



SPEC[®] CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp[®]2006 = **70.3**

Express5800/T110f-S (Intel Xeon E3-1220 v3)

SPECfp_base2006 = **69.0**

CPU2006 license: 9006

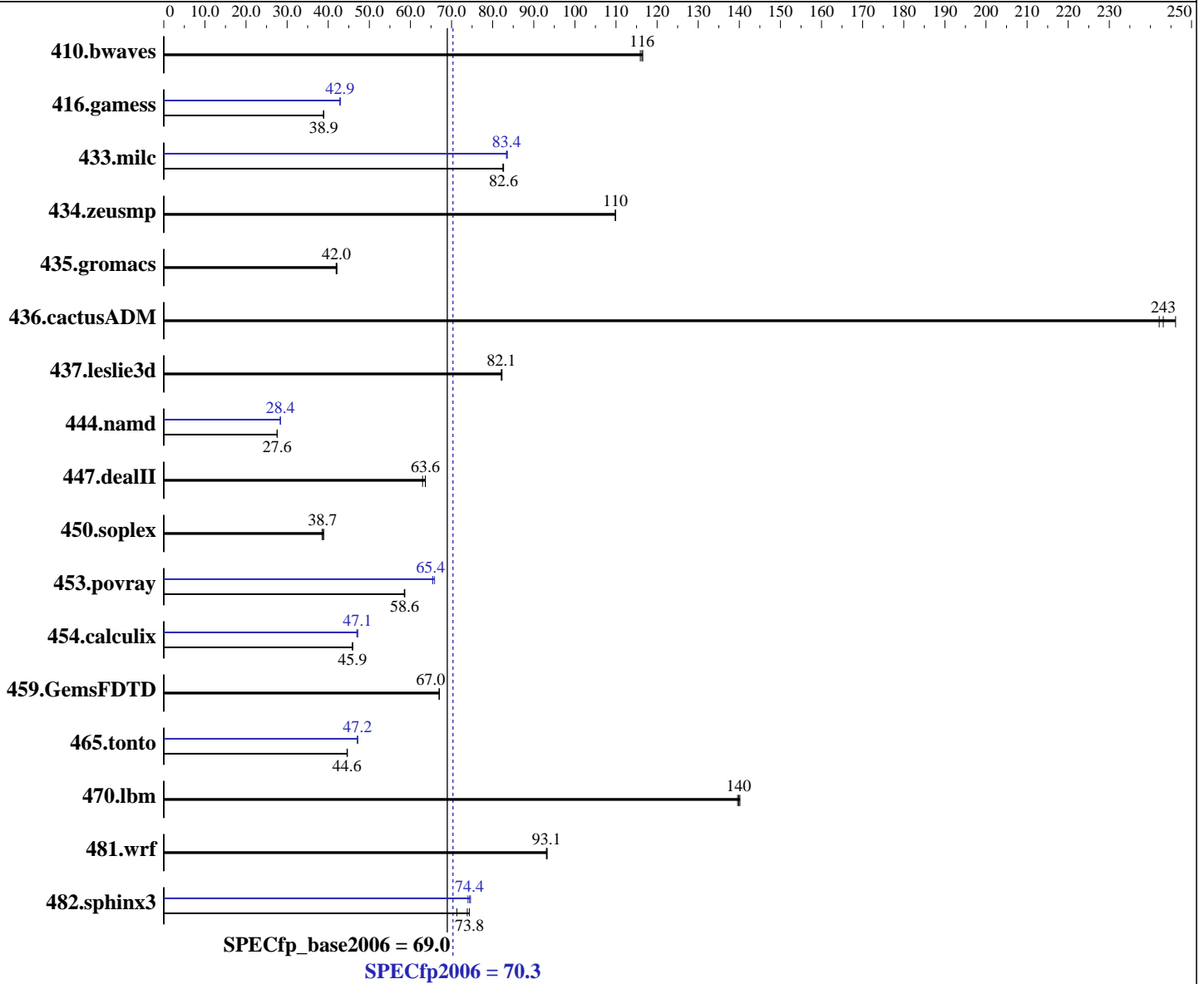
Test date: Jun-2013

Test sponsor: NEC Corporation

Hardware Availability: Jul-2013

Tested by: NEC Corporation

Software Availability: Mar-2013



Hardware

CPU Name: Intel Xeon E3-1220 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 3100
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 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

