



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/B120b  
(Intel Xeon L5640)

SPECfp<sup>®</sup>2006 = 39.3

SPECfp\_base2006 = 36.8

CPU2006 license: 9006

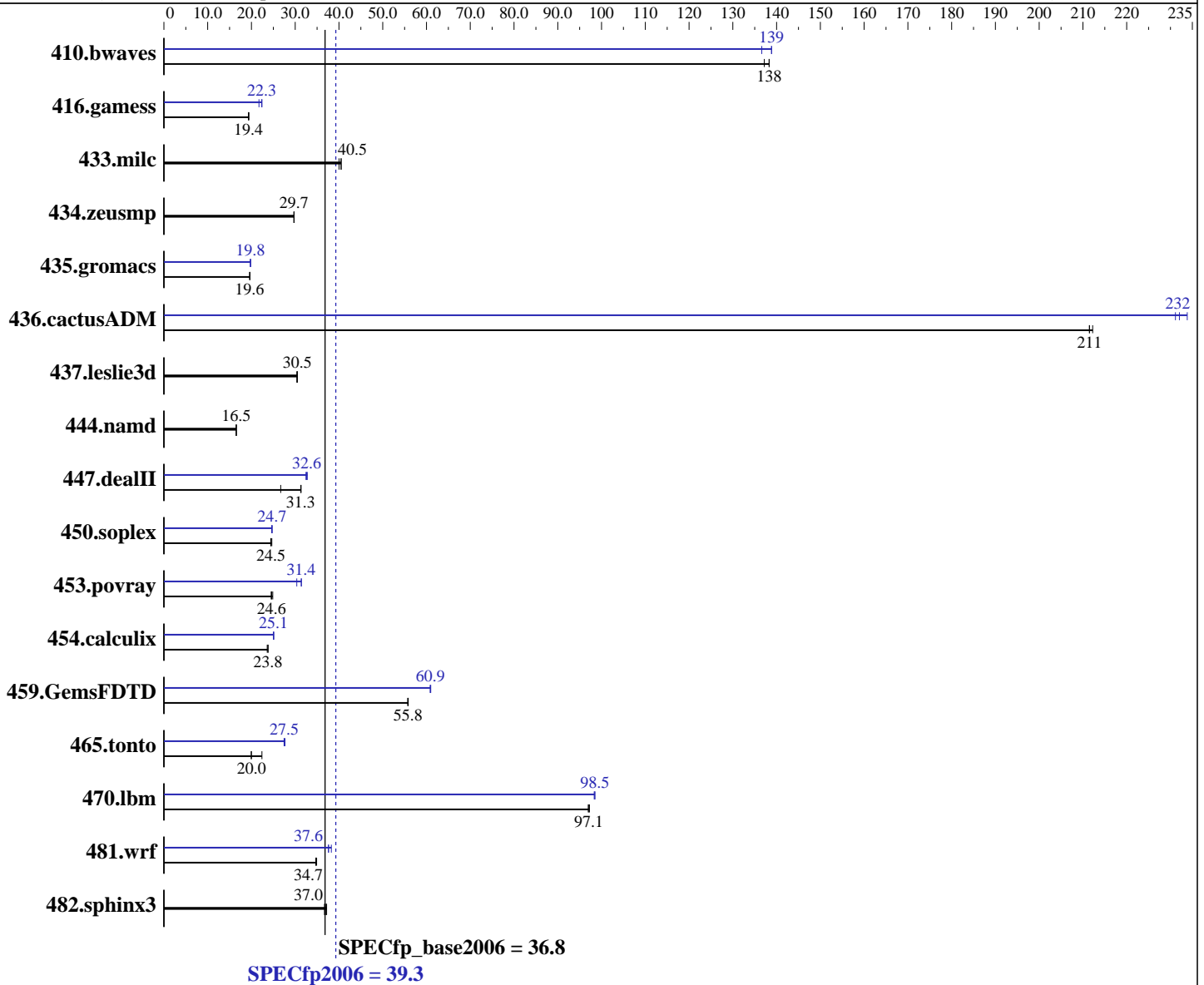
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: May-2010

Hardware Availability: Apr-2010

Software Availability: Dec-2009



**Hardware**

CPU Name: Intel Xeon L5640  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
 CPU MHz: 2267  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 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: 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 20091130 Package ID: I\_cproc\_p\_11.1.064, I\_cprof\_p\_11.1.064  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/B120b  
(Intel Xeon L5640)

