



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]_rate2006 = 62.3

PRIMERGY RX200 S6, Intel Xeon E5506, 2.13 GHz

SPECfp_rate_base2006 = 60.5

CPU2006 license: 19

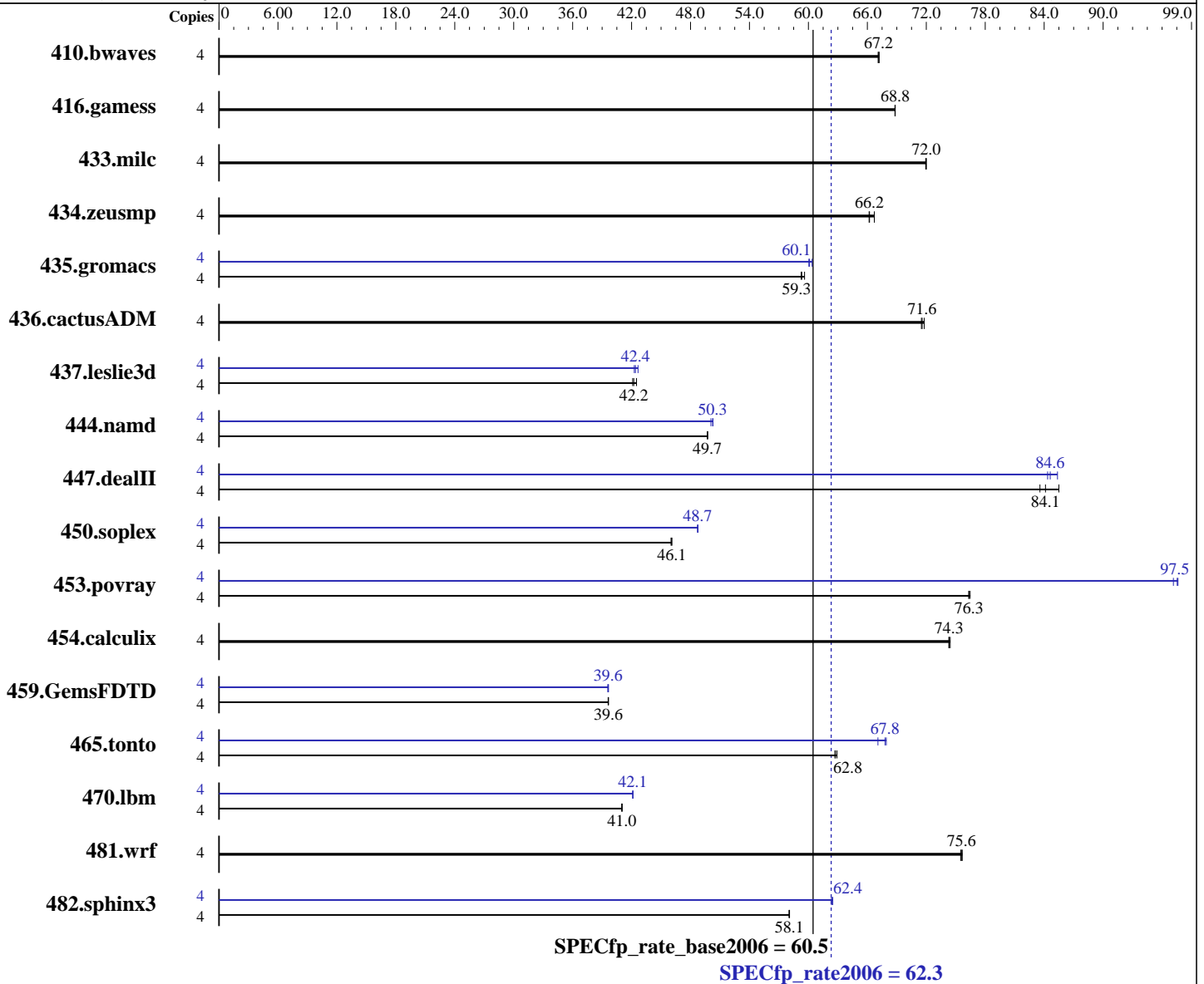
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2010

