



SPEC® CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp®2006 = 110

Express5800/B120f-h (Intel Xeon E5-2640 v3)

SPECfp_base2006 = 104

CPU2006 license: 9006

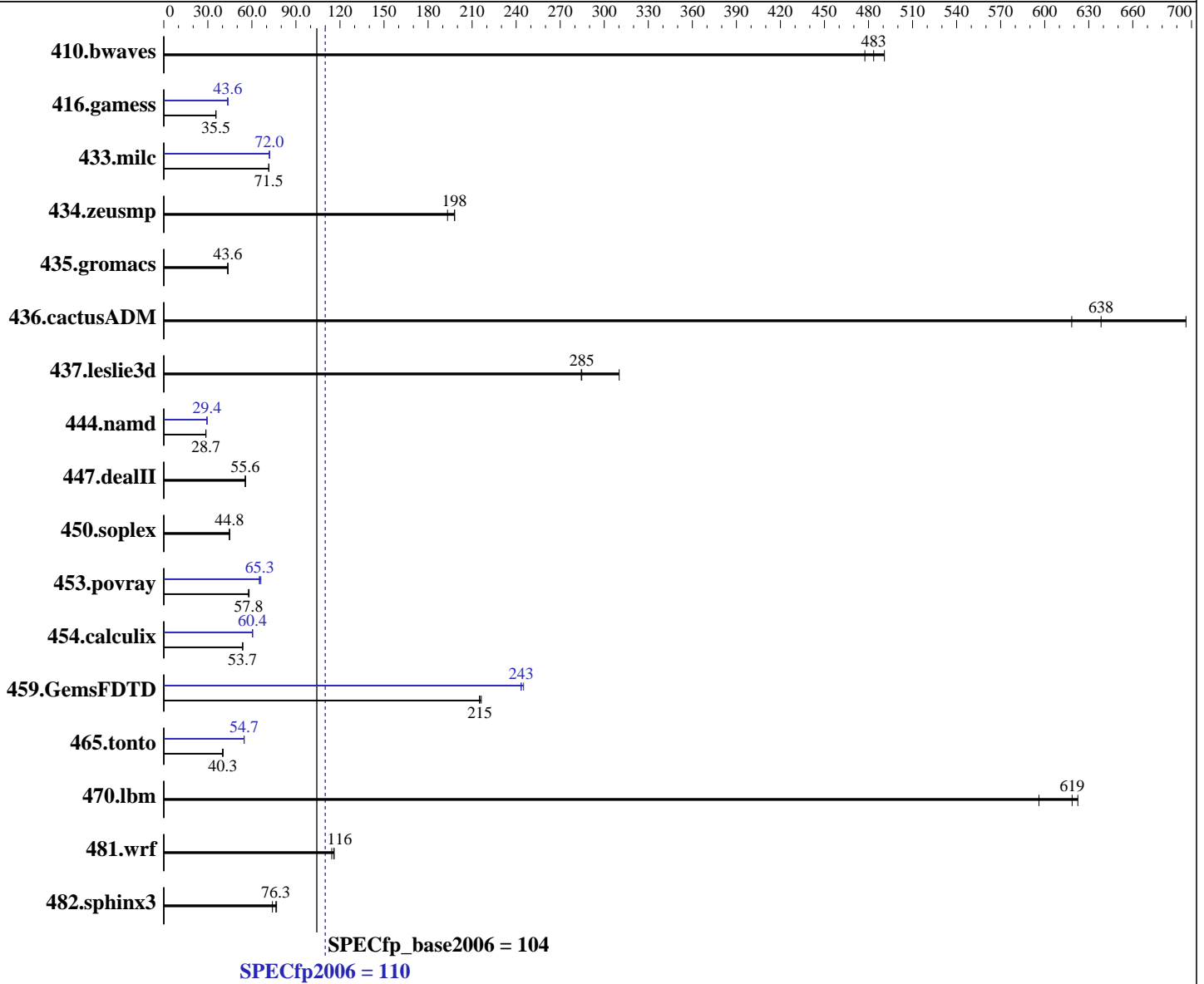
Test date: Mar-2015

Test sponsor: NEC Corporation

Hardware Availability: Jun-2015

Tested by: NEC Corporation

Software Availability: Oct-2014



SPECfp_base2006 = 104

SPECfp2006 = 110

Hardware

CPU Name: Intel Xeon E5-2640 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 6.6 (Santiago)
 Kernel 2.6.32-504.el6.x86_64
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux;
 Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = **110**

