



# SPEC® CFP2006 Result

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## Fujitsu

### SPECfp®\_rate2006 = 57.9

## CELSIUS W380, Intel Core i5-680

### SPECfp\_rate\_base2006 = 56.5

CPU2006 license: 19

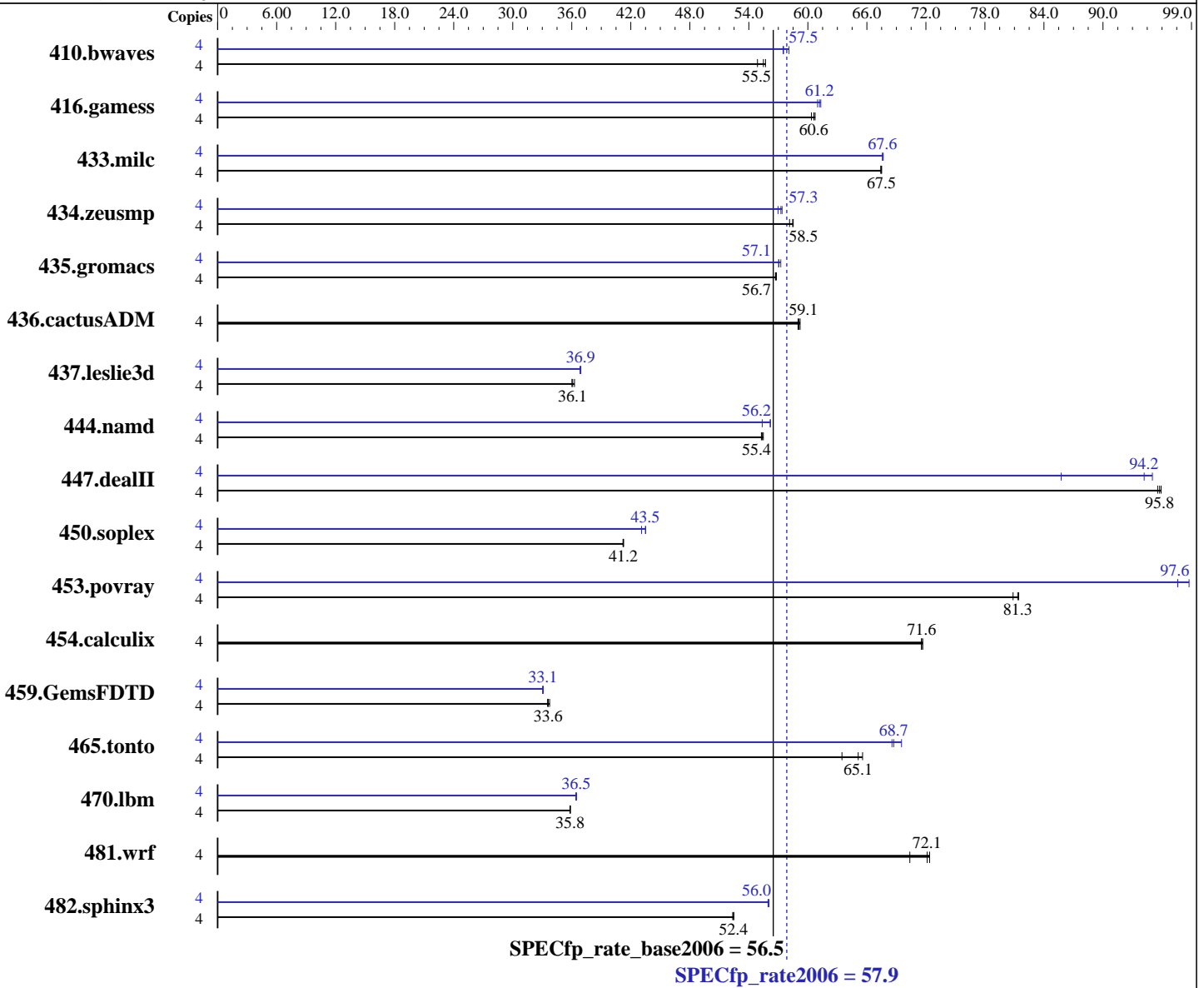
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2010

Hardware Availability: May-2010

Software Availability: Oct-2009



### Hardware

CPU Name: Intel Core i5-680  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.87 GHz  
 CPU MHz: 3600  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 chip  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core

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### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), kernel 2.6.27.19-5-default  
 Compiler: Intel C++ and Fortran Compiler for IA32 and Intel 64, Version 11.1  
 Build 20091012 Package ID: l\_cproc\_p\_11.1.059, l\_cprof\_p\_11.1.059  
 Auto Parallel: No  
 File System: ext3  
 System State: Multi-User Run Level 3