SPECfp2006 = **70.3**

Express5800/T110f-S (Intel Xeon E3-1220 v3)

SPECfp_base2006 = **69.0**

CPU2006 license: 9006

Test date: Jun-2013

Test sponsor: NEC Corporation

Hardware Availability: Jul-2013

Tested by: NEC Corporation

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	117	116	117	117	<u>117</u>	<u>116</u>	117	116	117	117	<u>117</u>	<u>116</u>
416.gamess	504	38.8	503	38.9	<u>503</u>	<u>38.9</u>	457	42.9	456	42.9	<u>456</u>	<u>42.9</u>
433.milc	111	82.5	111	82.6	<u>111</u>	<u>82.6</u>	110	83.6	110	83.4	<u>110</u>	<u>83.4</u>
434.zeusmp	82.8	110	<u>82.8</u>	<u>110</u>	82.8	110	82.8	110	<u>82.8</u>	<u>110</u>	82.8	110
435.gromacs	170	41.9	<u>170</u>	<u>42.0</u>	170	42.1	170	41.9	<u>170</u>	<u>42.0</u>	170	42.1
436.cactusADM	49.4	242	48.6	246	<u>49.2</u>	<u>243</u>	49.4	242	48.6	246	<u>49.2</u>	<u>243</u>
437.leslie3d	114	82.3	114	82.1	<u>114</u>	<u>82.1</u>	114	82.3	114	82.1	<u>114</u>	<u>82.1</u>
444.namd	291	27.6	291	27.6	<u>291</u>	<u>27.6</u>	<u>283</u>	<u>28.4</u>	283	28.4	283	28.4
447.dealII	182	62.9	<u>180</u>	<u>63.6</u>	180	63.6	182	62.9	<u>180</u>	<u>63.6</u>	180	63.6
450.soplex	214	38.9	217	38.5	<u>216</u>	<u>38.7</u>	214	38.9	217	38.5	<u>216</u>	<u>38.7</u>
453.povray	90.7	58.6	<u>90.8</u>	<u>58.6</u>	90.9	58.5	<u>81.3</u>	<u>65.4</u>	80.8	65.9	81.3	65.4
454.calculix	180	45.9	180	45.9	<u>180</u>	<u>45.9</u>	<u>175</u>	<u>47.1</u>	176	47.0	175	47.1
459.GemsFDTD	158	67.1	158	67.0	<u>158</u>	<u>67.0</u>	158	67.1	158	67.0	<u>158</u>	<u>67.0</u>
465.tonto	220	44.7	221	44.6	<u>221</u>	<u>44.6</u>	209	47.2	<u>209</u>	<u>47.2</u>	209	47.1
470.lbm	98.0	140	<u>98.2</u>	<u>140</u>	98.4	140	98.0	140	<u>98.2</u>	<u>140</u>	98.4	140
481.wrf	<u>120</u>	<u>93.1</u>	120	93.3	120	93.1	<u>120</u>	<u>93.1</u>	120	93.3	120	93.1
482.sphinx3	273	71.3	262	74.3	<u>264</u>	<u>73.8</u>	<u>262</u>	<u>74.4</u>	261	74.6	263	74.0

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 70.3

Express5800/T110f-S (Intel Xeon E3-1220 v3)

SPECfp_base2006 = 69.0

CPU2006 license: 9006

Test date: Jun-2013

Test sponsor: NEC Corporation

Hardware Availability: Jul-2013

Tested by: NEC Corporation

Software Availability: Mar-2013

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.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
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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation	SPECfp2006 =	70.3
Express5800/T110f-S (Intel Xeon E3-1220 v3)	SPECfp_base2006 =	69.0

CPU2006 license: 9006	Test date: Jun-2013
Test sponsor: NEC Corporation	Hardware Availability: Jul-2013
Tested by: NEC Corporation	Software Availability: Mar-2013

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



SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 70.3

Express5800/T110f-S (Intel Xeon E3-1220 v3)

SPECfp_base2006 = 69.0

CPU2006 license: 9006

Test date: Jun-2013

Test sponsor: NEC Corporation

Hardware Availability: Jul-2013

Tested by: NEC Corporation

Software Availability: Mar-2013

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 CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

SPECfp2006 = 70.3

Express5800/T110f-S (Intel Xeon E3-1220 v3)

SPECfp_base2006 = 69.0

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2013

Hardware Availability: Jul-2013

Software Availability: Mar-2013

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 16:29:59 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 16 July 2013.