



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/T110b
(Intel Pentium G6950)

SPECfp[®]_rate2006 = 41.2

SPECfp_rate_base2006 = 39.6

CPU2006 license: 9006

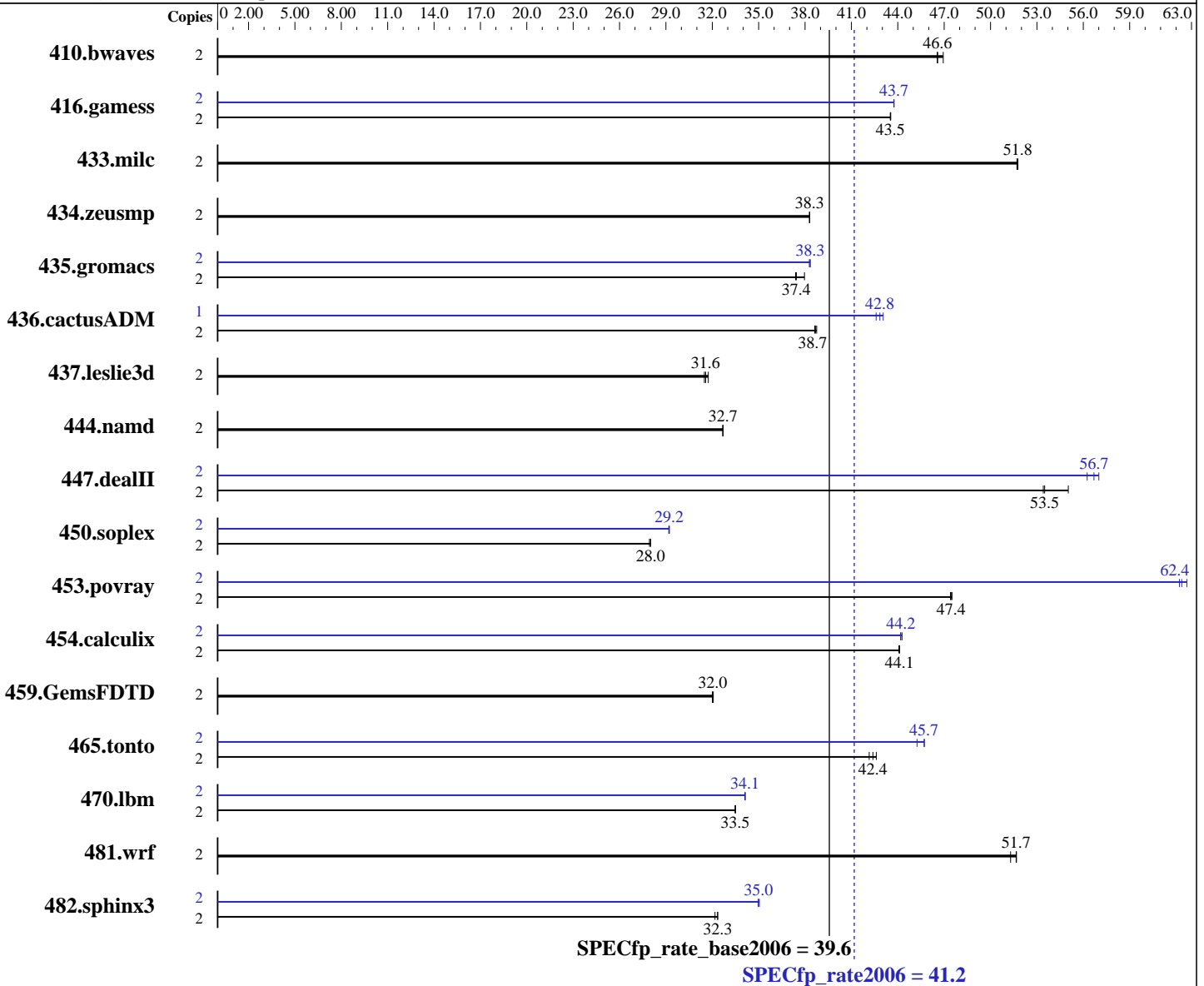
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Feb-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-default
 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: Run level 3 (multi-user)