Express5800/B120f-h (Intel Xeon E5-2640 v3)

SPECfp_base2006 = **104**

CPU2006 license: 9006

Test date: Mar-2015

Test sponsor: NEC Corporation

Hardware Availability: Jun-2015

Tested by: NEC Corporation

Software Availability: Oct-2014

L3 Cache: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)
 Disk Subsystem: 1 x 400 GB SATA, SSD
 Other Hardware: None

System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	28.1	483	27.7	491	28.5	478	28.1	483	27.7	491	28.5	478
416.gamess	552	35.5	551	35.6	553	35.4	449	43.6	449	43.6	451	43.4
433.milc	128	71.5	128	71.5	128	71.6	128	72.0	128	72.0	128	71.9
434.zeusmp	47.1	193	46.0	198	45.9	198	47.1	193	46.0	198	45.9	198
435.gromacs	164	43.6	164	43.7	164	43.5	164	43.6	164	43.7	164	43.5
436.cactusADM	17.2	696	18.7	638	19.3	618	17.2	696	18.7	638	19.3	618
437.leslie3d	30.3	310	33.1	284	33.0	285	30.3	310	33.1	284	33.0	285
444.namd	280	28.7	280	28.7	280	28.7	273	29.4	273	29.4	272	29.4
447.dealII	206	55.6	206	55.6	206	55.6	206	55.6	206	55.6	206	55.6
450.soplex	187	44.7	186	44.8	186	44.8	187	44.7	186	44.8	186	44.8
453.povray	92.1	57.8	91.5	58.1	92.2	57.7	81.4	65.3	81.8	65.1	80.4	66.1
454.calculix	153	53.8	154	53.7	154	53.6	137	60.4	136	60.5	136	60.4
459.GemsFDTD	49.4	215	49.1	216	49.3	215	43.6	243	43.6	243	43.3	245
465.tonto	244	40.3	246	39.9	244	40.3	180	54.7	180	54.7	180	54.7
470.lbm	23.1	596	22.2	619	22.1	623	23.1	596	22.2	619	22.1	623
481.wrf	96.4	116	97.6	114	96.3	116	96.4	116	97.6	114	96.3	116
482.sphinx3	254	76.8	263	74.0	255	76.3	254	76.8	263	74.0	255	76.3

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS Settings:
 Energy Performance: Performance
 Patrol Scrub: Disabled
 Early Snoop: Disabled
 Hyper-Threading: Disabled



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 110

Express5800/B120f-h (Intel Xeon E5-2640 v3)

SPECfp_base2006 = 104

CPU2006 license: 9006

Test date: Mar-2015

Test sponsor: NEC Corporation

Hardware Availability: Jun-2015

Tested by: NEC Corporation

Software Availability: Oct-2014

General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=fine,compact"

LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

OMP_NUM_THREADS = "16"

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

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:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 110

Express5800/B120f-h (Intel Xeon E5-2640 v3)

SPECfp_base2006 = 104

CPU2006 license: 9006

Test date: Mar-2015

Test sponsor: NEC Corporation

Hardware Availability: Jun-2015

Tested by: NEC Corporation

Software Availability: Oct-2014

Base Optimization Flags (Continued)

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

Peak Compiler Invocation

C benchmarks:

icc -m64

C++ benchmarks:

icpc -m64

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

icc -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

433.milc: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 110

Express5800/B120f-h (Intel Xeon E5-2640 v3)

SPECfp_base2006 = 104

CPU2006 license: 9006

Test date: Mar-2015

Test sponsor: NEC Corporation

Hardware Availability: Jun-2015

Tested by: NEC Corporation

Software Availability: Oct-2014

Peak Optimization Flags (Continued)

444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-fno-alias -auto-ilp32

447.dealIII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -opt-prefetch -parallel

465.tonto: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-B120f-RevB.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-B120f-RevB.xml>



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 110

Express5800/B120f-h (Intel Xeon E5-2640 v3)

SPECfp_base2006 = 104

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Mar-2015

Hardware Availability: Jun-2015

Software Availability: Oct-2014

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Jun 30 16:15:38 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 30 June 2015.