SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

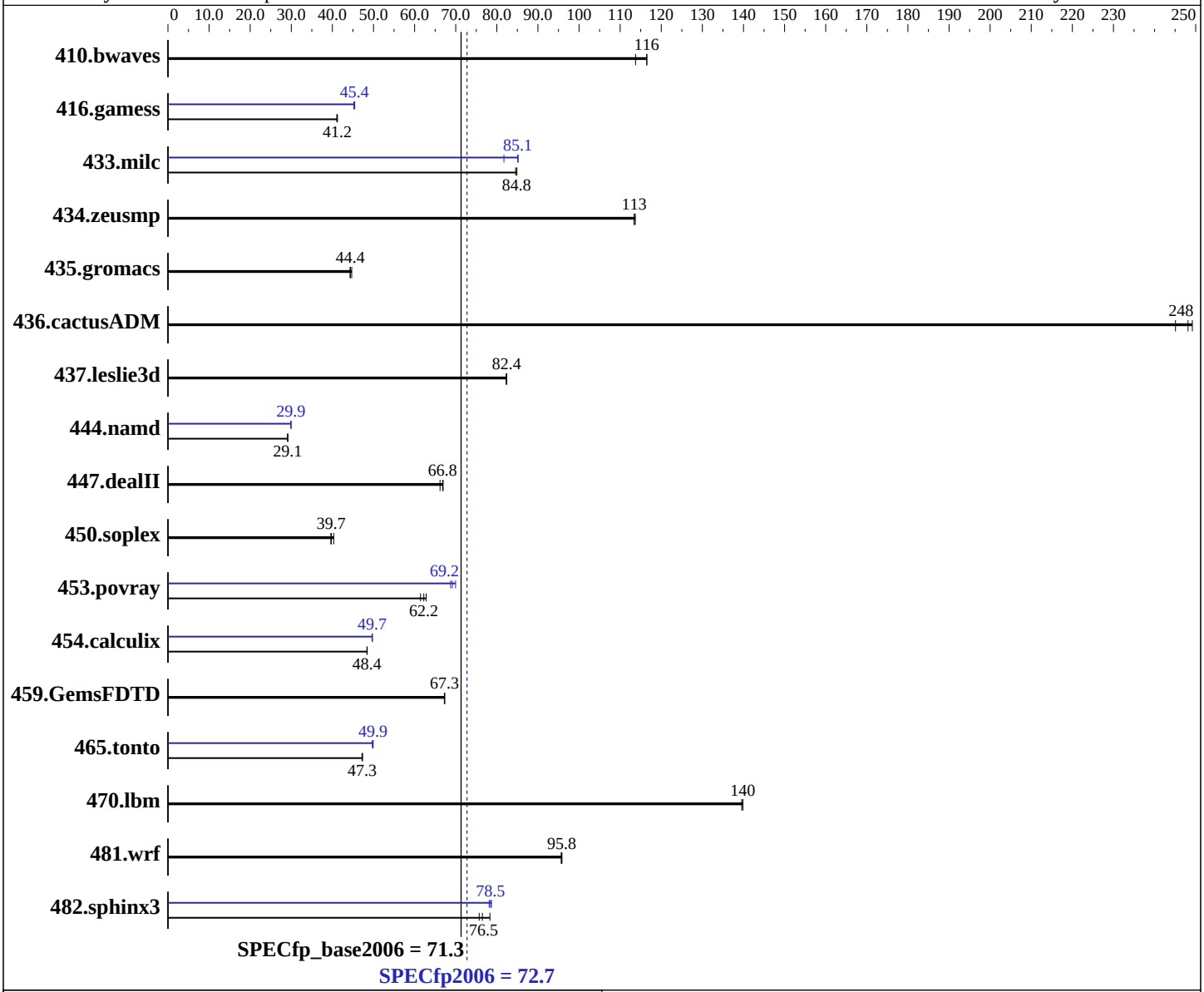
Express5800/R110f-1E (Intel Xeon E3-1230 v3)

