



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp[®]2006 = 66.5

Express5800/E120d-M (Intel Xeon E5-2430)

SPECfp_base2006 = 63.9

CPU2006 license: 9006

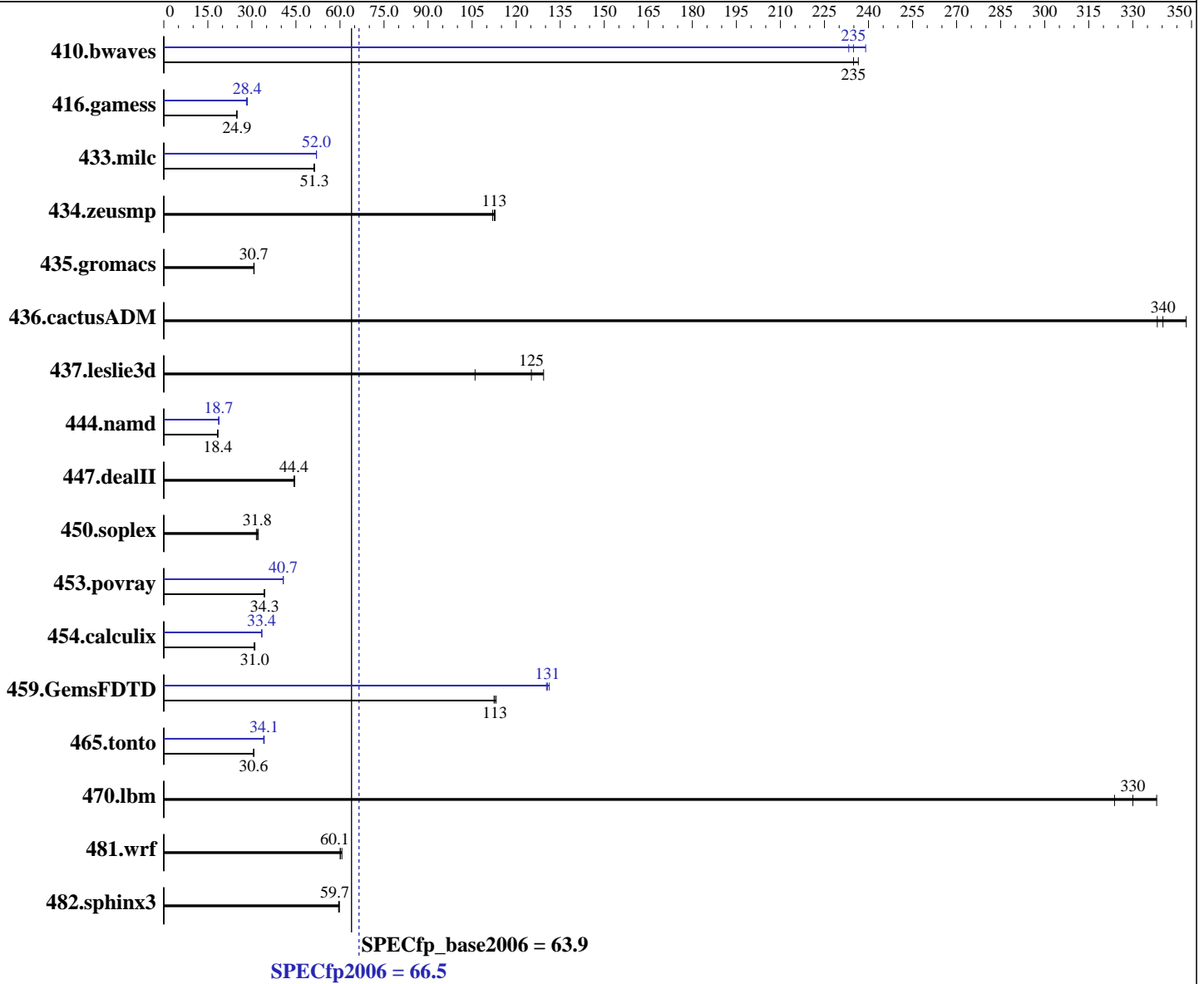
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2012

Hardware Availability: Jul-2012

Software Availability: Feb-2012



Hardware	
CPU Name:	Intel Xeon E5-2430
CPU Characteristics:	Intel Turbo Boost Technology up to 2.70 GHz
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
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 6.2 (Santiago)
	Kernel 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.3.293 of Intel C++ Studio XE for Linux;
	Fortran: Version 12.1.3.293 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = **66.5**

