



SPEC[®] CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp[®]_rate2006 = 340

Express5800/B120f-h (Intel Xeon E5-2667 v3)

SPECfp_rate_base2006 = 332

CPU2006 license: 9006

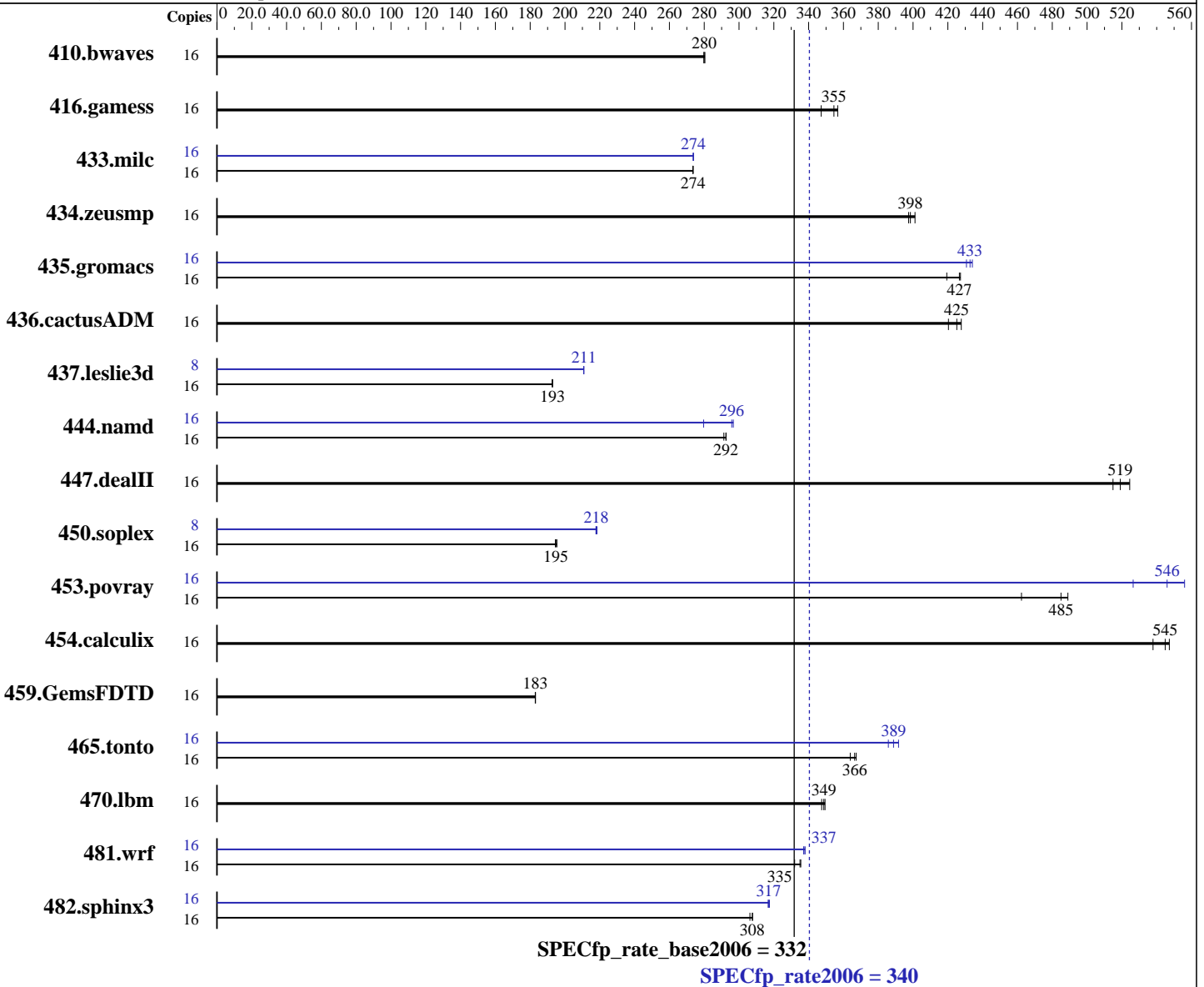
Test date: Jul-2015

Test sponsor: NEC Corporation

Hardware Availability: Aug-2015

Tested by: NEC Corporation

Software Availability: Oct-2014



Hardware

CPU Name: Intel Xeon E5-2667 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 8 cores, 1 chip, 8 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 6.6 (Santiago)
 Kernel 2.6.32-504.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 = **340**

Express5800/B120f-h (Intel Xeon E5-2667 v3)

