



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

SPECfp<sup>®</sup>2006 = **61.6**

### Express5800/B120d (Intel Xeon E5-2430L)

SPECfp\_base2006 = **59.3**

CPU2006 license: 9006

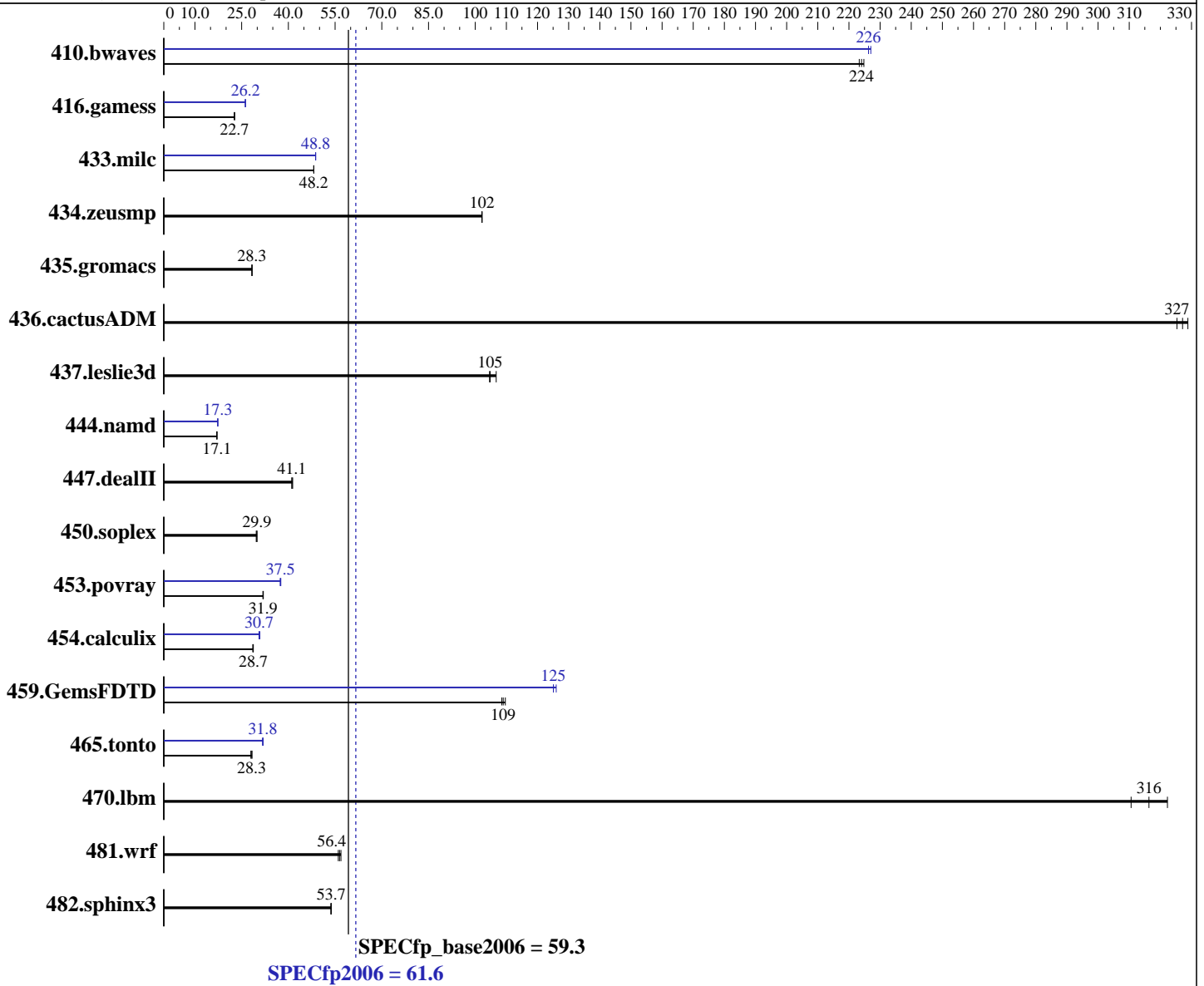
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2012

Hardware Availability: Jun-2012

Software Availability: Dec-2011



**Hardware**

CPU Name: Intel Xeon E5-2430L  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz  
 CPU MHz: 2000  
 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 12.1.2.273 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 = **61.6**

Express5800/B120d (Intel Xeon E5-2430L)