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L3 Cache: 4 MB I+D on chip per chip  
Other Cache: None  
Memory: 8 GB (2x4 GB PC3-10600U, 2 rank, CL9)  
Disk Subsystem: 1 x SATA II, 400 GB, 7200 rpm  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
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      | 976        | 55.7        | <b>980</b>  | <b>55.5</b> | 991         | 54.9        | 4      | 946         | 57.5        | 936         | 58.1        | <b>945</b> | <b>57.5</b> |
| 416.gamess    | 4      | 1298       | 60.4        | <b>1292</b> | <b>60.6</b> | 1289        | 60.7        | 4      | 1284        | 61.0        | <b>1280</b> | <b>61.2</b> | 1277       | 61.3        |
| 433.milc      | 4      | 544        | 67.5        | 545         | 67.4        | <b>544</b>  | <b>67.5</b> | 4      | 543         | 67.7        | 543         | 67.6        | <b>543</b> | <b>67.6</b> |
| 434.zeusmp    | 4      | 626        | 58.1        | 622         | 58.5        | <b>623</b>  | <b>58.5</b> | 4      | 634         | 57.4        | <b>636</b>  | <b>57.3</b> | 639        | 57.0        |
| 435.gromacs   | 4      | <b>503</b> | <b>56.7</b> | 503         | 56.8        | 504         | 56.7        | 4      | 501         | 57.0        | 499         | 57.2        | <b>501</b> | <b>57.1</b> |
| 436.cactusADM | 4      | <b>809</b> | <b>59.1</b> | 810         | 59.0        | 807         | 59.2        | 4      | <b>809</b>  | <b>59.1</b> | 810         | 59.0        | 807        | 59.2        |
| 437.leslie3d  | 4      | 1044       | 36.0        | <b>1042</b> | <b>36.1</b> | 1036        | 36.3        | 4      | <b>1019</b> | <b>36.9</b> | 1021        | 36.8        | 1018       | 36.9        |
| 444.namd      | 4      | 578        | 55.5        | <b>579</b>  | <b>55.4</b> | 580         | 55.3        | 4      | 571         | 56.2        | <b>571</b>  | <b>56.2</b> | 579        | 55.4        |
| 447.dealII    | 4      | 479        | 95.6        | <b>478</b>  | <b>95.8</b> | 477         | 95.9        | 4      | 482         | 95.0        | 534         | 85.7        | <b>486</b> | <b>94.2</b> |
| 450.soplex    | 4      | 810        | 41.2        | <b>809</b>  | <b>41.2</b> | 808         | 41.3        | 4      | 774         | 43.1        | <b>767</b>  | <b>43.5</b> | 767        | 43.5        |
| 453.povray    | 4      | 261        | 81.4        | <b>262</b>  | <b>81.3</b> | 263         | 80.9        | 4      | <b>218</b>  | <b>97.6</b> | 218         | 97.6        | 215        | 98.8        |
| 454.calculix  | 4      | 460        | 71.7        | 461         | 71.5        | <b>461</b>  | <b>71.6</b> | 4      | 460         | 71.7        | 461         | 71.5        | <b>461</b> | <b>71.6</b> |
| 459.GemsFDTD  | 4      | 1257       | 33.7        | <b>1263</b> | <b>33.6</b> | 1265        | 33.5        | 4      | <b>1283</b> | <b>33.1</b> | 1285        | 33.0        | 1282       | 33.1        |
| 465.tonto     | 4      | <b>604</b> | <b>65.1</b> | 600         | 65.6        | 620         | 63.5        | 4      | <b>573</b>  | <b>68.7</b> | 574         | 68.6        | 566        | 69.5        |
| 470.lbm       | 4      | 1532       | 35.9        | 1534        | 35.8        | <b>1534</b> | <b>35.8</b> | 4      | <b>1507</b> | <b>36.5</b> | 1509        | 36.4        | 1507       | 36.5        |
| 481.wrf       | 4      | 617        | 72.4        | <b>619</b>  | <b>72.1</b> | 635         | 70.4        | 4      | 617         | 72.4        | <b>619</b>  | <b>72.1</b> | 635        | 70.4        |
| 482.sphinx3   | 4      | 1489       | 52.4        | <b>1487</b> | <b>52.4</b> | 1486        | 52.5        | 4      | 1393        | 55.9        | <b>1392</b> | <b>56.0</b> | 1391       | 56.1        |

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

### Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

### Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

### General Notes

Binaries were compiled on SLES10 with Binutils 2.18.50.0.7.20080502



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SPECfp\_rate2006 = 57.9

CELSIUS W380, Intel Core i5-680

SPECfp\_rate\_base2006 = 56.5

CPU2006 license: 19

Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Apr-2010

Hardware Availability: May-2010

Software Availability: Oct-2009

## Base Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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 -noFOR\_main  
436.cactusADM: -DSPEC\_CPU\_LP64 -noFOR\_main  
437.lelie3d: -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 -noFOR\_main  
459.GemsFDTD: -DSPEC\_CPU\_LP64  
465.tonto: -DSPEC\_CPU\_LP64  
470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX  
482.sphinx3: -DSPEC\_CPU\_LP64

## Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Fortran benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

Benchmarks using both Fortran and C:

-xSSE4.2 -ipo -O3 -no-prec-div -static



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## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

## 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 -nofor\_main  
 436.cactusADM: -DSPEC\_CPU\_LP64 -nofor\_main  
 437.leslie3d: -DSPEC\_CPU\_LP64  
 444.namd: -DSPEC\_CPU\_LP64  
 447.dealII: -DSPEC\_CPU\_LP64  
 453.povray: -DSPEC\_CPU\_LP64  
 454.calculix: -DSPEC\_CPU\_LP64 -nofor\_main  
 459.GemsFDTD: -DSPEC\_CPU\_LP64  
 465.tonto: -DSPEC\_CPU\_LP64  
 470.lbm: -DSPEC\_CPU\_LP64  
 481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
 -fno-alias -opt-prefetch

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
 -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
 -opt-malloc-options=3 -ansi-alias -auto-ilp32

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## Peak Optimization Flags (Continued)

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

### C++ benchmarks:

444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-fno-alias -auto-ilp32

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias -scalar-rep-

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -ansi-alias

### Fortran benchmarks:

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -ansi-alias -scalar-rep-

434.zeusmp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)

437.leslie3d: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3 -opt-prefetch

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -auto -inline-calloc -opt-malloc-options=3

### Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32

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## Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20100119.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revD.20100119.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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