

SPECfp_base2006 = 16.0

CPU2006 license: 22

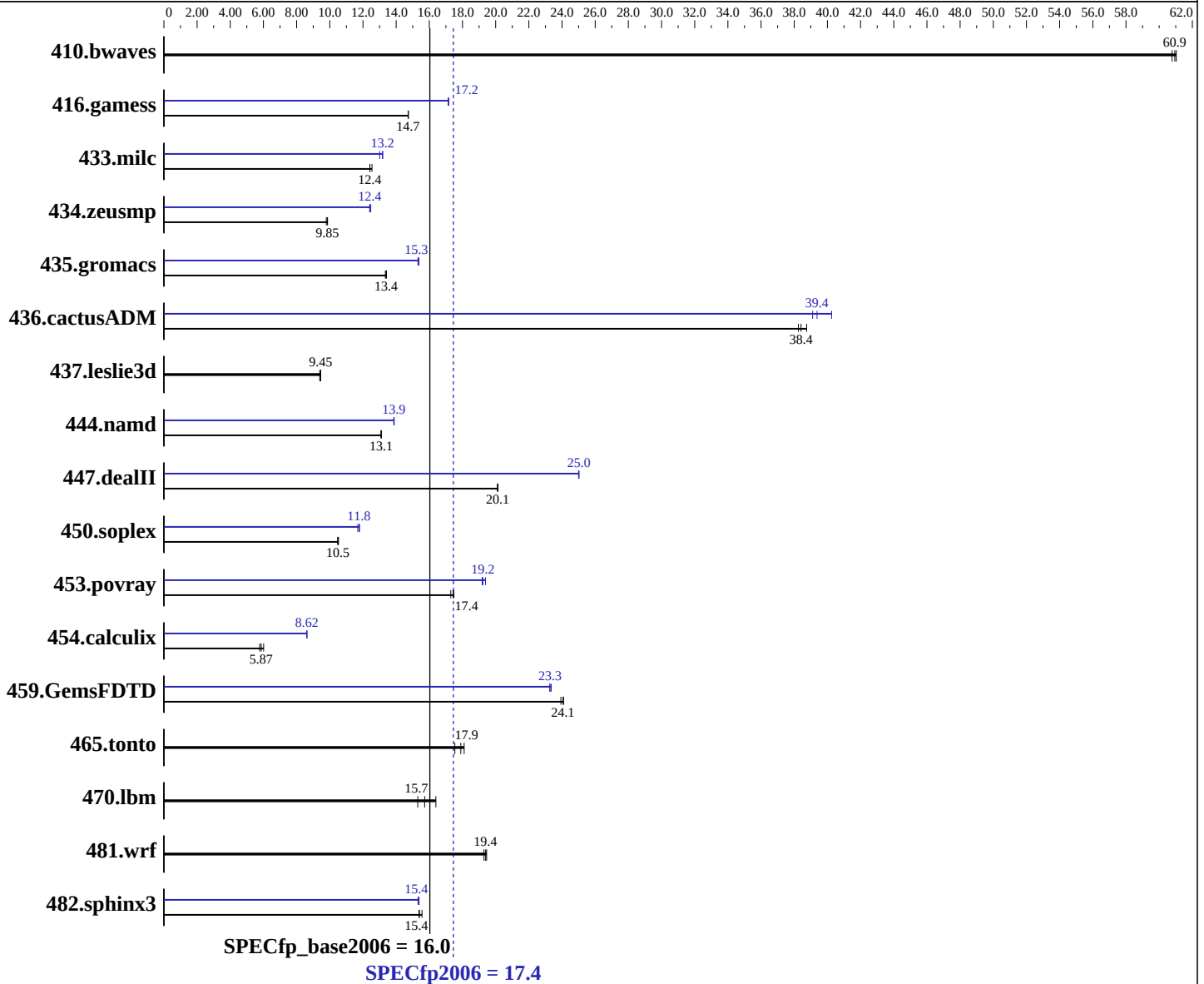
Test sponsor: Fujitsu Siemens Computers

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: Yes
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	223	61.0	<u>223</u>	<u>60.9</u>	224	60.8	223	61.0	<u>223</u>	<u>60.9</u>	224	60.8
416.gamess	1330	14.7	<u>1330</u>	<u>14.7</u>	1328	14.7	<u>1142</u>	<u>17.2</u>	1140	17.2	1143	17.1
433.milc	<u>739</u>	<u>12.4</u>	739	12.4	732	12.5	706	13.0	<u>697</u>	<u>13.2</u>	696	13.2
434.zeusmp	922	9.87	<u>924</u>	<u>9.85</u>	930	9.79	730	12.5	<u>733</u>	<u>12.4</u>	734	12.4
435.gromacs	535	13.3	532	13.4	<u>533</u>	<u>13.4</u>	466	15.3	<u>465</u>	<u>15.3</u>	464	15.4
436.cactusADM	312	38.2	308	38.7	<u>311</u>	<u>38.4</u>	297	40.3	<u>304</u>	<u>39.4</u>	306	39.1
437.leslie3d	1001	9.39	995	9.45	<u>995</u>	<u>9.45</u>	1001	9.39	995	9.45	<u>995</u>	<u>9.45</u>
444.namd	612	13.1	613	13.1	<u>612</u>	<u>13.1</u>	<u>578</u>	<u>13.9</u>	579	13.9	578	13.9
447.dealII	<u>569</u>	<u>20.1</u>	568	20.1	569	20.1	457	25.0	<u>457</u>	<u>25.0</u>	458	25.0
450.soplex	<u>795</u>	<u>10.5</u>	792	10.5	796	10.5	<u>709</u>	<u>11.8</u>	714	11.7	707	11.8
453.povray	304	17.5	308	17.3	<u>305</u>	<u>17.4</u>	<u>277</u>	<u>19.2</u>	277	19.2	274	19.4
454.calculix	1428	5.78	1372	6.01	<u>1406</u>	<u>5.87</u>	957	8.62	<u>957</u>	<u>8.62</u>	957	8.62
459.GemsFDTD	440	24.1	<u>441</u>	<u>24.1</u>	443	23.9	454	23.4	456	23.3	<u>456</u>	<u>23.3</u>
465.tonto	544	18.1	<u>550</u>	<u>17.9</u>	561	17.5	544	18.1	<u>550</u>	<u>17.9</u>	561	17.5
470.lbm	838	16.4	<u>874</u>	<u>15.7</u>	898	15.3	838	16.4	<u>874</u>	<u>15.7</u>	898	15.3