SPECfp\_base2006 = **59.3**

CPU2006 license: 9006

Test date: Jun-2012

Test sponsor: NEC Corporation

Hardware Availability: Jun-2012

Tested by: NEC Corporation

Software Availability: Dec-2011

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 500 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	60.5	225	<b>60.7</b>	<b>224</b>	60.9	223	<b>60.1</b>	<b>226</b>	60.1	226	59.9	227
416.gamess	861	22.7	<b>863</b>	<b>22.7</b>	864	22.7	<b>747</b>	<b>26.2</b>	749	26.1	746	26.2
433.milc	191	48.1	191	48.2	<b>191</b>	<b>48.2</b>	188	48.7	<b>188</b>	<b>48.8</b>	188	48.8
434.zeusmp	89.1	102	<b>89.1</b>	<b>102</b>	89.1	102	89.1	102	<b>89.1</b>	<b>102</b>	89.1	102
435.gromacs	<b>252</b>	<b>28.3</b>	252	28.3	252	28.3	<b>252</b>	<b>28.3</b>	252	28.3	252	28.3
436.cactusADM	<b>36.5</b>	<b>327</b>	36.7	325	36.3	329	<b>36.5</b>	<b>327</b>	36.7	325	36.3	329
437.leslie3d	89.9	105	88.1	107	<b>89.7</b>	<b>105</b>	89.9	105	88.1	107	<b>89.7</b>	<b>105</b>
444.namd	470	17.1	470	17.0	<b>470</b>	<b>17.1</b>	<b>463</b>	<b>17.3</b>	462	17.3	463	17.3
447.dealII	276	41.4	278	41.1	<b>278</b>	<b>41.1</b>	276	41.4	278	41.1	<b>278</b>	<b>41.1</b>
450.soplex	279	29.9	281	29.7	<b>279</b>	<b>29.9</b>	279	29.9	281	29.7	<b>279</b>	<b>29.9</b>
453.povray	166	32.0	<b>167</b>	<b>31.9</b>	167	31.8	<b>142</b>	<b>37.5</b>	142	37.6	142	37.4
454.calculix	289	28.6	<b>287</b>	<b>28.7</b>	287	28.7	<b>269</b>	<b>30.7</b>	267	30.9	270	30.6
459.GemsFDTD	96.7	110	<b>97.4</b>	<b>109</b>	97.8	109	84.8	125	84.2	126	<b>84.8</b>	<b>125</b>
465.tonto	352	27.9	348	28.3	<b>348</b>	<b>28.3</b>	310	31.7	<b>310</b>	<b>31.8</b>	308	31.9
470.lbm	<b>43.4</b>	<b>316</b>	44.2	311	42.6	322	<b>43.4</b>	<b>316</b>	44.2	311	42.6	322
481.wrf	199	56.0	196	56.9	<b>198</b>	<b>56.4</b>	199	56.0	196	56.9	<b>198</b>	<b>56.4</b>
482.sphinx3	362	53.8	<b>363</b>	<b>53.7</b>	363	53.6	362	53.8	<b>363</b>	<b>53.7</b>	363	53.6

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 = 61.6

Express5800/B120d (Intel Xeon E5-2430L)

SPECfp\_base2006 = 59.3

CPU2006 license: 9006

Test date: Jun-2012

Test sponsor: NEC Corporation

Hardware Availability: Jun-2012

Tested by: NEC Corporation

Software Availability: Dec-2011

## 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 = 61.6

Express5800/B120d (Intel Xeon E5-2430L)

SPECfp\_base2006 = 59.3

CPU2006 license: 9006

Test date: Jun-2012

Test sponsor: NEC Corporation

Hardware Availability: Jun-2012

Tested by: NEC Corporation

Software Availability: Dec-2011

## 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 = 61.6

Express5800/B120d (Intel Xeon E5-2430L)

SPECfp\_base2006 = 59.3

CPU2006 license: 9006

Test date: Jun-2012

Test sponsor: NEC Corporation

Hardware Availability: Jun-2012

Tested by: NEC Corporation

Software Availability: Dec-2011

## 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.dealIII: 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-linux64.20120425.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 = 61.6

Express5800/B120d (Intel Xeon E5-2430L)

SPECfp\_base2006 = 59.3

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2012

Hardware Availability: Jun-2012

Software Availability: Dec-2011

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 12:28:02 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 17 July 2012.