



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/R120b-2  
(Intel Xeon E5503)

SPECfp<sup>®</sup>\_rate2006 = 38.9

SPECfp\_rate\_base2006 = 37.7

CPU2006 license: 9006

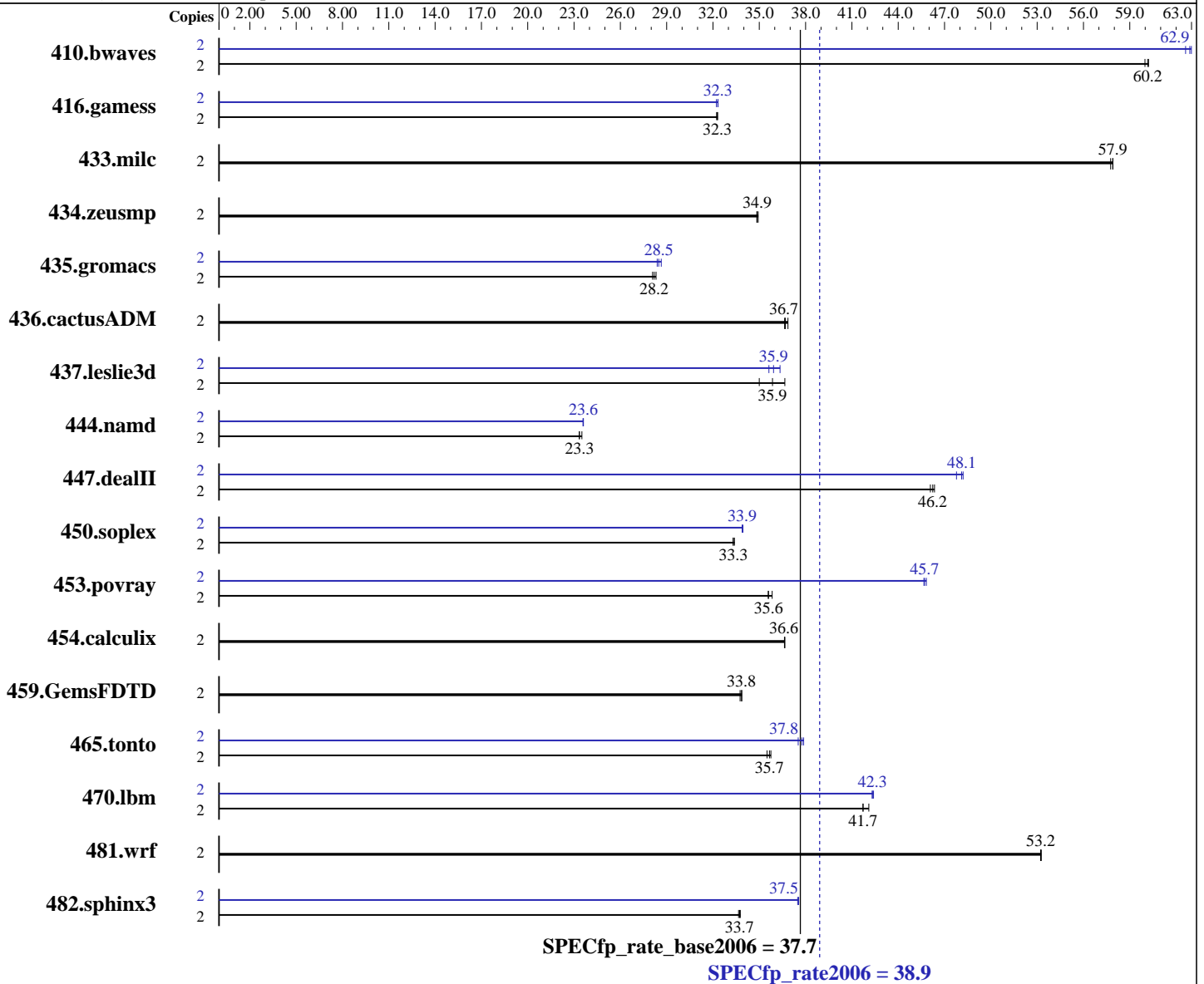
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2010

Hardware Availability: Sep-2010

Software Availability: Dec-2009



**Hardware**

CPU Name: Intel Xeon E5503  
 CPU Characteristics:  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 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: No  
 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/R120b-2  
(Intel Xeon E5503)

SPECfp\_rate2006 = 38.9

SPECfp\_rate\_base2006 = 37.7

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

Test date: Jul-2010  
Hardware Availability: Sep-2010  
Software Availability: Dec-2009

L3 Cache: 4 MB I+D on chip per chip  
Other Cache: None  
Memory: 24 GB (6 x 4 GB PC3L-10600R, 2 rank, CL9, ECC, running at 800 MHz)  
Disk Subsystem: 1x250 GB SATA, 7200 RPM  
Other Hardware: None

Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other Software: None

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	2	453	60.0	451	60.2	<b>452</b>	<b>60.2</b>	2	431	63.0	434	62.6	<b>432</b>	<b>62.9</b>
416.gamess	2	<b>1213</b>	<b>32.3</b>	1212	32.3	1215	32.2	2	<b>1212</b>	<b>32.3</b>	1215	32.2	1211	32.3
433.milc	2	<b>317</b>	<b>57.9</b>	318	57.8	317	57.9	2	<b>317</b>	<b>57.9</b>	318	57.8	317	57.9
434.zeusmp	2	521	34.9	522	34.8	<b>522</b>	<b>34.9</b>	2	521	34.9	522	34.8	<b>522</b>	<b>34.9</b>
435.gromacs	2	504	28.3	<b>506</b>	<b>28.2</b>	508	28.1	2	498	28.6	<b>501</b>	<b>28.5</b>	503	28.4
436.cactusADM	2	648	36.9	652	36.6	<b>651</b>	<b>36.7</b>	2	648	36.9	652	36.6	<b>651</b>	<b>36.7</b>
437.leslie3d	2	537	35.0	<b>524</b>	<b>35.9</b>	513	36.7	2	517	36.3	<b>523</b>	<b>35.9</b>	528	35.6
444.namd	2	682	23.5	687	23.3	<b>687</b>	<b>23.3</b>	2	<b>680</b>	<b>23.6</b>	680	23.6	680	23.6
447.dealII	2	494	46.3	<b>495</b>	<b>46.2</b>	496	46.1	2	475	48.2	<b>476</b>	<b>48.1</b>	479	47.8
450.soplex	2	501	33.3	500	33.4	<b>501</b>	<b>33.3</b>	2	491	33.9	<b>492</b>	<b>33.9</b>	492	33.9
453.povray	2	299	35.6	297	35.8	<b>299</b>	<b>35.6</b>	2	<b>233</b>	<b>45.7</b>	232	45.8	233	45.7
454.calculix	2	450	36.6	<b>450</b>	<b>36.6</b>	450	36.6	2	450	36.6	<b>450</b>	<b>36.6</b>	450	36.6
459.GemsFDTD	2	629	33.8	627	33.9	<b>627</b>	<b>33.8</b>	2	629	33.8	627	33.9	<b>627</b>	<b>33.8</b>
465.tonto	2	550	35.8	<b>552</b>	<b>35.7</b>	554	35.5	2	520	37.9	<b>521</b>	<b>37.8</b>	525	37.5
470.lbm	2	653	42.1	659	41.7	<b>659</b>	<b>41.7</b>	2	649	42.3	648	42.4	<b>649</b>	<b>42.3</b>
481.wrf	2	<b>420</b>	<b>53.2</b>	420	53.2	419	53.3	2	<b>420</b>	<b>53.2</b>	420	53.2	419	53.3
482.sphinx3	2	1158	33.7	<b>1156</b>	<b>33.7</b>	1154	33.8	2	1040	37.5	<b>1039</b>	<b>37.5</b>	1038	37.6

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

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

## Platform Notes

Default BIOS settings were used.



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R120b-2  
(Intel Xeon E5503)

**SPECfp\_rate2006 = 38.9**

**SPECfp\_rate\_base2006 = 37.7**

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

**Test date:** Jul-2010  
**Hardware Availability:** Sep-2010  
**Software Availability:** Dec-2009

## General Notes

The Express5800/R120b-1 and the Express5800/R120b-2 models are electronically equivalent. The results have been measured on the Express5800/R120b-2 model.

## 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

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R120b-2  
(Intel Xeon E5503)

**SPECfp\_rate2006 = 38.9**

**SPECfp\_rate\_base2006 = 37.7**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** Jul-2010

**Hardware Availability:** Sep-2010

**Software Availability:** Dec-2009

## Base Optimization Flags (Continued)

Fortran benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static`

## Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m64`

482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m64`

450.soplex: `icpc -m32`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

## Peak 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`  
 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`



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R120b-2  
(Intel Xeon E5503)

**SPECfp\_rate2006 = 38.9**

**SPECfp\_rate\_base2006 = 37.7**

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

**Test date:** Jul-2010  
**Hardware Availability:** Sep-2010  
**Software Availability:** Dec-2009

## 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)  
-opt-malloc-options=3 -ansi-alias -auto-ilp32

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2

### C++ benchmarks:

444.namd: -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)  
-fno-alias -auto-ilp32

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-

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

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:

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

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: -xSSE4.2 -ipo -O3 -no-prec-div -static

459.GemsFDTD: basepeak = yes

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)  
-unroll4 -auto -inline-calloc -opt-malloc-options=3

### 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R120b-2  
(Intel Xeon E5503)

**SPECfp\_rate2006 = 38.9**

**SPECfp\_rate\_base2006 = 37.7**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** Jul-2010

**Hardware Availability:** Sep-2010

**Software Availability:** Dec-2009

## Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

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.20100721.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.20100721.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 v1.1.  
Report generated on Wed Jul 23 13:38:52 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 August 2010.