



SPEC[®] CFP2006 Result

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Fujitsu Siemens Computers

SPECfp[®]2006 = 16.0

CELSIUS V840, AMD Opteron 2220

SPECfp_base2006 = 13.1

CPU2006 license: 22

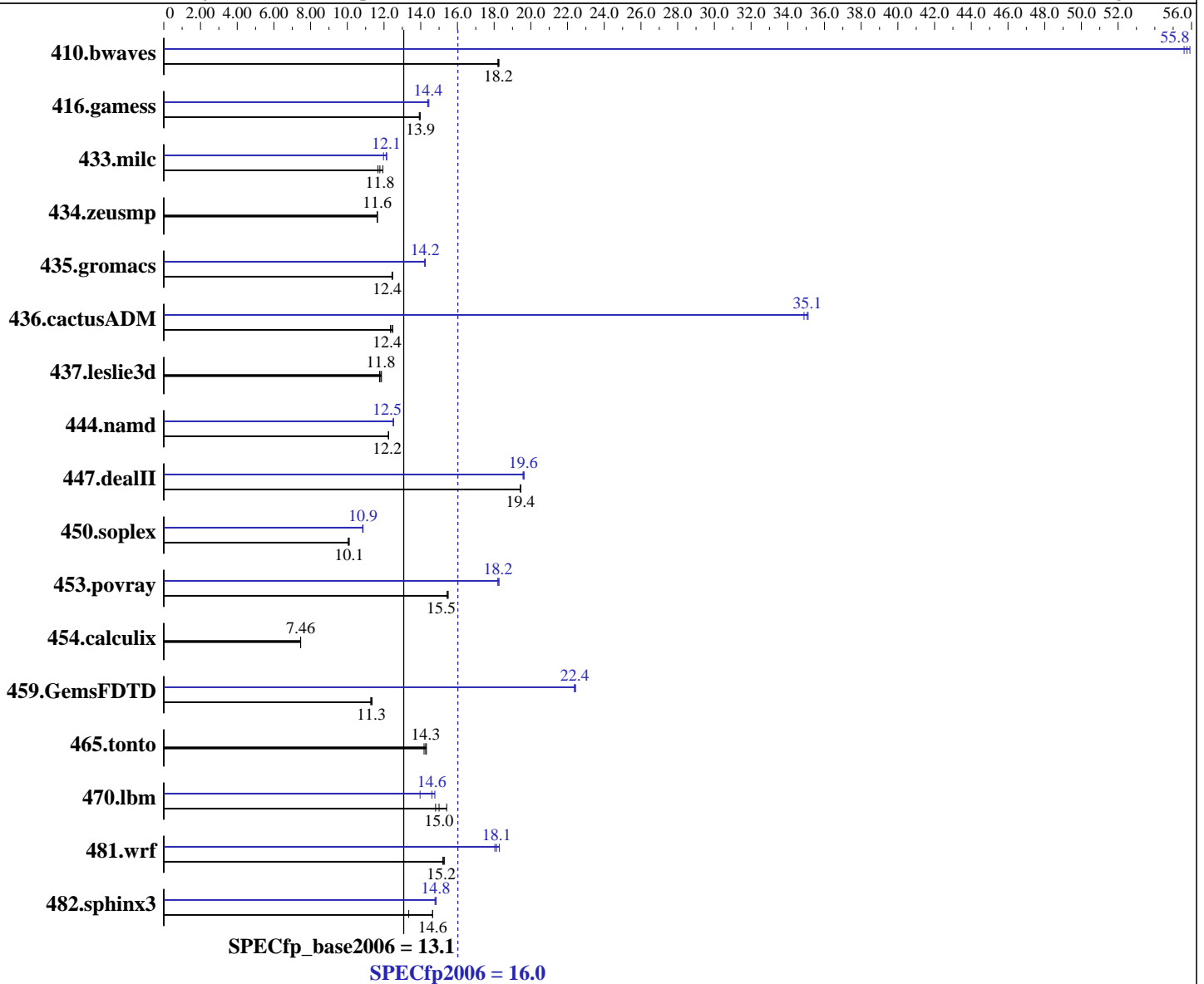
Test date: Feb-2007

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Feb-2007

Tested by: Fujitsu Siemens Computers

Software Availability: Aug-2006



Hardware

CPU Name: AMD Opteron 2220
 CPU Characteristics: Dual Core, 2.8 GHz, 2 MB L2-cache
 CPU MHz: 2800
 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 2.5
 Auto Parallel: Yes
 File System: ext3
 System State: Multi-User SuSE Run Level 3
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other Software: None



