



SPEC[®] CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp[®]_rate2006 = 284

Express5800/B120f (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 272

CPU2006 license: 9006

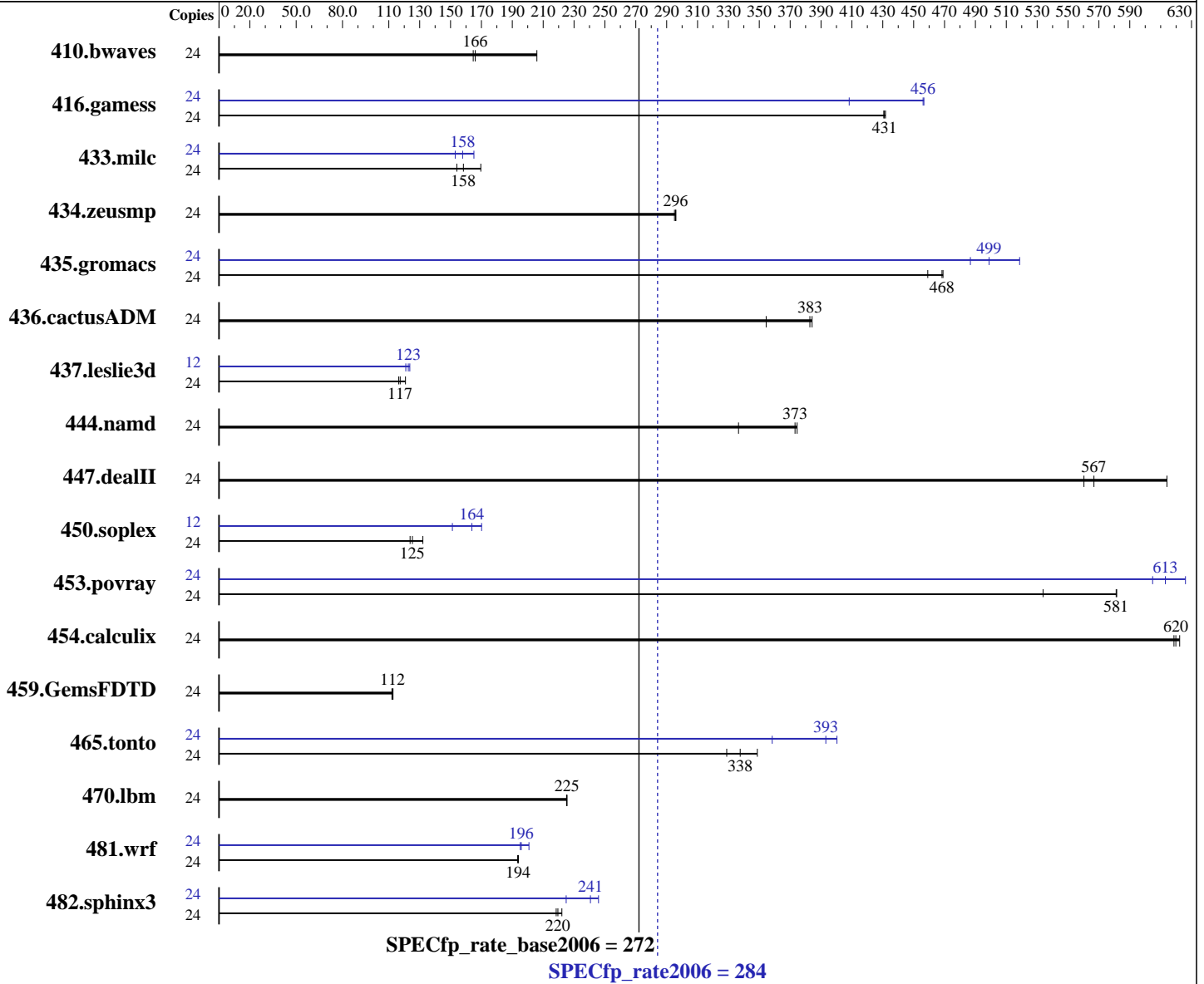
Test date: Nov-2014

Test sponsor: NEC Corporation

Hardware Availability: Apr-2015

Tested by: NEC Corporation

Software Availability: Jul-2014



Hardware

CPU Name: Intel Xeon E5-2690 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2600
 FPU: Integrated
 CPU(s) enabled: 12 cores, 1 chip, 12 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 6.5 (Santiago)
 Kernel 2.6.32-431.20.3.el6.x86_64
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux;
 Fortran: Version 15.0.0.090 of Intel Fortran Studio XE for Linux
 Auto Parallel: No
 File System: ext4

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 284

Express5800/B120f (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 272

CPU2006 license: 9006

Test date: Nov-2014

Test sponsor: NEC Corporation

Hardware Availability: Apr-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

L3 Cache: 30 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (3 x 16 GB 2Rx4 PC4-2133P-R)
 Disk Subsystem: 1 x 300 GB SAS, 10000 RPM
 Other Hardware: None