Express5800/E120d-M (Intel Xeon E5-2430)

SPECfp_base2006 = **63.9**

CPU2006 license: 9006

Test date: Jul-2012

Test sponsor: NEC Corporation

Hardware Availability: Jul-2012

Tested by: NEC Corporation

Software Availability: Feb-2012

L3 Cache: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 96 GB (12 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)
 Disk Subsystem: 1 x 250 GB SATA, 7200 RPM
 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	57.5	237	57.9	235	57.9	235	56.9	239	57.9	235	58.3	233
416.gamess	789	24.8	787	24.9	785	24.9	689	28.4	696	28.1	688	28.4
433.milc	180	51.1	179	51.3	179	51.4	177	52.0	177	52.0	177	52.0
434.zeusmp	81.3	112	80.7	113	80.9	113	81.3	112	80.7	113	80.9	113
435.gromacs	232	30.7	233	30.6	232	30.8	232	30.7	233	30.6	232	30.8
436.cactusADM	35.1	340	34.3	348	35.3	338	35.1	340	34.3	348	35.3	338
437.leslie3d	88.7	106	75.1	125	72.7	129	88.7	106	75.1	125	72.7	129
444.namd	436	18.4	436	18.4	436	18.4	428	18.7	428	18.7	428	18.7
447.dealII	258	44.4	256	44.6	258	44.4	258	44.4	256	44.6	258	44.4
450.soplex	259	32.2	264	31.5	262	31.8	259	32.2	264	31.5	262	31.8
453.povray	155	34.3	155	34.3	156	34.2	131	40.7	131	40.7	131	40.7
454.calculix	266	31.0	268	30.8	266	31.0	247	33.4	247	33.3	247	33.4
459.GemsFDTD	94.1	113	94.3	112	93.7	113	81.2	131	81.4	130	80.8	131
465.tonto	321	30.6	321	30.6	321	30.7	288	34.2	289	34.0	288	34.1
470.lbm	42.4	324	40.6	338	41.6	330	42.4	324	40.6	338	41.6	330
481.wrf	184	60.7	186	60.1	186	60.1	184	60.7	186	60.1	186	60.1
482.sphinx3	326	59.8	327	59.5	326	59.7	326	59.8	327	59.5	326	59.7

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

General Notes

Environment variables set by runspec before the start of the run:
 KMP_AFFINITY = "granularity=fine,compact,1,0"
 LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 66.5

Express5800/E120d-M (Intel Xeon E5-2430)

SPECfp_base2006 = 63.9

CPU2006 license: 9006

Test date: Jul-2012

Test sponsor: NEC Corporation

Hardware Availability: Jul-2012

Tested by: NEC Corporation

Software Availability: Feb-2012

General Notes (Continued)

OMP_NUM_THREADS = "12"

Added glibc-static-2.12-1.47.el6.x86_64.rpm
to enable static linking

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:

-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation	SPECfp2006 =	66.5
Express5800/E120d-M (Intel Xeon E5-2430)	SPECfp_base2006 =	63.9

CPU2006 license: 9006	Test date: Jul-2012
Test sponsor: NEC Corporation	Hardware Availability: Jul-2012
Tested by: NEC Corporation	Software Availability: Feb-2012

Base Optimization Flags (Continued)

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias`

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Benchmarks using both Fortran and C:

`-xAVX -ipo -O3 -no-prec-div -static -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: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
-ansi-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `basepeak = yes`

C++ benchmarks:

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 66.5

Express5800/E120d-M (Intel Xeon E5-2430)

SPECfp_base2006 = 63.9

CPU2006 license: 9006

Test date: Jul-2012

Test sponsor: NEC Corporation

Hardware Availability: Jul-2012

Tested by: NEC Corporation

Software Availability: Feb-2012

Peak Optimization Flags (Continued)

444.namd: -xAVX(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.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel
-static

416.gamess: -xAVX(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- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xSSE4.2(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: -xAVX(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: -xAVX -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-ic12.1-official-linux64.20120425.html>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.xml>



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 66.5

Express5800/E120d-M (Intel Xeon E5-2430)

SPECfp_base2006 = 63.9

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2012

Hardware Availability: Jul-2012

Software Availability: Feb-2012

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 Thu Jul 24 10:54:01 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 29 August 2012.