SPECfp_rate_base2006 = **332**

CPU2006 license: 9006

Test date: Jul-2015

Test sponsor: NEC Corporation

Hardware Availability: Aug-2015

Tested by: NEC Corporation

Software Availability: Oct-2014

L3 Cache: 20 MB I+D on chip per chip
 Other Cache: None
 Memory: 64 GB (4 x 16 GB 2Rx4 PC4-2133P-R)
 Disk Subsystem: NEC Storage M100 via Fibre Channel
 (See additional details below)
 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	16	<u>777</u>	<u>280</u>	775	280	777	280	16	<u>777</u>	<u>280</u>	775	280	777	280		
416.gamess	16	902	347	<u>884</u>	<u>355</u>	878	357	16	902	347	<u>884</u>	<u>355</u>	878	357		
433.milc	16	537	273	<u>537</u>	<u>274</u>	537	274	16	537	274	<u>537</u>	<u>274</u>	536	274		
434.zeusmp	16	363	401	<u>365</u>	<u>398</u>	366	397	16	363	401	<u>365</u>	<u>398</u>	366	397		
435.gromacs	16	267	427	272	419	<u>268</u>	<u>427</u>	16	<u>264</u>	<u>433</u>	263	434	265	431		
436.cactusADM	16	<u>450</u>	<u>425</u>	447	428	455	420	16	<u>450</u>	<u>425</u>	447	428	455	420		
437.leslie3d	16	780	193	781	193	<u>780</u>	<u>193</u>	8	357	211	<u>357</u>	<u>211</u>	357	211		
444.namd	16	441	291	<u>439</u>	<u>292</u>	439	293	16	432	297	459	280	<u>434</u>	<u>296</u>		
447.dealII	16	349	525	<u>353</u>	<u>519</u>	355	515	16	349	525	<u>353</u>	<u>519</u>	355	515		
450.soplex	16	686	194	683	195	<u>685</u>	<u>195</u>	8	306	218	306	218	<u>306</u>	<u>218</u>		
453.povray	16	174	489	<u>176</u>	<u>485</u>	184	462	16	<u>156</u>	<u>546</u>	162	526	153	556		
454.calculix	16	<u>242</u>	<u>545</u>	241	547	245	538	16	<u>242</u>	<u>545</u>	241	547	245	538		
459.GemsFDTD	16	<u>928</u>	<u>183</u>	927	183	928	183	16	<u>928</u>	<u>183</u>	927	183	928	183		
465.tonto	16	433	364	<u>430</u>	<u>366</u>	429	367	16	<u>405</u>	<u>389</u>	402	392	408	386		
470.lbm	16	629	349	<u>630</u>	<u>349</u>	633	347	16	629	349	<u>630</u>	<u>349</u>	633	347		
481.wrf	16	<u>533</u>	<u>335</u>	538	332	533	335	16	530	337	<u>530</u>	<u>337</u>	529	338		
482.sphinx3	16	1013	308	1018	306	<u>1014</u>	<u>308</u>	16	985	317	<u>984</u>	<u>317</u>	982	317		

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"



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 340

Express5800/B120f-h (Intel Xeon E5-2667 v3)

SPECfp_rate_base2006 = 332

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jul-2015

Hardware Availability: Aug-2015

Software Availability: Oct-2014

Platform Notes

BIOS Settings:

Energy Performance: Performance

Patrol Scrub: Disabled

Storage Configuration for Disk Subsystem:

NEC Storage M100 has 4 x 600 GB 10000 RPM SAS disks under RAID-10 configuration mounted over 8Gbps Fibre Channel interface with these options

"defaults" in the /etc/fstab.

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.dealII: -DSPEC_CPU_LP64

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 3



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 340

Express5800/B120f-h (Intel Xeon E5-2667 v3)

SPECfp_rate_base2006 = 332

CPU2006 license: 9006

Test date: Jul-2015

Test sponsor: NEC Corporation

Hardware Availability: Aug-2015

Tested by: NEC Corporation

Software Availability: Oct-2014

Base Portability Flags (Continued)

```
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:

```
-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
```



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 340

Express5800/B120f-h (Intel Xeon E5-2667 v3)

SPECfp_rate_base2006 = 332

CPU2006 license: 9006

Test date: Jul-2015

Test sponsor: NEC Corporation

Hardware Availability: Aug-2015

Tested by: NEC Corporation

Software Availability: Oct-2014

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: -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: -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) -fno-alias
         -auto-ilp32

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

```

Continued on next page



SPEC CFP2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp_rate2006 = 340

Express5800/B120f-h (Intel Xeon E5-2667 v3)

SPECfp_rate_base2006 = 332

CPU2006 license: 9006

Test date: Jul-2015

Test sponsor: NEC Corporation

Hardware Availability: Aug-2015

Tested by: NEC Corporation

Software Availability: Oct-2014

Peak Optimization Flags (Continued)

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: basepeak = yes

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-alloc -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-B120f-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-B120f-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 Sep 8 22:41:21 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 8 September 2015.