SPECfp®2006 = 72.7

SPECfp_base2006 = 71.3

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

Test date: Aug-2013
Hardware Availability: Jul-2013
Software Availability: Mar-2013



Hardware

CPU Name:	Intel Xeon E3-1230 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 chip
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 6.4 (Santiago) Kernel 2.6.32-358.el6.x86_64
Compiler:	C/C++: Version 13.1.1.163 of Intel C++ Studio XE for Linux; Fortran: Version 13.1.1.163 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4

Continued on next page

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R110f-1E (Intel Xeon E3-1230 v3)

SPECfp2006 = 72.7

SPECfp_base2006 = 71.3

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

Test date: Aug-2013
Hardware Availability: Jul-2013
Software Availability: Mar-2013

L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	16 GB (2 x 8 GB 2Rx8 PC3L-12800E-11, ECC)
Disk Subsystem:	1 x 250 GB SATA, 7200 RPM
Other Hardware:	None

System State:	Run level 3 (multi-user)
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	119	114	**117**	**116**	117	116	119	114	**117**	**116**	117	116
416.gamess	**475**	**41.2**	477	41.1	475	41.2	**432**	**45.4**	433	45.2	431	45.4
433.milc	**108**	**84.8**	109	84.6	108	84.9	108	85.2	**108**	**85.1**	112	81.7
434.zeusmp	**80.2**	**113**	80.0	114	80.2	113	**80.2**	**113**	80.0	114	80.2	113
435.gromacs	161	44.3	**161**	**44.4**	160	44.7	161	44.3	**161**	**44.4**	160	44.7
436.cactusADM	48.0	249	**48.2**	**248**	48.8	245	48.0	249	**48.2**	**248**	48.8	245
437.leslie3d	114	82.3	114	82.4	**114**	**82.4**	114	82.3	114	82.4	**114**	**82.4**
444.namd	275	29.1	**275**	**29.1**	275	29.1	**268**	**29.9**	268	29.9	268	29.9
447.dealII	**171**	**66.8**	173	66.2	171	66.9	**171**	**66.8**	173	66.2	171	66.9
450.soplex	207	40.3	210	39.6	**210**	**39.7**	207	40.3	210	39.6	**210**	**39.7**
453.povray	84.7	62.8	**85.5**	**62.2**	86.6	61.4	**76.9**	**69.2**	77.4	68.7	76.0	70.0
454.calculix	170	48.4	170	48.5	**170**	**48.4**	**166**	**49.7**	166	49.6	166	49.7
459.GemsFDTD	158	67.3	**158**	**67.3**	158	67.2	158	67.3	**158**	**67.3**	158	67.2
465.tonto	208	47.3	**208**	**47.3**	209	47.2	197	49.9	198	49.7	**197**	**49.9**
470.lbm	98.5	140	**98.3**	**140**	98.2	140	98.5	140	**98.3**	**140**	98.2	140
481.wrf	117	95.8	117	95.6	**117**	**95.8**	117	95.8	117	95.6	**117**	**95.8**
482.sphinx3	249	78.3	257	75.7	**255**	**76.5**	248	78.7	**248**	**78.5**	249	78.1

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

Operating System Notes

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

Platform Notes

```
BIOS Settings:
 Energy Performance: Performance
```

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"
OMP_NUM_THREADS = "4"
```

Continued on next page

General Notes (Continued)

```
Added glibc-static-2.12-1.107.el6.x86_64.rpm
to enable static linking

Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

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:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

Continued on next page

Base Optimization Flags (Continued)

C++ benchmarks:
`-xCORE-AVX2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias`

Fortran benchmarks:
`-xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Benchmarks using both Fortran and C:
`-xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch -ansi-alias`

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: `-xCORE-AVX2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2) `-static -auto-ilp32 -ansi-alias`

470.lbm: `basepeak = yes`

482.sphinx3: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias -parallel`

C++ benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

444.namd: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias -auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

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- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

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

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.html
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.xml
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-R120d-RevA.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 Thu Jul 24 15:57:45 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 September 2013.