



SPEC® CFP2006 Result

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Fujitsu

SPECfp®_rate2006 = 41.3

PRIMERGY RX100 S6, Intel Xeon L3406, 2.26 GHz

SPECfp_rate_base2006 = 39.8

CPU2006 license: 19

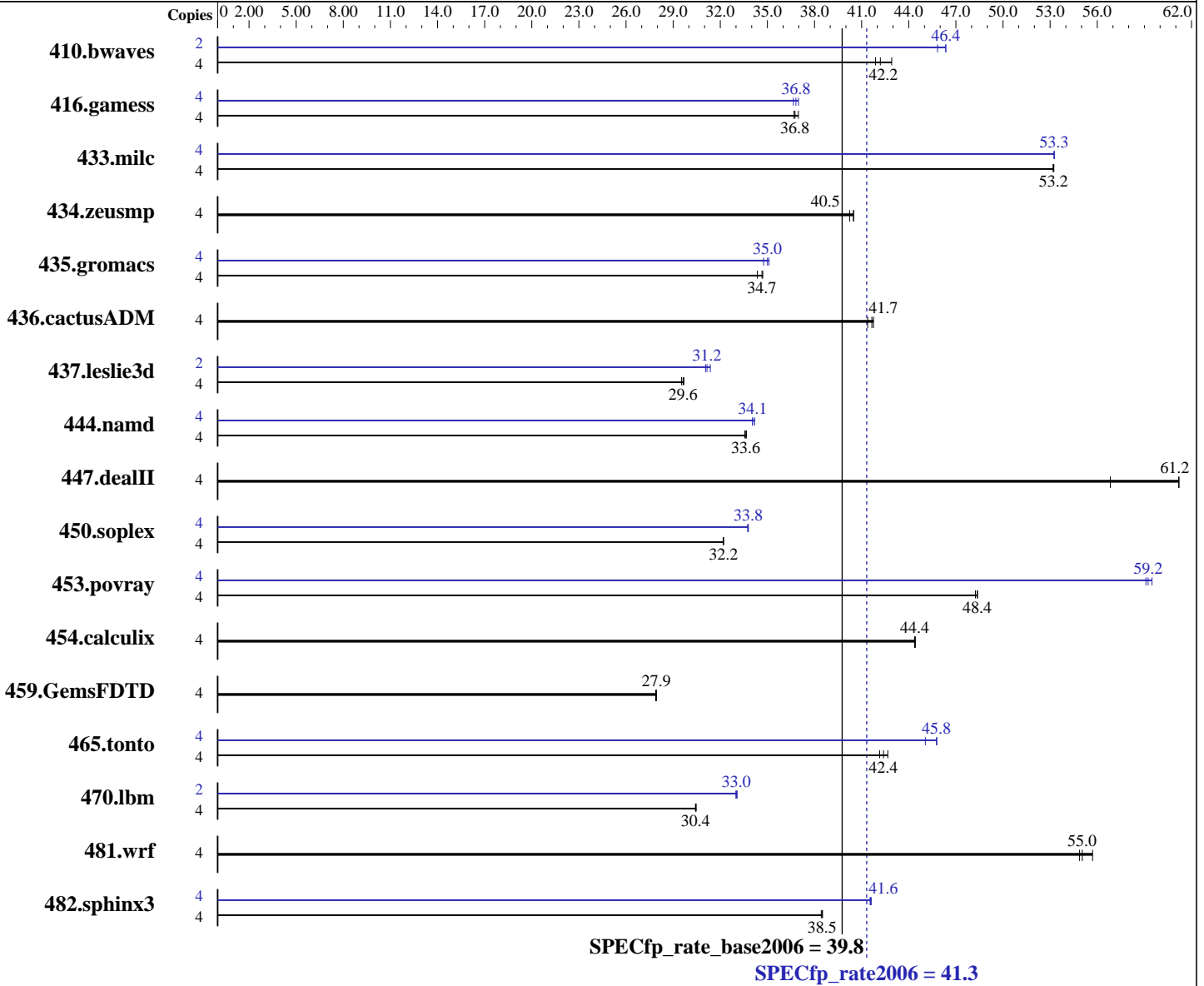
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Feb-2010

