



SPEC[®] CFP2006 Result

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NEC Corporation

SPECfp[®]2006 = **72.6**

Express5800/T110f-E (Intel Xeon E3-1230 v3)

SPECfp_base2006 = **71.3**

CPU2006 license: 9006

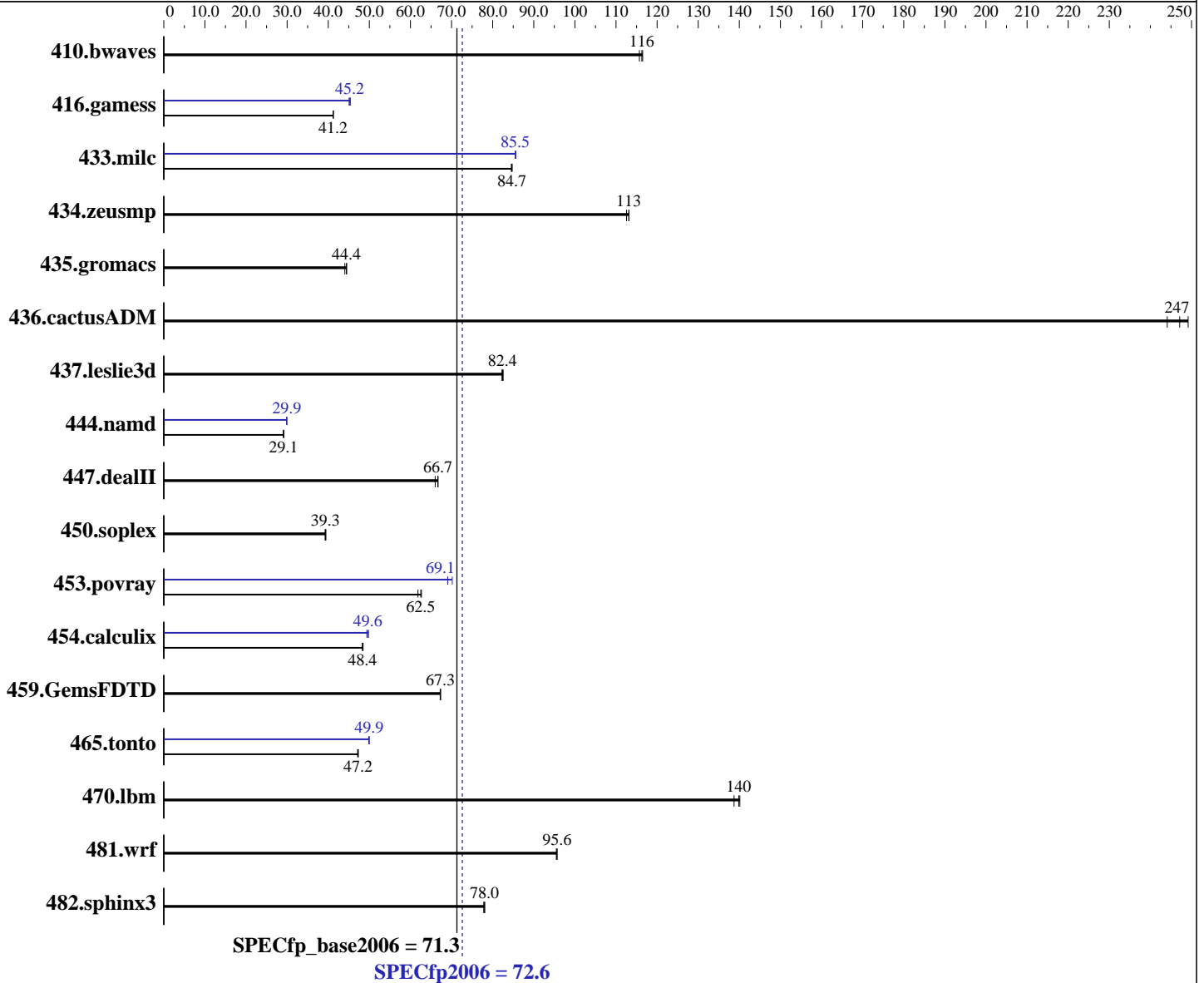
Test date: Oct-2013

Test sponsor: NEC Corporation

Hardware Availability: Oct-2013

Tested by: NEC Corporation

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

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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

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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	116	<u>117</u>	<u>116</u>	117	116	117	116	<u>117</u>	<u>116</u>
416.gamess	<u>475</u>	<u>41.2</u>	475	41.2	475	41.2	434	45.1	<u>433</u>	<u>45.2</u>	431	45.4
433.milc	108	84.7	<u>108</u>	<u>84.7</u>	109	84.5	107	85.5	107	85.6	<u>107</u>	<u>85.5</u>
434.zeusmp	<u>80.4</u>	<u>113</u>	80.8	113	80.4	113	<u>80.4</u>	<u>113</u>	80.8	113	80.4	113
435.gromacs	161	44.5	<u>161</u>	<u>44.4</u>	162	44.0	161	44.5	<u>161</u>	<u>44.4</u>	162	44.0
436.cactusADM	48.0	249	<u>48.4</u>	<u>247</u>	49.0	244	48.0	249	<u>48.4</u>	<u>247</u>	49.0	244
437.leslie3d	114	82.5	<u>114</u>	<u>82.4</u>	114	82.3	114	82.5	<u>114</u>	<u>82.4</u>	114	82.3
444.namd	275	29.1	275	29.1	<u>275</u>	<u>29.1</u>	268	29.9	<u>268</u>	<u>29.9</u>	268	29.9
447.dealII	171	66.7	<u>172</u>	<u>66.7</u>	173	66.0	171	66.7	<u>172</u>	<u>66.7</u>	173	66.0
450.soplex	<u>212</u>	<u>39.3</u>	211	39.4	213	39.2	<u>212</u>	<u>39.3</u>	211	39.4	213	39.2
453.povray	<u>85.1</u>	<u>62.5</u>	86.0	61.8	84.9	62.7	75.8	70.2	77.0	69.1	<u>77.0</u>	<u>69.1</u>
454.calculix	171	48.3	170	48.5	<u>171</u>	<u>48.4</u>	167	49.4	<u>166</u>	<u>49.6</u>	166	49.8
459.GemsFDTD	158	67.2	<u>158</u>	<u>67.3</u>	158	67.3	158	67.2	<u>158</u>	<u>67.3</u>	158	67.3
465.tonto	<u>208</u>	<u>47.2</u>	208	47.3	209	47.1	<u>197</u>	<u>49.9</u>	197	49.8	197	50.0
470.lbm	98.1	140	99.1	139	<u>98.2</u>	<u>140</u>	98.1	140	99.1	139	<u>98.2</u>	<u>140</u>
481.wrf	<u>117</u>	<u>95.6</u>	117	95.5	117	95.7	<u>117</u>	<u>95.6</u>	117	95.5	117	95.7
482.sphinx3	<u>250</u>	<u>78.0</u>	250	78.1	250	77.8	<u>250</u>	<u>78.0</u>	250	78.1	250	77.8

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"

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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

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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: basepeak = yes

C++ benchmarks:

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

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Peak Optimization Flags (Continued)

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>



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For other inquiries, please contact webmaster@spec.org.

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