481.wrf	<u>576</u>	<u>19.4</u>	579	19.3	574	19.5	<u>576</u>	<u>19.4</u>	579	19.3	574	19.5
482.sphinx3	<u>1265</u>	<u>15.4</u>	1253	15.6	1268	15.4	1267	15.4	<u>1268</u>	<u>15.4</u>	1272	15.3

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

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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 -apo -OPT:malloc_alg=1

Benchmarks using both Fortran and C:
-Ofast -apo -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

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

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 -apo
-OPT:Ofast -WOPT:aggstr=0 -m32

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Peak Optimization Flags (Continued)

C++ benchmarks:

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

447.dealII: -Ofast -apo -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
-apo -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
-apo -fno-fast-math

Fortran benchmarks:

410.bwaves: basepeak = yes

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 -apo -LNO:fission=2 -LNO:prefetch=0

465.tonto: basepeak = yes

Benchmarks using both Fortran and C:

435.gromacs: -O3 -apo -OPT:rsqrt=2 -OPT:ro=3

436.cactusADM: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2) -O3 -apo
-LNO:prefetch=3 -LNO:prefetch_ahead=5 -LNO:ou_prod_max=10
-LNO:full_unroll=5 -ipa

454.calculix: -Ofast -LNO:simd=0 -WOPT:mem_opnds=on

481.wrf: basepeak = yes

Peak Other Flags

Same as Base Other Flags



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http://www.spec.org/cpu2006/flags/CPU2006_flags.20070821.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20070821.xml

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