# SPEC® CFP2006 Result

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## Fujitsu

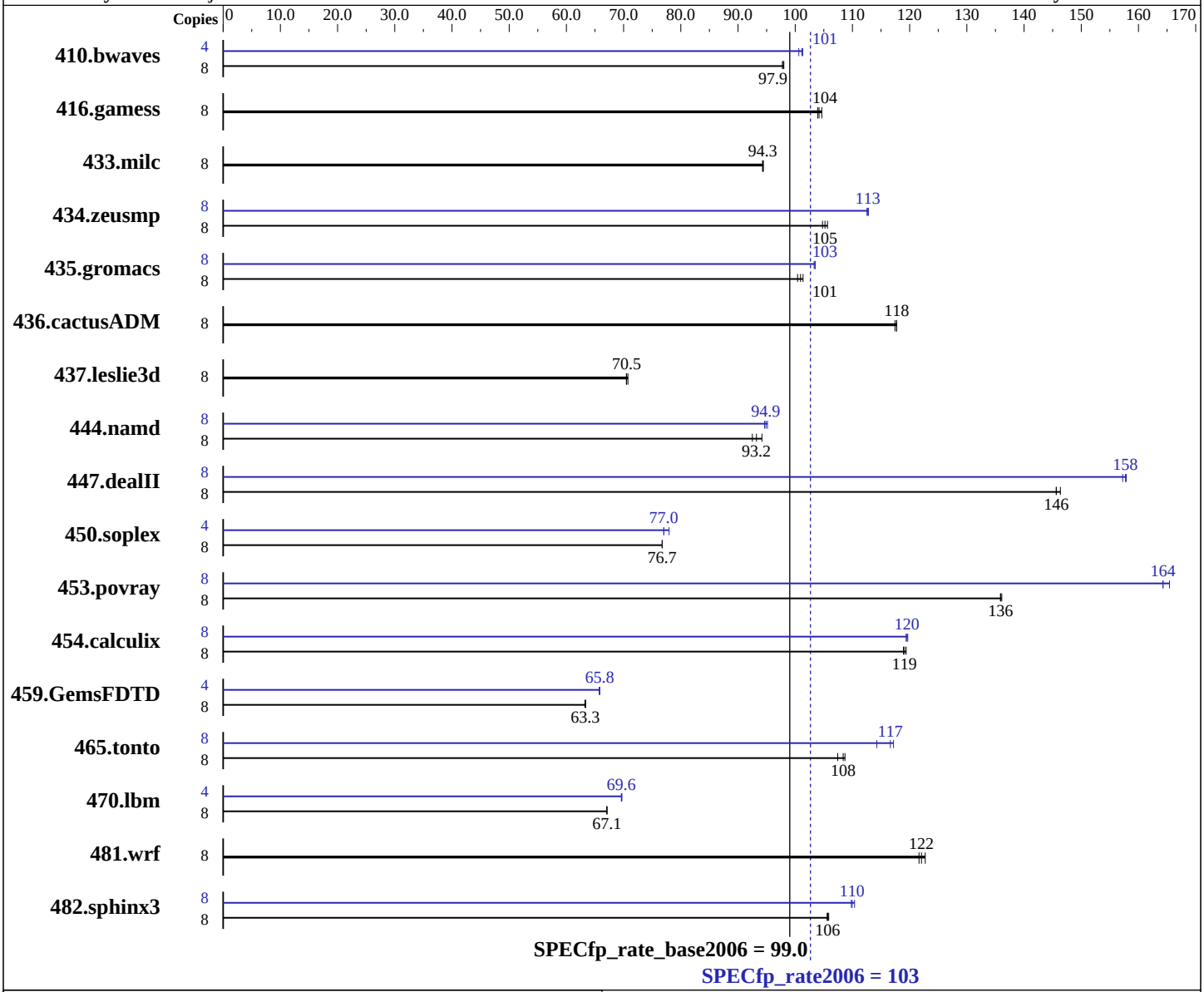
PRIMERGY RX300 S5, Intel Xeon X5570, 2.93 GHz

