



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

SPECfp<sup>®</sup>2006 = **51.8**

Express5800/R120d-1E (Intel Xeon E5-2407)

SPECfp\_base2006 = **50.2**

CPU2006 license: 9006

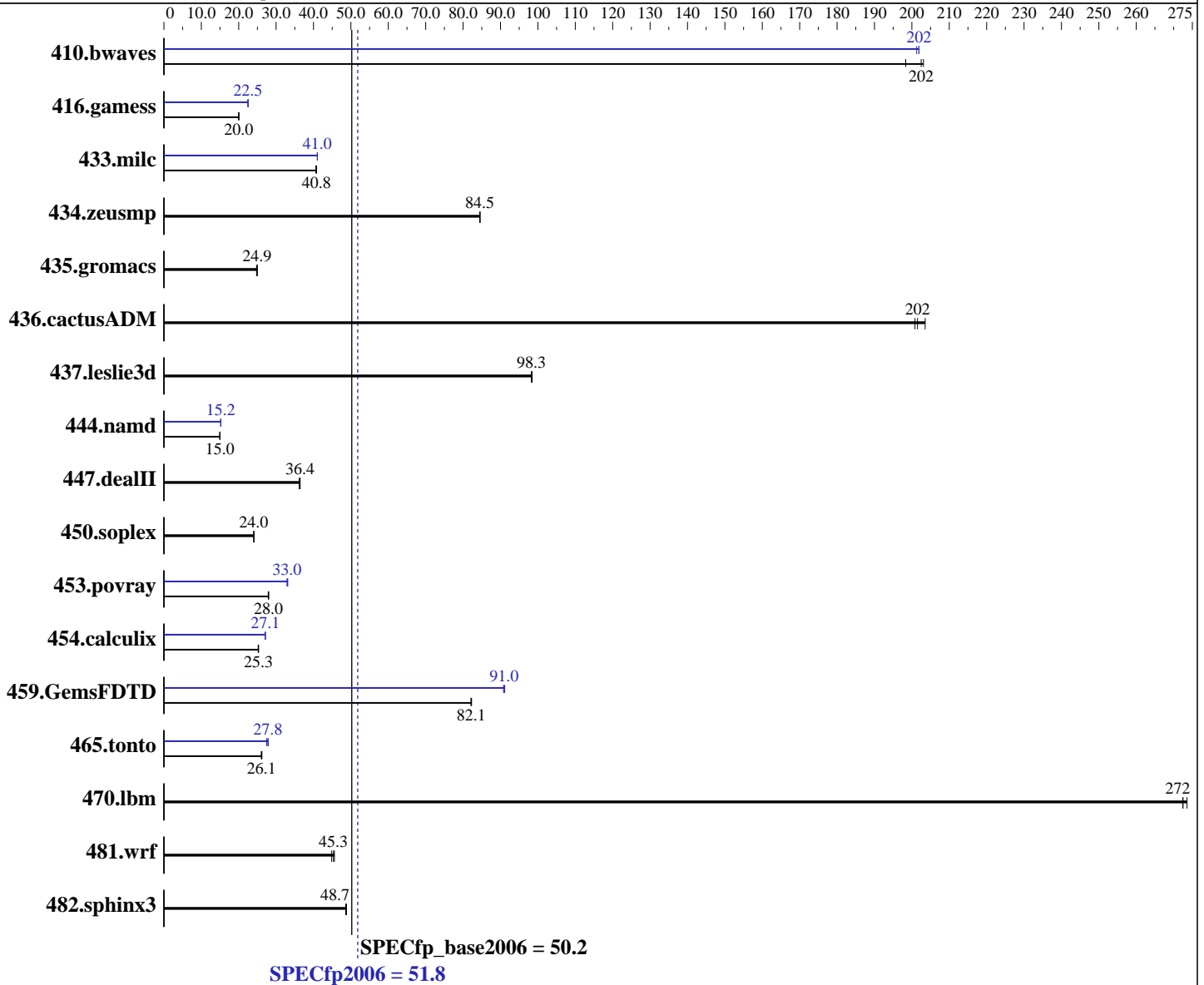
Test date: Jun-2012

Test sponsor: NEC Corporation

Hardware Availability: May-2012

Tested by: NEC Corporation

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2407  
 CPU Characteristics:  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 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

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 12.1.2.273 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.2.273 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 = **51.8**

Express5800/R120d-1E (Intel Xeon E5-2407)

