



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/R140b-4  
(Intel Xeon X7560)

SPECfp®\_rate2006 = 280

SPECfp\_rate\_base2006 = 272

CPU2006 license: 9006

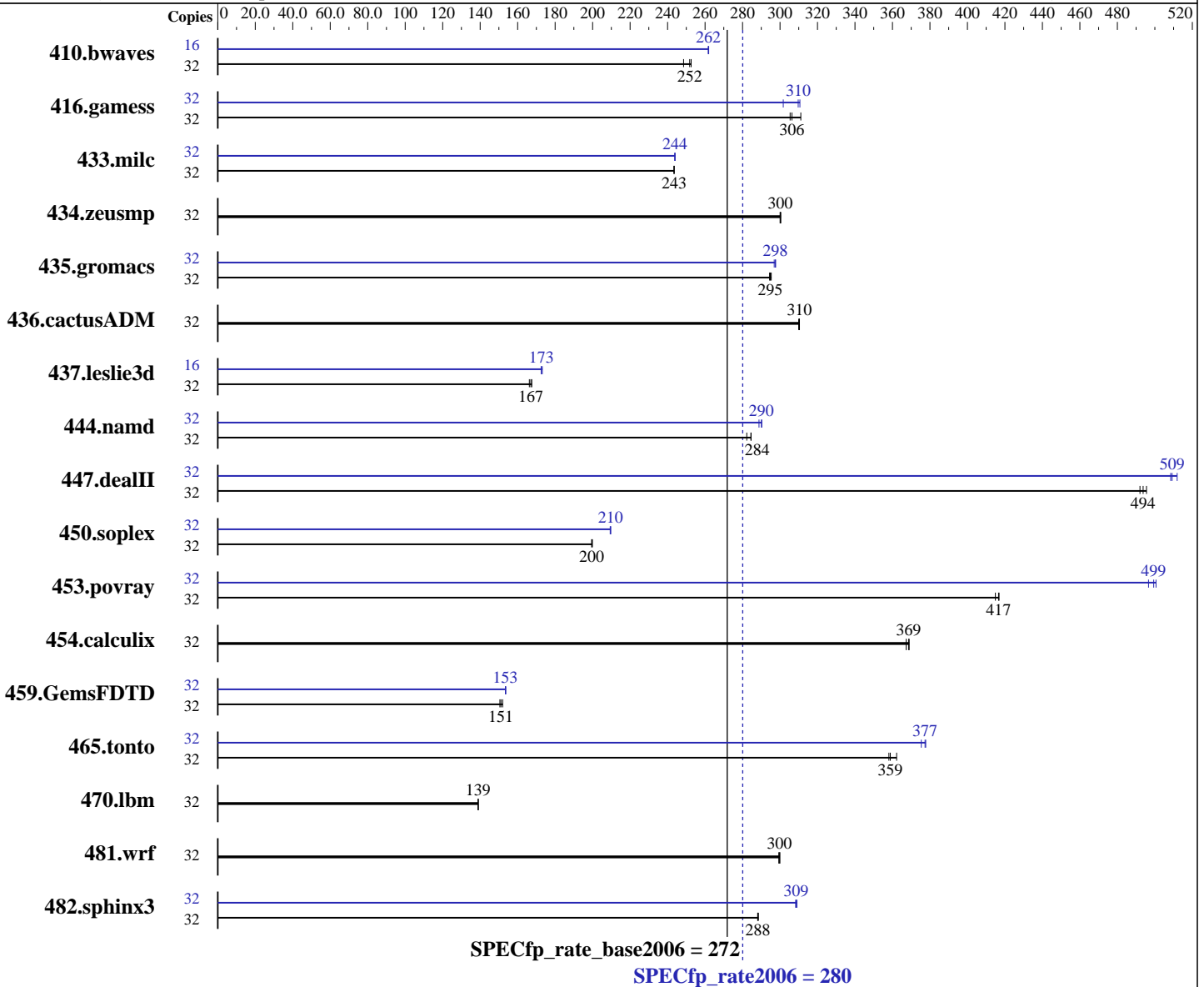
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2010

Hardware Availability: Aug-2010

Software Availability: Dec-2009



### Hardware

CPU Name: Intel Xeon X7560  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz  
 CPU MHz: 2267  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
 CPU(s) orderable: 2,4 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/R140b-4  
(Intel Xeon X7560)