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L3 Cache: 3 MB I+D on chip per chip
Other Cache: None
Memory: 8 GB (4 x 2 GB PC3-10600E running at 1066 MHz)
Disk Subsystem: 1x160 GB SATA, 7200 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 | 2 | 579 | 46.9 | 584 | 46.6 | 584 | 46.6 | 2 | 579 | 46.9 | 584 | 46.6 | 584 | 46.6 |
| 416.gamess | 2 | 900 | 43.5 | 899 | 43.5 | 900 | 43.5 | 2 | 895 | 43.7 | 895 | 43.7 | 895 | 43.8 |
| 433.milc | 2 | 355 | 51.8 | 355 | 51.7 | 355 | 51.8 | 2 | 355 | 51.8 | 355 | 51.7 | 355 | 51.8 |
| 434.zeusmp | 2 | 475 | 38.3 | 475 | 38.3 | 475 | 38.3 | 2 | 475 | 38.3 | 475 | 38.3 | 475 | 38.3 |
| 435.gromacs | 2 | 376 | 38.0 | 381 | 37.4 | 382 | 37.4 | 2 | 373 | 38.3 | 373 | 38.3 | 373 | 38.3 |
| 436.cactusADM | 2 | 617 | 38.8 | 619 | 38.6 | 618 | 38.7 | 1 | 279 | 42.8 | 278 | 43.1 | 281 | 42.6 |
| 437.leslie3d | 2 | 596 | 31.6 | 597 | 31.5 | 592 | 31.7 | 2 | 596 | 31.6 | 597 | 31.5 | 592 | 31.7 |
| 444.namd | 2 | 491 | 32.7 | 491 | 32.7 | 490 | 32.7 | 2 | 491 | 32.7 | 491 | 32.7 | 490 | 32.7 |
| 447.dealII | 2 | 416 | 55.0 | 428 | 53.4 | 428 | 53.5 | 2 | 401 | 57.0 | 407 | 56.2 | 404 | 56.7 |
| 450.soplex | 2 | 597 | 27.9 | 596 | 28.0 | 596 | 28.0 | 2 | 571 | 29.2 | 571 | 29.2 | 572 | 29.2 |
| 453.povray | 2 | 224 | 47.5 | 224 | 47.4 | 224 | 47.4 | 2 | 171 | 62.4 | 171 | 62.2 | 170 | 62.7 |
| 454.calculix | 2 | 374 | 44.1 | 374 | 44.1 | 374 | 44.1 | 2 | 373 | 44.3 | 373 | 44.2 | 373 | 44.2 |
| 459.GemsFDTD | 2 | 663 | 32.0 | 663 | 32.0 | 662 | 32.1 | 2 | 663 | 32.0 | 663 | 32.0 | 662 | 32.1 |
| 465.tonto | 2 | 462 | 42.6 | 464 | 42.4 | 467 | 42.1 | 2 | 435 | 45.2 | 430 | 45.7 | 431 | 45.7 |
| 470.lbm | 2 | 820 | 33.5 | 821 | 33.5 | 821 | 33.5 | 2 | 805 | 34.1 | 805 | 34.1 | 806 | 34.1 |
| 481.wrf | 2 | 436 | 51.3 | 432 | 51.7 | 432 | 51.7 | 2 | 436 | 51.3 | 432 | 51.7 | 432 | 51.7 |
| 482.sphinx3 | 2 | 1205 | 32.3 | 1205 | 32.3 | 1212 | 32.2 | 2 | 1115 | 35.0 | 1114 | 35.0 | 1112 | 35.0 |

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.
taskset has been used to bind processes to cores except
for 436.cactusADM peak

Operating System Notes

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

Platform Notes

Default BIOS settings were used.



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General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
KMP_STACKSIZE set to 200M

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 -opt-prefetch

C++ benchmarks:

-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

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Base Optimization Flags (Continued)

Fortran benchmarks:

-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

Benchmarks using both Fortran and C:

-xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch

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



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Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: -xSSSE3 -ipo -O3 -no-prec-div -static -opt-prefetch
-auto-ilp32

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

C++ benchmarks:

444.namd: basepeak = yes

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

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: basepeak = yes

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: basepeak = yes

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

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Peak Optimization Flags (Continued)

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-fp-linux64-revE.20100302.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-revE.20100302.xml>

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For other inquiries, please contact webmaster@spec.org.

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