# SPEC® CFP2006 Result

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## Fujitsu Siemens Computers

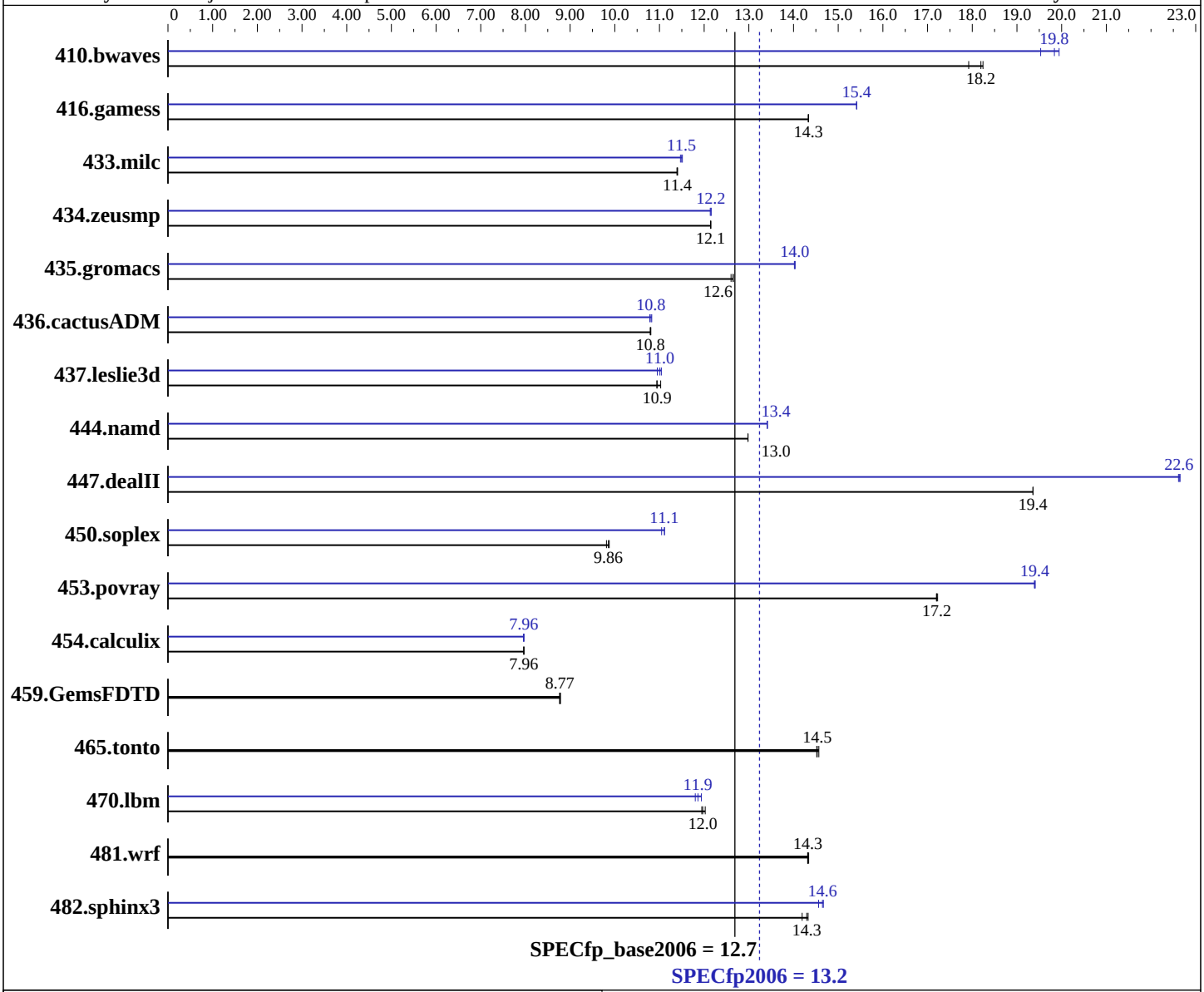
## CELSIUS V830, Opteron 256, Linux 64-bit

