



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]2006 = 26.5

PRIMERGY TX150 S7, Intel Pentium G6950, 2.80 GHz

SPECfp_base2006 = 25.3

CPU2006 license: 19

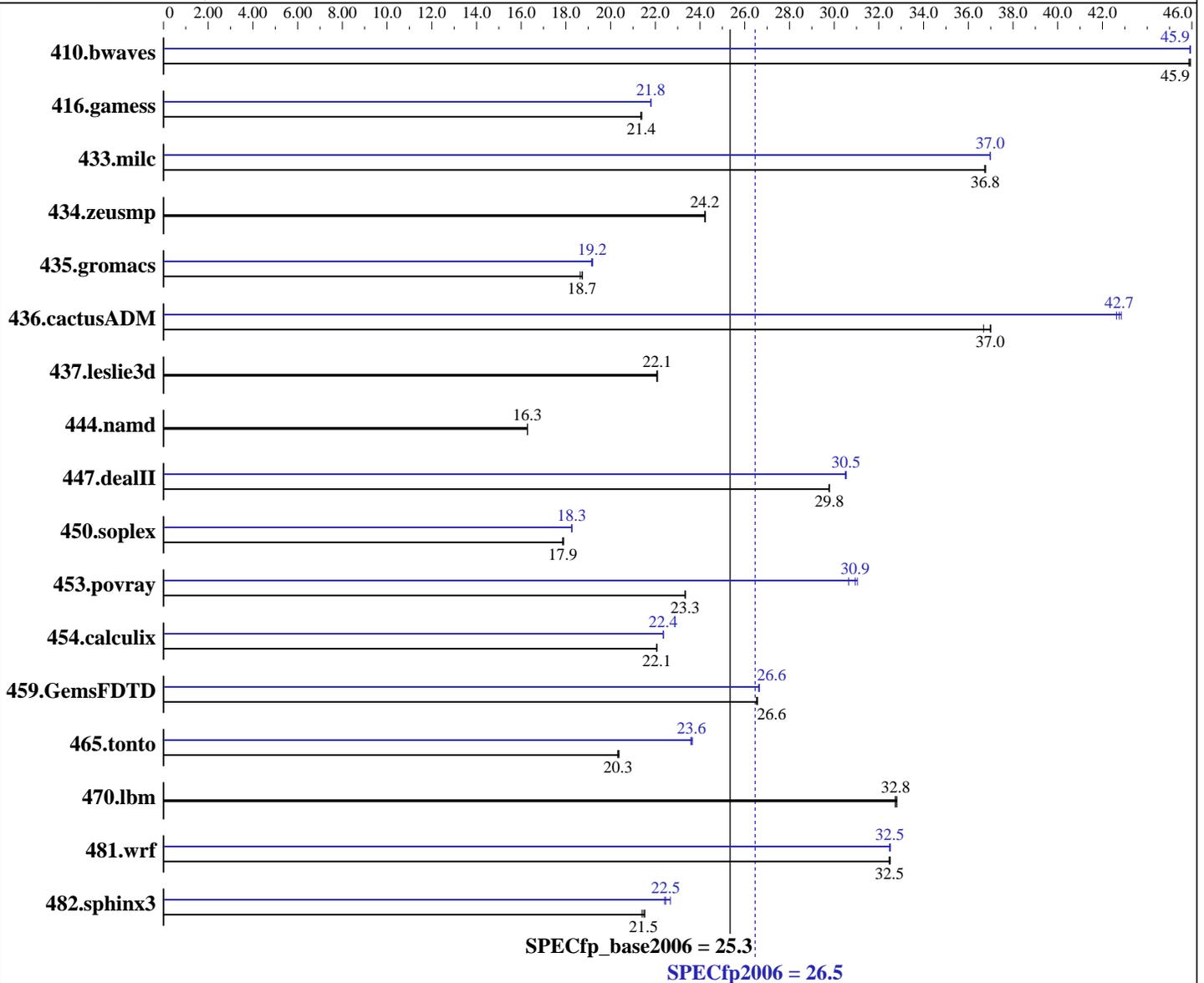
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Jan-2010