SPECfp2006 = **39.3**

SPECfp\_base2006 = **36.8**

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: May-2010

Hardware Availability: Apr-2010

Software Availability: Dec-2009

L3 Cache: 12 MB I+D on chip per chip  
Other Cache: None  
Memory: 48 GB (6 x 8 GB PC3-10600R, 2 rank, CL9, ECC)  
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	99.1	137	<b>98.3</b>	<b>138</b>	98.3	138	<b>97.9</b>	<b>139</b>	99.5	137	97.9	139
416.gamess	<b>1012</b>	<b>19.4</b>	1014	19.3	1009	19.4	901	21.7	874	22.4	<b>876</b>	<b>22.3</b>
433.milc	<b>227</b>	<b>40.5</b>	229	40.0	227	40.5	<b>227</b>	<b>40.5</b>	229	40.0	227	40.5
434.zeusmp	306	29.7	<b>306</b>	<b>29.7</b>	307	29.7	306	29.7	<b>306</b>	<b>29.7</b>	307	29.7
435.gromacs	<b>364</b>	<b>19.6</b>	363	19.7	364	19.6	360	19.8	<b>361</b>	<b>19.8</b>	362	19.7
436.cactusADM	56.3	212	56.5	211	<b>56.5</b>	<b>211</b>	<b>51.5</b>	<b>232</b>	51.7	231	51.1	234
437.leslie3d	309	30.4	308	30.5	<b>309</b>	<b>30.5</b>	309	30.4	308	30.5	<b>309</b>	<b>30.5</b>
444.namd	486	16.5	485	16.5	<b>485</b>	<b>16.5</b>	486	16.5	485	16.5	<b>485</b>	<b>16.5</b>
447.dealII	429	26.7	<b>366</b>	<b>31.3</b>	365	31.4	352	32.5	349	32.8	<b>351</b>	<b>32.6</b>
450.soplex	342	24.4	<b>341</b>	<b>24.5</b>	338	24.7	337	24.7	339	24.6	<b>337</b>	<b>24.7</b>
453.povray	217	24.5	214	24.9	<b>216</b>	<b>24.6</b>	175	30.4	<b>170</b>	<b>31.4</b>	169	31.4
454.calculix	350	23.6	<b>347</b>	<b>23.8</b>	347	23.8	330	25.0	329	25.1	<b>329</b>	<b>25.1</b>
459.GemsFDTD	190	55.8	<b>190</b>	<b>55.8</b>	190	55.7	174	61.0	<b>174</b>	<b>60.9</b>	174	60.8
465.tonto	439	22.4	<b>492</b>	<b>20.0</b>	493	19.9	358	27.5	356	27.7	<b>358</b>	<b>27.5</b>
470.lbm	141	97.2	<b>142</b>	<b>97.1</b>	142	97.0	140	98.5	<b>140</b>	<b>98.5</b>	140	98.3
481.wrf	322	34.7	<b>321</b>	<b>34.7</b>	320	34.9	297	37.6	<b>297</b>	<b>37.6</b>	292	38.3
482.sphinx3	524	37.2	531	36.7	<b>526</b>	<b>37.0</b>	524	37.2	531	36.7	<b>526</b>	<b>37.0</b>

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

## Operating System Notes

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

## Platform Notes

BIOS setting:  
Hyper-Threading Technology : Disabled

## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter  
KMP\_STACKSIZE set to 200M



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/B120b  
(Intel Xeon L5640)

**SPECfp2006 = 39.3**

**SPECfp\_base2006 = 36.8**

**CPU2006 license:** 9006  
**Test sponsor:** NEC Corporation  
**Tested by:** NEC Corporation

**Test date:** May-2010  
**Hardware Availability:** Apr-2010  
**Software Availability:** Dec-2009

## 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:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Fortran benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/B120b  
(Intel Xeon L5640)

**SPECfp2006 = 39.3**

**SPECfp\_base2006 = 36.8**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** May-2010

**Hardware Availability:** Apr-2010

**Software Availability:** Dec-2009

## 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: basepeak = yes

470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-parallel -ansi-alias -auto-ilp32

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: basepeak = yes

447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -ansi-alias -scalar-rep- -auto-ilp32

450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-malloc-options=3 -auto-ilp32

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll4 -ansi-alias

Fortran benchmarks:

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/B120b  
(Intel Xeon L5640)

**SPECfp2006 = 39.3**

**SPECfp\_base2006 = 36.8**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** May-2010

**Hardware Availability:** Apr-2010

**Software Availability:** Dec-2009

## Peak Optimization Flags (Continued)

410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
-parallel

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -ansi-alias -scalar-rep-

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) -static(pass 2) -prof-use(pass 2)  
-unroll2 -Ob0 -opt-prefetch -parallel

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-inline-calloc -opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32

436.cactusADM: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)  
-unroll2 -opt-prefetch -parallel -auto-ilp32

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32

481.wrf: Same as 454.calculix

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100609.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100609.xml>



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/B120b  
(Intel Xeon L5640)

SPECfp2006 = 39.3

SPECfp\_base2006 = 36.8

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** May-2010

**Hardware Availability:** Apr-2010

**Software Availability:** Dec-2009

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 v1.1.  
Report generated on Wed Jul 23 11:25:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 20 July 2010.