SPECfp\_base2006 = **50.2**

CPU2006 license: 9006

Test date: Jun-2012

Test sponsor: NEC Corporation

Hardware Availability: May-2012

Tested by: NEC Corporation

Software Availability: Dec-2011

L3 Cache: 10 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 96 GB (12 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1066 MHz and CL7)  
 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	68.5	198	<b>67.1</b>	<b>202</b>	66.9	203	67.5	201	<b>67.3</b>	<b>202</b>	67.3	202
416.gamess	<b>979</b>	<b>20.0</b>	976	20.1	980	20.0	<b>871</b>	<b>22.5</b>	870	22.5	871	22.5
433.milc	<b>225</b>	<b>40.8</b>	225	40.8	226	40.6	<b>224</b>	<b>41.0</b>	224	41.0	224	41.0
434.zeusmp	108	84.5	108	84.5	<b>108</b>	<b>84.5</b>	108	84.5	108	84.5	<b>108</b>	<b>84.5</b>
435.gromacs	<b>286</b>	<b>24.9</b>	286	25.0	288	24.8	<b>286</b>	<b>24.9</b>	286	25.0	288	24.8
436.cactusADM	58.7	204	<b>59.3</b>	<b>202</b>	59.5	201	58.7	204	<b>59.3</b>	<b>202</b>	59.5	201
437.leslie3d	95.7	98.3	<b>95.7</b>	<b>98.3</b>	95.5	98.5	95.7	98.3	<b>95.7</b>	<b>98.3</b>	95.5	98.5
444.namd	536	15.0	536	15.0	<b>536</b>	<b>15.0</b>	527	15.2	527	15.2	<b>527</b>	<b>15.2</b>
447.dealII	316	36.2	<b>314</b>	<b>36.4</b>	314	36.4	316	36.2	<b>314</b>	<b>36.4</b>	314	36.4
450.soplex	347	24.1	<b>347</b>	<b>24.0</b>	347	24.0	347	24.1	<b>347</b>	<b>24.0</b>	347	24.0
453.povray	<b>190</b>	<b>28.0</b>	191	27.9	190	28.0	<b>161</b>	<b>33.0</b>	161	33.1	161	33.0
454.calculix	<b>326</b>	<b>25.3</b>	326	25.3	327	25.2	304	27.1	<b>304</b>	<b>27.1</b>	304	27.1
459.GemsFDTD	<b>129</b>	<b>82.1</b>	129	82.3	129	82.1	<b>117</b>	<b>91.0</b>	116	91.1	117	90.8
465.tonto	378	26.0	375	26.2	<b>377</b>	<b>26.1</b>	<b>354</b>	<b>27.8</b>	358	27.5	353	27.9
470.lbm	50.4	272	50.2	274	<b>50.4</b>	<b>272</b>	50.4	272	50.2	274	<b>50.4</b>	<b>272</b>
481.wrf	245	45.6	<b>246</b>	<b>45.3</b>	249	44.9	245	45.6	<b>246</b>	<b>45.3</b>	249	44.9
482.sphinx3	401	48.7	399	48.8	<b>401</b>	<b>48.7</b>	401	48.7	399	48.8	<b>401</b>	<b>48.7</b>

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,scatter"  
 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 = 51.8

Express5800/R120d-1E (Intel Xeon E5-2407)

SPECfp\_base2006 = 50.2

CPU2006 license: 9006

Test date: Jun-2012

Test sponsor: NEC Corporation

Hardware Availability: May-2012

Tested by: NEC Corporation

Software Availability: Dec-2011

## General Notes (Continued)

OMP\_NUM\_THREADS = "8"

The Express5800/R120d-1E and the Express5800/R120d-2E models are electronically equivalent. The results have been measured on the Express5800/R120d-2E model.

Added glibc-static-2.12-1.47.el6.x86\_64.rpm to enable static linking

Transparent Huge Pages disabled with:  
echo never > /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.deallI: -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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 51.8

Express5800/R120d-1E (Intel Xeon E5-2407)

SPECfp\_base2006 = 50.2

CPU2006 license: 9006

Test date: Jun-2012

Test sponsor: NEC Corporation

Hardware Availability: May-2012

Tested by: NEC Corporation

Software Availability: Dec-2011

## Base Optimization Flags

C benchmarks:

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

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

**SPECfp2006 = 51.8**

**Express5800/R120d-1E (Intel Xeon E5-2407)**

**SPECfp\_base2006 = 50.2**

**CPU2006 license:** 9006

**Test date:** Jun-2012

**Test sponsor:** NEC Corporation

**Hardware Availability:** May-2012

**Tested by:** NEC Corporation

**Software Availability:** Dec-2011

## Peak Optimization Flags (Continued)

C++ benchmarks:

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: -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 -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-linux64.20111122.html>

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

**SPECfp2006 = 51.8**

**Express5800/R120d-1E (Intel Xeon E5-2407)**

**SPECfp\_base2006 = 50.2**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** Jun-2012

**Hardware Availability:** May-2012

**Software Availability:** Dec-2011

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

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

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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 09:39:55 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 3 July 2012.