SPECfp®_rate2006 = 103

SPECfp_rate_base2006 = 99.0

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

**Test date:** Mar-2009
**Hardware Availability:** Apr-2009
**Software Availability:** Feb-2009




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5570 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.33 GHz |
| CPU MHz: | 2933 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 1 chip, 4 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 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp |
| Compiler: | Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080, l_cprof_p_11.0.080 |
| Auto Parallel: | No |
| File System: | ext3 |
| System State: | Multi-User Run Level 3 |
| Base Pointers: | 64-bit |

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 12 GB (3x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC)
Disk Subsystem: 1 x SATA, 250 GB, 7200 RPM
Other Hardware: None

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 | 8 | **1110** | **97.9** | 1109 | 98.0 | 1112 | 97.8 | 4 | 540 | 101 | 537 | 101 | **537** | **101** |
| 416.gamess | 8 | 1497 | 105 | **1504** | **104** | 1507 | 104 | 8 | 1497 | 105 | **1504** | **104** | 1507 | 104 |
| 433.milc | 8 | 779 | 94.3 | **779** | **94.3** | 778 | 94.4 | 8 | 779 | 94.3 | **779** | **94.3** | 778 | 94.4 |
| 434.zeusmp | 8 | 689 | 106 | **692** | **105** | 695 | 105 | 8 | 647 | 113 | 645 | 113 | **646** | **113** |
| 435.gromacs | 8 | 563 | 101 | 569 | 100 | **566** | **101** | 8 | **552** | **103** | 552 | 103 | 553 | 103 |
| 436.cactusADM | 8 | 814 | 117 | **812** | **118** | 812 | 118 | 8 | 814 | 117 | **812** | **118** | 812 | 118 |
| 437.leslie3d | 8 | 1067 | 70.5 | **1066** | **70.5** | 1063 | 70.8 | 8 | 1067 | 70.5 | **1066** | **70.5** | 1063 | 70.8 |
| 444.namd | 8 | 681 | 94.2 | **688** | **93.2** | 694 | 92.5 | 8 | 678 | 94.6 | 674 | 95.1 | **676** | **94.9** |
| 447.dealII | 8 | 628 | 146 | **628** | **146** | 625 | 146 | 8 | 582 | 157 | 580 | 158 | **580** | **158** |
| 450.soplex | 8 | 869 | 76.8 | **869** | **76.7** | 870 | 76.7 | 4 | 433 | 77.0 | **433** | **77.0** | 428 | 78.0 |
| 453.povray | 8 | 313 | 136 | **313** | **136** | 313 | 136 | 8 | 259 | 164 | 257 | 165 | **259** | **164** |
| 454.calculix | 8 | 553 | 119 | 555 | 119 | **554** | **119** | 8 | 552 | 120 | 553 | 119 | **552** | **120** |
| 459.GemsFDTD | 8 | 1342 | 63.2 | **1340** | **63.3** | 1339 | 63.4 | 4 | 645 | 65.8 | 646 | 65.7 | **645** | **65.8** |
| 465.tonto | 8 | 733 | 107 | 724 | 109 | **726** | **108** | 8 | 689 | 114 | 672 | 117 | **675** | **117** |
| 470.lbm | 8 | 1638 | 67.1 | 1639 | 67.1 | **1639** | **67.1** | 4 | **789** | **69.6** | 789 | 69.6 | 788 | 69.7 |
| 481.wrf | 8 | 728 | 123 | **732** | **122** | 735 | 122 | 8 | 728 | 123 | **732** | **122** | 735 | 122 |
| 482.sphinx3 | 8 | 1473 | 106 | **1475** | **106** | 1477 | 106 | 8 | **1418** | **110** | 1413 | 110 | 1420 | 110 |

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 processes to cores and its local memory.
  Details may be found in the config file.
```

## General Notes

```
This result was measured on the PRIMERGY RX300 S5. The PRIMERGY TX300 S5
and the PRIMERGY RX300 S5 are electronically equivalent.

For information about Fujitsu please visit: http://www.fujitsu.com
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## Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

## 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

## Peak Compiler Invocation

C benchmarks (except as noted below):
icc

482.sphinx3: icc -m32

C++ benchmarks (except as noted below):
icpc

450.soplex: icpc -m32

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icc ifort

## 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: basepeak = yes

470.lbm: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -auto-ilp32

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

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## Peak Optimization Flags (Continued)

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: basepeak = yes

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: basepeak = yes

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 -opt-prefetch

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

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: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

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-ic11.0-fp-linux64-revA.20090901.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090901.xml`


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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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