System State: Run level 3 (multi-user)
 Base Pointers: 32/64-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	24	1584	206	1981	165	<u>1965</u>	<u>166</u>	24	1584	206	1981	165	<u>1965</u>	<u>166</u>
416.gamess	24	<u>1090</u>	<u>431</u>	1088	432	1091	431	24	1029	457	1151	408	<u>1030</u>	<u>456</u>
433.milc	24	1299	170	<u>1392</u>	<u>158</u>	1430	154	24	1440	153	1334	165	<u>1396</u>	<u>158</u>
434.zeusmp	24	<u>738</u>	<u>296</u>	738	296	740	295	24	<u>738</u>	<u>296</u>	738	296	740	295
435.gromacs	24	365	469	373	459	<u>366</u>	<u>468</u>	24	<u>344</u>	<u>499</u>	352	487	330	519
436.cactusADM	24	<u>749</u>	<u>383</u>	809	354	746	384	24	<u>749</u>	<u>383</u>	809	354	746	384
437.leslie3d	24	1868	121	1937	116	<u>1922</u>	<u>117</u>	12	932	121	<u>920</u>	<u>123</u>	913	124
444.namd	24	514	374	<u>516</u>	<u>373</u>	572	337	24	514	374	<u>516</u>	<u>373</u>	572	337
447.dealII	24	490	560	447	614	<u>484</u>	<u>567</u>	24	490	560	447	614	<u>484</u>	<u>567</u>
450.soplex	24	1617	124	1516	132	<u>1598</u>	<u>125</u>	12	662	151	<u>611</u>	<u>164</u>	588	170
453.povray	24	220	582	<u>220</u>	<u>581</u>	239	534	24	211	605	204	626	<u>208</u>	<u>613</u>
454.calculix	24	<u>319</u>	<u>620</u>	320	619	318	622	24	<u>319</u>	<u>620</u>	320	619	318	622
459.GemsFDTD	24	2259	113	<u>2264</u>	<u>112</u>	2273	112	24	2259	113	<u>2264</u>	<u>112</u>	2273	112
465.tonto	24	<u>699</u>	<u>338</u>	718	329	677	349	24	659	358	590	400	<u>601</u>	<u>393</u>
470.lbm	24	1465	225	1463	225	<u>1463</u>	<u>225</u>	24	1465	225	1463	225	<u>1463</u>	<u>225</u>
481.wrf	24	1386	193	1382	194	<u>1383</u>	<u>194</u>	24	1335	201	<u>1369</u>	<u>196</u>	1374	195
482.sphinx3	24	<u>2131</u>	<u>220</u>	2106	222	2141	218	24	2080	225	<u>1944</u>	<u>241</u>	1903	246

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

BIOS Settings:
 Processor C6 Report: Enabled
 Energy Performance: Performance

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 284

Express5800/B120f (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 272

CPU2006 license: 9006

Test date: Nov-2014

Test sponsor: NEC Corporation

Hardware Availability: Apr-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

Platform Notes (Continued)

Patrol Scrub: Disabled
Early Snoop: Disabled

General Notes

Environment variables set by runspec before the start of the run:

```
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
```

Transparent Huge Pages enabled with:

```
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

Filesystem page cache cleared with:

```
echo 1 > /proc/sys/vm/drop_caches
```

runspec command invoked through numactl i.e.:

```
numactl --interleave=all runspec <etc>
```

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
```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 284

Express5800/B120f (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 272

CPU2006 license: 9006

Test date: Nov-2014

Test sponsor: NEC Corporation

Hardware Availability: Apr-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

Base Portability Flags (Continued)

481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

Benchmarks using both Fortran and C:

-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-ansi-alias -opt-mem-layout-trans=3

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

482.sphinx3: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks (except as noted below):

icpc -m64

450.soplex: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 284

Express5800/B120f (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 272

CPU2006 license: 9006

Test date: Nov-2014

Test sponsor: NEC Corporation

Hardware Availability: Apr-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

Peak Portability Flags (Continued)

```

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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
         -O3(pass 2) -no-prec-div(pass 2)
         -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
         -auto-ilp32

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-mem-layout-trans=3
            -unroll2

```

C++ benchmarks:

```

444.namd: basepeak = yes

447.dealII: basepeak = yes

450.soplex: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
           -O3(pass 2) -no-prec-div(pass 2)
           -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
           -opt-malloc-options=3

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
           -O3(pass 2) -no-prec-div(pass 2)
           -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -unroll4
           -ansi-alias

```

Fortran benchmarks:

```

410.bwaves: basepeak = yes

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 284

Express5800/B120f (Intel Xeon E5-2690 v3)

SPECfp_rate_base2006 = 272

CPU2006 license: 9006

Test date: Nov-2014

Test sponsor: NEC Corporation

Hardware Availability: Apr-2015

Tested by: NEC Corporation

Software Availability: Jul-2014

Peak Optimization Flags (Continued)

416.gamess: -xCORE-AVX2(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-

434.zeusmp: basepeak = yes

437.leslie3d: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

459.GemsFDTD: basepeak = yes

465.tonto: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
-auto -inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2)
-opt-mem-layout-trans=3(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120f-RevB.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120f-RevB.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.

Tested with SPEC CPU2006 v1.2.

Report generated on Tue Jun 2 13:46:38 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 2 June 2015.