Hardware Availability: May-2010

Software Availability: Jan-2010



Hardware

CPU Name: Intel Xeon E5506
 CPU Characteristics:
 CPU MHz: 2133
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 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: l_cproc_p_11.1.064, l_cprof_p_11.1.064
 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: 24 GB (6x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC, see add'l detail in notes)
Disk Subsystem: 1 x SATA, 160 GB, 5400 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 | 810 | 67.1 | 809 | 67.2 | 809 | 67.2 | 4 | 810 | 67.1 | 809 | 67.2 | 809 | 67.2 | | |
| 416.gamess | 4 | 1138 | 68.8 | 1138 | 68.8 | 1138 | 68.8 | 4 | 1138 | 68.8 | 1138 | 68.8 | 1138 | 68.8 | | |
| 433.milc | 4 | 510 | 71.9 | 510 | 72.0 | 510 | 72.0 | 4 | 510 | 71.9 | 510 | 72.0 | 510 | 72.0 | | |
| 434.zeusmp | 4 | 546 | 66.7 | 550 | 66.2 | 550 | 66.2 | 4 | 546 | 66.7 | 550 | 66.2 | 550 | 66.2 | | |
| 435.gromacs | 4 | 481 | 59.3 | 482 | 59.3 | 479 | 59.6 | 4 | 476 | 60.0 | 473 | 60.4 | 475 | 60.1 | | |
| 436.cactusADM | 4 | 668 | 71.5 | 666 | 71.8 | 668 | 71.6 | 4 | 668 | 71.5 | 666 | 71.8 | 668 | 71.6 | | |
| 437.leslie3d | 4 | 891 | 42.2 | 885 | 42.5 | 893 | 42.1 | 4 | 881 | 42.7 | 889 | 42.3 | 887 | 42.4 | | |
| 444.namd | 4 | 645 | 49.7 | 645 | 49.7 | 645 | 49.7 | 4 | 638 | 50.3 | 638 | 50.3 | 641 | 50.1 | | |
| 447.dealII | 4 | 548 | 83.6 | 544 | 84.1 | 535 | 85.5 | 4 | 541 | 84.6 | 543 | 84.4 | 536 | 85.4 | | |
| 450.soplex | 4 | 725 | 46.0 | 724 | 46.1 | 724 | 46.1 | 4 | 685 | 48.7 | 685 | 48.7 | 684 | 48.8 | | |
| 453.povray | 4 | 279 | 76.3 | 278 | 76.5 | 279 | 76.3 | 4 | 219 | 97.2 | 218 | 97.6 | 218 | 97.5 | | |
| 454.calculix | 4 | 444 | 74.3 | 443 | 74.4 | 444 | 74.3 | 4 | 444 | 74.3 | 443 | 74.4 | 444 | 74.3 | | |
| 459.GemsFDTD | 4 | 1070 | 39.6 | 1071 | 39.6 | 1071 | 39.6 | 4 | 1070 | 39.7 | 1072 | 39.6 | 1072 | 39.6 | | |
| 465.tonto | 4 | 627 | 62.8 | 626 | 62.9 | 628 | 62.7 | 4 | 581 | 67.8 | 587 | 67.1 | 579 | 67.9 | | |
| 470.lbm | 4 | 1340 | 41.0 | 1340 | 41.0 | 1340 | 41.0 | 4 | 1305 | 42.1 | 1305 | 42.1 | 1304 | 42.1 | | |
| 481.wrf | 4 | 591 | 75.6 | 591 | 75.7 | 592 | 75.5 | 4 | 591 | 75.6 | 591 | 75.7 | 592 | 75.5 | | |
| 482.sphinx3 | 4 | 1343 | 58.1 | 1344 | 58.0 | 1342 | 58.1 | 4 | 1248 | 62.5 | 1249 | 62.4 | 1250 | 62.3 | | |

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

Platform Notes

The system automatically configures the memory to run at 800 MHz.
BIOS configuration:
Data Reuse Optimization = Disable



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General Notes

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

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

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-xSSE4.2 -ipo -O3 -no-prec-div -static

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.deallI: -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:

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Peak Optimization Flags (Continued)

433.milc: basepeak = yes

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

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: basepeak = yes

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

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

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