SPECfp\_rate2006 = 280

SPECfp\_rate\_base2006 = 272

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2010

Hardware Availability: Aug-2010

Software Availability: Dec-2009

L3 Cache: 24 MB I+D on chip per chip  
Other Cache: None  
Memory: 128 GB (32 x 4 GB PC3-10600R, 2 rank, CL9, ECC, running at 1066 MHz)  
Disk Subsystem: 1x300 GB SAS, 10000 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	32	1722	253	1750	249	<b>1727</b>	<b>252</b>	16	831	262	<b>831</b>	<b>262</b>	830	262
416.gamess	32	<b>2045</b>	<b>306</b>	2052	305	2014	311	32	2017	311	2077	302	<b>2023</b>	<b>310</b>
433.milc	32	<b>1206</b>	<b>243</b>	1207	243	1206	243	32	1204	244	<b>1204</b>	<b>244</b>	1205	244
434.zeusmp	32	971	300	<b>970</b>	<b>300</b>	969	300	32	971	300	<b>970</b>	<b>300</b>	969	300
435.gromacs	32	<b>775</b>	<b>295</b>	774	295	776	294	32	770	297	<b>768</b>	<b>298</b>	768	298
436.cactusADM	32	1232	310	<b>1232</b>	<b>310</b>	1234	310	32	1232	310	<b>1232</b>	<b>310</b>	1234	310
437.leslie3d	32	<b>1801</b>	<b>167</b>	1809	166	1795	168	16	<b>871</b>	<b>173</b>	869	173	872	173
444.namd	32	<b>902</b>	<b>284</b>	902	285	909	282	32	884	290	889	289	<b>885</b>	<b>290</b>
447.dealII	32	744	492	739	496	<b>741</b>	<b>494</b>	32	720	508	<b>719</b>	<b>509</b>	715	512
450.soplex	32	1335	200	<b>1337</b>	<b>200</b>	1337	200	32	1273	210	1275	209	<b>1273</b>	<b>210</b>
453.povray	32	408	417	<b>409</b>	<b>417</b>	410	415	32	<b>341</b>	<b>499</b>	340	501	343	497
454.calculix	32	716	369	719	367	<b>716</b>	<b>369</b>	32	716	369	719	367	<b>716</b>	<b>369</b>
459.GemsFDTD	32	<b>2247</b>	<b>151</b>	2233	152	2255	151	32	<b>2212</b>	<b>153</b>	2209	154	2213	153
465.tonto	32	869	362	<b>877</b>	<b>359</b>	879	358	32	839	375	<b>834</b>	<b>377</b>	834	378
470.lbm	32	3164	139	3165	139	<b>3164</b>	<b>139</b>	32	3164	139	3165	139	<b>3164</b>	<b>139</b>
481.wrf	32	<b>1192</b>	<b>300</b>	1192	300	1194	299	32	<b>1192</b>	<b>300</b>	1192	300	1194	299
482.sphinx3	32	<b>2164</b>	<b>288</b>	2162	288	2165	288	32	2023	308	<b>2021</b>	<b>309</b>	2018	309

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

BIOS setting:  
Performance/Watt: Traditional



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R140b-4  
(Intel Xeon X7560)

**SPECfp\_rate2006 = 280**

**SPECfp\_rate\_base2006 = 272**

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

**Test date:** Jul-2010  
**Hardware Availability:** Aug-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

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

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

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R140b-4  
(Intel Xeon X7560)

**SPECfp\_rate2006 = 280**

**SPECfp\_rate\_base2006 = 272**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** Jul-2010

**Hardware Availability:** Aug-2010

**Software Availability:** Dec-2009

## 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

## Peak Optimization Flags

C benchmarks:

433.milc: -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 -opt-prefetch

470.lbm: basepeak = yes

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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## NEC Corporation

Express5800/R140b-4  
(Intel Xeon X7560)

SPECfp\_rate2006 = 280

SPECfp\_rate\_base2006 = 272

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2010

Hardware Availability: Aug-2010

Software Availability: Dec-2009

## Peak Optimization Flags (Continued)

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.dealIII: -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: -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

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

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**NEC Corporation**

Express5800/R140b-4  
(Intel Xeon X7560)

**SPECfp\_rate2006 = 280**

**SPECfp\_rate\_base2006 = 272**

**CPU2006 license:** 9006

**Test sponsor:** NEC Corporation

**Tested by:** NEC Corporation

**Test date:** Jul-2010

**Hardware Availability:** Aug-2010

**Software Availability:** Dec-2009

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-R140.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-R140.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 13:33:04 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 19 August 2010.