



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

### SPECfp<sup>®</sup>\_rate2006 = 131

PRIMERGY BX922 S2, Intel Xeon X5680, 3.33 GHz

### SPECfp\_rate\_base2006 = 127

CPU2006 license: 19

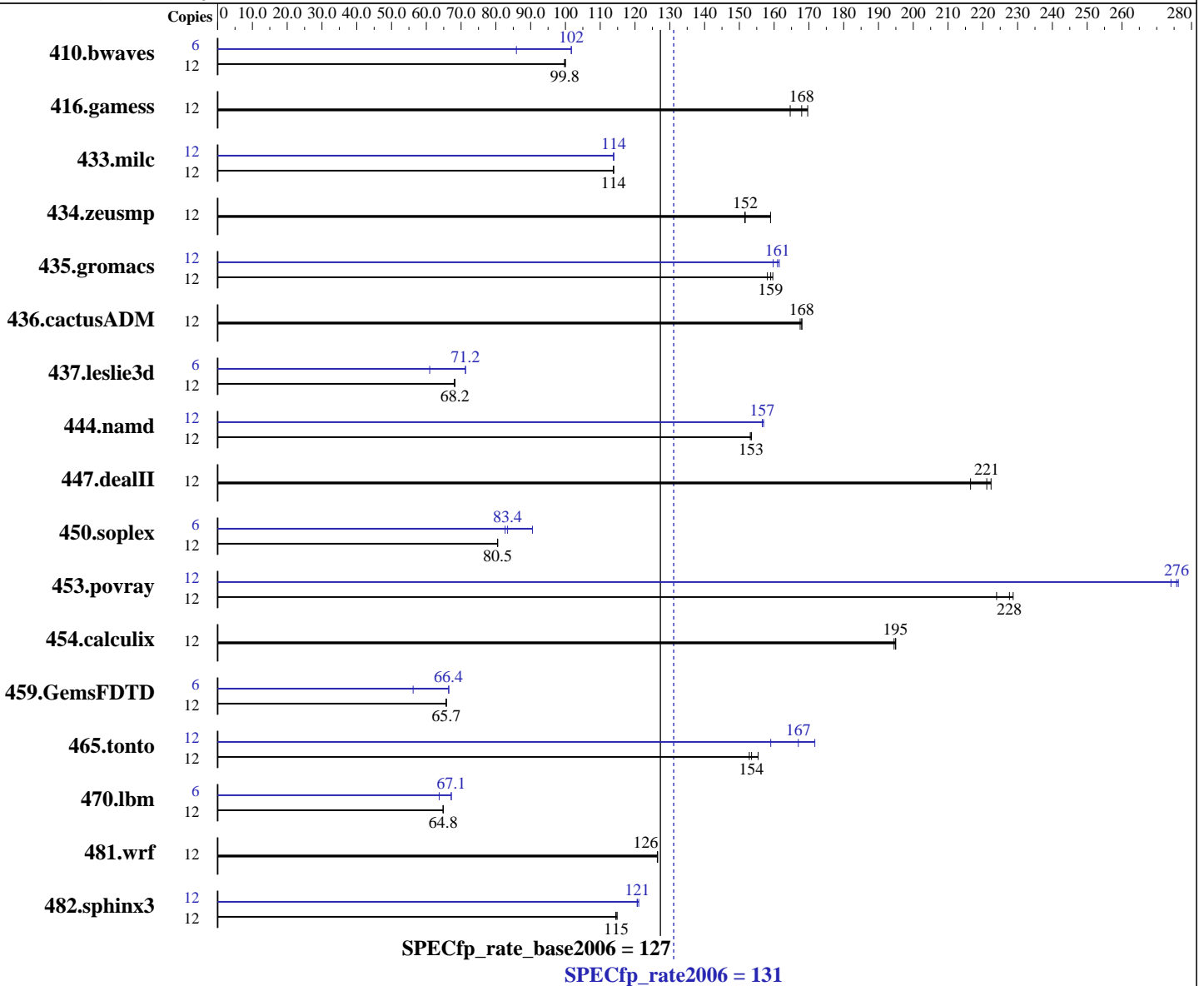
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2010

Hardware Availability: Mar-2010

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon X5680  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 3333  
 FPU: Integrated  
 CPU(s) enabled: 6 cores, 1 chip, 6 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chips  
 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 Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: I\_cproc\_p\_11.1.064, I\_cprof\_p\_11.1.064  
 Auto Parallel: No  
 File System: ext3  
 System State: Multi-User Run Level 3

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L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 24 GB (6x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC)  
Disk Subsystem: 1 x SSD, 64 GB  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: Binutils 2.18.50.0.7.20080502