SPECfp®2006 = 13.2

SPECfp_base2006 = 12.7

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

**Test date:** Apr-2006
**Hardware Availability:** Sep-2005
**Software Availability:** Mar-2006




### Hardware

| | |
|---|---|
| CPU Name: | AMD Opteron 256 |
| CPU Characteristics: | Opteron 256 |
| CPU MHz: | 3000 |
| FPU: | Integrated |
| CPU(s) enabled: | 1 core, 1 chip, 1 core/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 64 KB I + 64 KB D on chip per chip |
| Secondary Cache: | 1 MB I+D on chip per chip |

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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: | ReiserFS |
| System State: | Multi-User SuSE Run Level 3 |
| Base Pointers: | 64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | -- |

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L3 Cache: None
Other Cache: None
Memory: 2 GB (4 x 512 MB PC3200 CL3-3-3 DDR SDRAM)
Disk Subsystem: SCSI U320
Other Hardware: None

## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 410.bwaves | 758 | 17.9 | 745 | 18.2 | **747** | **18.2** | **685** | **19.8** | 681 | 19.9 | 696 | 19.5 |
| 416.gamess | 1366 | 14.3 | 1366 | 14.3 | **1366** | **14.3** | 1270 | 15.4 | **1270** | **15.4** | 1270 | 15.4 |
| 433.milc | 806 | 11.4 | 805 | 11.4 | **805** | **11.4** | 800 | 11.5 | **799** | **11.5** | 797 | 11.5 |
| 434.zeusmp | **749** | **12.1** | 749 | 12.1 | 749 | 12.1 | 749 | 12.2 | **749** | **12.2** | 750 | 12.1 |
| 435.gromacs | 564 | 12.7 | 567 | 12.6 | **565** | **12.6** | 509 | 14.0 | **509** | **14.0** | 509 | 14.0 |
| 436.cactusADM | 1106 | 10.8 | **1107** | **10.8** | 1107 | 10.8 | 1108 | 10.8 | 1104 | 10.8 | **1105** | **10.8** |
| 437.leslie3d | **859** | **10.9** | 852 | 11.0 | 859 | 10.9 | 851 | 11.0 | **854** | **11.0** | 858 | 11.0 |
| 444.namd | **618** | **13.0** | 618 | 13.0 | 618 | 13.0 | 598 | 13.4 | **598** | **13.4** | 598 | 13.4 |
| 447.dealII | 591 | 19.4 | 591 | 19.4 | **591** | **19.4** | 506 | 22.6 | **505** | **22.6** | 505 | 22.7 |
| 450.soplex | 844 | 9.88 | **846** | **9.86** | 850 | 9.81 | **751** | **11.1** | 751 | 11.1 | 755 | 11.0 |
| 453.povray | **309** | **17.2** | 309 | 17.2 | 309 | 17.2 | **274** | **19.4** | 274 | 19.4 | 274 | 19.4 |
| 454.calculix | 1035 | 7.97 | **1036** | **7.96** | 1036 | 7.96 | 1035 | 7.97 | 1037 | 7.96 | **1036** | **7.96** |
| 459.GemsFDTD | 1211 | 8.76 | 1208 | 8.79 | **1209** | **8.77** | 1211 | 8.76 | 1208 | 8.79 | **1209** | **8.77** |
| 465.tonto | 676 | 14.6 | **677** | **14.5** | 678 | 14.5 | 676 | 14.6 | **677** | **14.5** | 678 | 14.5 |
| 470.lbm | 1143 | 12.0 | 1150 | 11.9 | **1148** | **12.0** | 1151 | 11.9 | 1164 | 11.8 | **1158** | **11.9** |
| 481.wrf | **780** | **14.3** | 780 | 14.3 | 779 | 14.3 | **780** | **14.3** | 780 | 14.3 | 779 | 14.3 |
| 482.sphinx3 | 1360 | 14.3 | **1363** | **14.3** | 1373 | 14.2 | **1331** | **14.6** | 1329 | 14.7 | 1338 | 14.6 |

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

## General Notes

```
BIOS default settings with
Node memory interleave disabled, SRAT enabled

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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.20090715.03.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.03.xml`


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