Hardware Availability: Mar-2010

Software Availability: Nov-2009



Hardware

CPU Name: Intel Xeon L3406
 CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz
 CPU MHz: 2267
 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-smp
 Compiler: Intel C++ and Fortran Professional 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 PC3-10600E, 2 rank, CL9-9-9, ECC)
Disk Subsystem: 1 x SATA, 250 GB, 7200 RPM
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 | 4 | 1298 | 41.9 | <u>1288</u> | <u>42.2</u> | 1267 | 42.9 | 2 | 593 | 45.8 | 586 | 46.4 | <u>586</u> | <u>46.4</u> |
| 416.gamess | 4 | 2118 | 37.0 | <u>2131</u> | <u>36.8</u> | 2134 | 36.7 | 4 | 2118 | 37.0 | <u>2127</u> | <u>36.8</u> | 2137 | 36.7 |
| 433.milc | 4 | 690 | 53.2 | <u>690</u> | <u>53.2</u> | 690 | 53.2 | 4 | <u>689</u> | <u>53.3</u> | 689 | 53.3 | 690 | 53.3 |
| 434.zeusmp | 4 | 905 | 40.2 | 899 | 40.5 | <u>899</u> | <u>40.5</u> | 4 | 905 | 40.2 | 899 | 40.5 | <u>899</u> | <u>40.5</u> |
| 435.gromacs | 4 | 831 | 34.4 | 823 | 34.7 | <u>824</u> | <u>34.7</u> | 4 | 814 | 35.1 | <u>816</u> | <u>35.0</u> | 822 | 34.8 |
| 436.cactusADM | 4 | <u>1148</u> | <u>41.7</u> | 1155 | 41.4 | 1145 | 41.8 | 4 | <u>1148</u> | <u>41.7</u> | 1155 | 41.4 | 1145 | 41.8 |
| 437.leslie3d | 4 | <u>1269</u> | <u>29.6</u> | 1267 | 29.7 | 1273 | 29.5 | 2 | <u>603</u> | <u>31.2</u> | 599 | 31.4 | 605 | 31.1 |
| 444.namd | 4 | 953 | 33.7 | <u>954</u> | <u>33.6</u> | 956 | 33.6 | 4 | 938 | 34.2 | 942 | 34.1 | <u>942</u> | <u>34.1</u> |
| 447.dealII | 4 | 748 | 61.2 | 805 | 56.8 | <u>748</u> | <u>61.2</u> | 4 | 748 | 61.2 | 805 | 56.8 | <u>748</u> | <u>61.2</u> |
| 450.soplex | 4 | 1036 | 32.2 | <u>1036</u> | <u>32.2</u> | 1036 | 32.2 | 4 | 989 | 33.7 | 987 | 33.8 | <u>988</u> | <u>33.8</u> |
| 453.povray | 4 | 440 | 48.4 | 441 | 48.2 | <u>440</u> | <u>48.4</u> | 4 | 358 | 59.5 | <u>359</u> | <u>59.2</u> | 360 | 59.1 |
| 454.calculix | 4 | 743 | 44.4 | 744 | 44.4 | <u>744</u> | <u>44.4</u> | 4 | 743 | 44.4 | 744 | 44.4 | <u>744</u> | <u>44.4</u> |
| 459.GemsFDTD | 4 | 1522 | 27.9 | 1519 | 27.9 | <u>1520</u> | <u>27.9</u> | 4 | 1522 | 27.9 | 1519 | 27.9 | <u>1520</u> | <u>27.9</u> |
| 465.tonto | 4 | 923 | 42.7 | 934 | 42.1 | <u>929</u> | <u>42.4</u> | 4 | 860 | 45.8 | <u>860</u> | <u>45.8</u> | 874 | 45.1 |
| 470.lbm | 4 | 1807 | 30.4 | 1804 | 30.5 | <u>1806</u> | <u>30.4</u> | 2 | 831 | 33.1 | <u>832</u> | <u>33.0</u> | 833 | 33.0 |
| 481.wrf | 4 | 814 | 54.9 | 802 | 55.7 | <u>812</u> | <u>55.0</u> | 4 | 814 | 54.9 | 802 | 55.7 | <u>812</u> | <u>55.0</u> |
| 482.sphinx3 | 4 | <u>2026</u> | <u>38.5</u> | 2029 | 38.4 | 2024 | 38.5 | 4 | 1877 | 41.5 | <u>1876</u> | <u>41.6</u> | 1874 | 41.6 |

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

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



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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.deallI: 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: -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: basepeak = yes

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: basepeak = yes

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-fp-linux64-revF.20100202.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-fp-linux64-revF.20100202.xml>

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