## Results Table

| Benchmark     | Base   |                    |                    |                    |                    |                    |                    | Peak   |                    |                    |                    |                    |                    |                   |
|---------------|--------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|
|               | Copies | Seconds            | Ratio              | Seconds            | Ratio              | Seconds            | Ratio              | Copies | Seconds            | Ratio              | Seconds            | Ratio              | Seconds            | Ratio             |
| 410.bwaves    | 12     | 1631               | 100                | <b><u>1634</u></b> | <b><u>99.8</u></b> | 1635               | 99.7               | 6      | 802                | 102                | 949                | 85.9               | <b><u>802</u></b>  | <b><u>102</u></b> |
| 416.gamess    | 12     | 1385               | 170                | <b><u>1399</u></b> | <b><u>168</u></b>  | 1427               | 165                | 12     | 1385               | 170                | <b><u>1399</u></b> | <b><u>168</u></b>  | 1427               | 165               |
| 433.milc      | 12     | 968                | 114                | 968                | 114                | <b><u>968</u></b>  | <b><u>114</u></b>  | 12     | 967                | 114                | <b><u>967</u></b>  | <b><u>114</u></b>  | 968                | 114               |
| 434.zeusmp    | 12     | 687                | 159                | <b><u>720</u></b>  | <b><u>152</u></b>  | 721                | 152                | 12     | 687                | 159                | <b><u>720</u></b>  | <b><u>152</u></b>  | 721                | 152               |
| 435.gromacs   | 12     | <b><u>539</u></b>  | <b><u>159</u></b>  | 542                | 158                | 537                | 160                | 12     | <b><u>532</u></b>  | <b><u>161</u></b>  | 531                | 161                | 536                | 160               |
| 436.cactusADM | 12     | 856                | 167                | 854                | 168                | <b><u>854</u></b>  | <b><u>168</u></b>  | 12     | 856                | 167                | 854                | 168                | <b><u>854</u></b>  | <b><u>168</u></b> |
| 437.leslie3d  | 12     | <b><u>1654</u></b> | <b><u>68.2</u></b> | 1654               | 68.2               | 1657               | 68.1               | 6      | <b><u>792</u></b>  | <b><u>71.2</u></b> | 925                | 61.0               | 791                | 71.3              |
| 444.namd      | 12     | <b><u>627</u></b>  | <b><u>153</u></b>  | 628                | 153                | 627                | 153                | 12     | <b><u>615</u></b>  | <b><u>157</u></b>  | 613                | 157                | 615                | 157               |
| 447.dealII    | 12     | 617                | 222                | 634                | 216                | <b><u>621</u></b>  | <b><u>221</u></b>  | 12     | 617                | 222                | 634                | 216                | <b><u>621</u></b>  | <b><u>221</u></b> |
| 450.soplex    | 12     | 1243               | 80.5               | <b><u>1243</u></b> | <b><u>80.5</u></b> | 1244               | 80.5               | 6      | 553                | 90.5               | <b><u>600</u></b>  | <b><u>83.4</u></b> | 605                | 82.7              |
| 453.povray    | 12     | 285                | 224                | 279                | 229                | <b><u>280</u></b>  | <b><u>228</u></b>  | 12     | <b><u>232</u></b>  | <b><u>276</u></b>  | 231                | 276                | 233                | 274               |
| 454.calculix  | 12     | 508                | 195                | <b><u>508</u></b>  | <b><u>195</u></b>  | 509                | 194                | 12     | 508                | 195                | <b><u>508</u></b>  | <b><u>195</u></b>  | 509                | 194               |
| 459.GemsFDTD  | 12     | 1936               | 65.8               | 1937               | 65.7               | <b><u>1937</u></b> | <b><u>65.7</u></b> | 6      | 958                | 66.5               | <b><u>958</u></b>  | <b><u>66.4</u></b> | 1133               | 56.2              |
| 465.tonto     | 12     | 772                | 153                | <b><u>769</u></b>  | <b><u>154</u></b>  | 760                | 155                | 12     | 743                | 159                | <b><u>707</u></b>  | <b><u>167</u></b>  | 688                | 172               |
| 470.lbm       | 12     | 2543               | 64.8               | 2543               | 64.8               | <b><u>2543</u></b> | <b><u>64.8</u></b> | 6      | <b><u>1228</u></b> | <b><u>67.1</u></b> | 1227               | 67.2               | 1294               | 63.7              |
| 481.wrf       | 12     | 1059               | 127                | 1060               | 126                | <b><u>1060</u></b> | <b><u>126</u></b>  | 12     | 1059               | 127                | 1060               | 126                | <b><u>1060</u></b> | <b><u>126</u></b> |
| 482.sphinx3   | 12     | 2036               | 115                | <b><u>2041</u></b> | <b><u>115</u></b>  | 2043               | 114                | 12     | 1932               | 121                | 1939               | 121                | <b><u>1938</u></b> | <b><u>121</u></b> |

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

## Operating System Notes

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

## Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disabled  
Turbo Boost Technology: Performance/Power Setting = Traditional

## General Notes

For information about Fujitsu please visit: <http://www.fujitsu.com>



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**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu

**Test date:** Mar-2010  
**Hardware Availability:** Mar-2010  
**Software Availability:** Jan-2010

## 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.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 -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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**Software Availability:** Jan-2010

## 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: basepeak = yes

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: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static

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

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes



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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.01.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100330.01.xml>

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