Hardware Availability: Jan-2010

Software Availability: Nov-2009



Hardware

CPU Name: Intel Pentium G6950
 CPU Characteristics:
 CPU MHz: 2800
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 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: Yes
 File System: ext3
 System State: Multi-User Run Level 3

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L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (2x4 GB PC3-10600E, 2 rank, CL9-9-9, ECC, see add'l detail in notes)
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 | | | | | |
|---------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|
| | Seconds | Ratio |
| 410.bwaves | 296 | 45.9 | 296 | 45.9 | 296 | 45.9 | 296 | 45.9 | 296 | 45.9 | 296 | 45.9 |
| 416.gamess | 916 | 21.4 | 915 | 21.4 | 917 | 21.3 | 898 | 21.8 | 898 | 21.8 | 898 | 21.8 |
| 433.milc | 250 | 36.8 | 250 | 36.7 | 250 | 36.8 | 248 | 37.0 | 248 | 37.0 | 248 | 37.0 |
| 434.zeusmp | 376 | 24.2 | 376 | 24.2 | 376 | 24.2 | 376 | 24.2 | 376 | 24.2 | 376 | 24.2 |
| 435.gromacs | 381 | 18.7 | 381 | 18.7 | 383 | 18.6 | 372 | 19.2 | 373 | 19.1 | 372 | 19.2 |
| 436.cactusADM | 323 | 37.0 | 326 | 36.7 | 323 | 37.0 | 279 | 42.8 | 280 | 42.6 | 280 | 42.7 |
| 437.leslie3d | 425 | 22.1 | 426 | 22.1 | 426 | 22.1 | 425 | 22.1 | 426 | 22.1 | 426 | 22.1 |
| 444.namd | 493 | 16.3 | 492 | 16.3 | 493 | 16.3 | 493 | 16.3 | 492 | 16.3 | 493 | 16.3 |
| 447.dealII | 384 | 29.8 | 384 | 29.8 | 384 | 29.8 | 375 | 30.5 | 375 | 30.5 | 375 | 30.5 |
| 450.soplex | 466 | 17.9 | 467 | 17.9 | 467 | 17.9 | 457 | 18.3 | 457 | 18.2 | 456 | 18.3 |
| 453.povray | 228 | 23.3 | 228 | 23.4 | 228 | 23.3 | 174 | 30.6 | 171 | 31.0 | 172 | 30.9 |
| 454.calculix | 374 | 22.1 | 374 | 22.1 | 374 | 22.1 | 369 | 22.3 | 369 | 22.4 | 369 | 22.4 |
| 459.GemsFDTD | 399 | 26.6 | 400 | 26.5 | 399 | 26.6 | 398 | 26.6 | 398 | 26.7 | 399 | 26.6 |
| 465.tonto | 483 | 20.4 | 484 | 20.3 | 484 | 20.3 | 416 | 23.7 | 417 | 23.6 | 417 | 23.6 |
| 470.lbm | 419 | 32.8 | 420 | 32.7 | 420 | 32.8 | 419 | 32.8 | 420 | 32.7 | 420 | 32.8 |
| 481.wrf | 344 | 32.5 | 344 | 32.5 | 344 | 32.5 | 344 | 32.5 | 344 | 32.5 | 344 | 32.5 |
| 482.sphinx3 | 911 | 21.4 | 908 | 21.5 | 905 | 21.5 | 860 | 22.7 | 867 | 22.5 | 870 | 22.4 |

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

The system automatically configures the memory to run at 1066 MHz.

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M
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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.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:
-xSSSE3 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:
-xSSSE3 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xSSSE3 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch



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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: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -fno-alias

470.lbm: basepeak = yes

482.sphinx3: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2

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Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias -scalar-rep-
-opt-prefetch

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -ansi-alias
-scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -Ob0 -opt-prefetch
-parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll4 -auto

Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-prefetch -auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -opt-prefetch -parallel
-auto-ilp32

454.calculix: -xSSSE3 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
-parallel -auto-ilp32



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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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