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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

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	747	18.2	<u>745</u>	<u>18.2</u>	744	18.3	<u>244</u>	<u>55.8</u>	243	55.9	244	55.6
416.gamess	1407	13.9	1401	14.0	<u>1404</u>	<u>13.9</u>	1361	14.4	<u>1359</u>	<u>14.4</u>	1355	14.4
433.milc	787	11.7	<u>780</u>	<u>11.8</u>	769	11.9	<u>757</u>	<u>12.1</u>	756	12.2	767	12.0
434.zeusmp	<u>782</u>	<u>11.6</u>	782	11.6	783	11.6	<u>782</u>	<u>11.6</u>	782	11.6	783	11.6
435.gromacs	573	12.5	574	12.4	<u>574</u>	<u>12.4</u>	501	14.2	<u>502</u>	<u>14.2</u>	502	14.2
436.cactusADM	<u>962</u>	<u>12.4</u>	968	12.3	958	12.5	340	35.1	<u>341</u>	<u>35.1</u>	343	34.9
437.leslie3d	792	11.9	<u>795</u>	<u>11.8</u>	799	11.8	792	11.9	<u>795</u>	<u>11.8</u>	799	11.8
444.namd	654	12.3	<u>655</u>	<u>12.2</u>	655	12.2	641	12.5	641	12.5	<u>641</u>	<u>12.5</u>
447.dealII	<u>589</u>	<u>19.4</u>	589	19.4	588	19.5	584	19.6	<u>584</u>	<u>19.6</u>	583	19.6
450.soplex	<u>826</u>	<u>10.1</u>	826	10.1	830	10.0	768	10.9	<u>769</u>	<u>10.9</u>	770	10.8
453.povray	343	15.5	<u>344</u>	<u>15.5</u>	345	15.4	<u>292</u>	<u>18.2</u>	291	18.3	292	18.2
454.calculix	<u>1107</u>	<u>7.46</u>	1106	7.46	1107	7.45	<u>1107</u>	<u>7.46</u>	1106	7.46	1107	7.45
459.GemsFDTD	<u>938</u>	<u>11.3</u>	935	11.3	941	11.3	473	22.4	474	22.4	<u>474</u>	<u>22.4</u>
465.tonto	688	14.3	<u>690</u>	<u>14.3</u>	694	14.2	688	14.3	<u>690</u>	<u>14.3</u>	694	14.2
470.lbm	891	15.4	<u>916</u>	<u>15.0</u>	928	14.8	930	14.8	984	14.0	<u>941</u>	<u>14.6</u>
481.wrf	<u>733</u>	<u>15.2</u>	735	15.2	731	15.3	619	18.0	611	18.3	<u>616</u>	<u>18.1</u>
482.sphinx3	1331	14.6	<u>1331</u>	<u>14.6</u>	1460	13.3	1313	14.8	<u>1315</u>	<u>14.8</u>	1319	14.8

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

Binaries are generated on an Opteron-based system running Suse 9.3.

BIOS default settings with
Node memory interleave disabled, SRAT enabled

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General Notes (Continued)

<http://www.fujitsu-siemens.com/countries>

Compiler Invocation

C benchmarks:
pathcc

C++ benchmarks:
pathCC

Fortran benchmarks:
pathf95

Benchmarks using both Fortran and C:
pathcc pathf95

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.deallI: -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

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Base Optimization Flags (Continued)

Fortran benchmarks:

-Ofast

Benchmarks using both Fortran and C:

-Ofast

Peak Optimization Flags

C benchmarks:

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

470.lbm: -fb_create fbdata(pass 1) -fb_opt fbdata(pass 2)

482.sphinx3: -Ofast -apo

C++ benchmarks:

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

447.dealII: -Ofast -fno-exceptions

450.soplex: -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: -Ofast -apo

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

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: Same as 410.bwaves

465.tonto: basepeak = yes

Benchmarks using both Fortran and C:

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

436.cactusADM: -Ofast -apo

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Peak Optimization Flags (Continued)

454.calculix: basepeak = yes

481.wrf: Same as 436.cactusADM

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.17.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.17.xml

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

Tested with SPEC CPU2006 v1.0.
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