



SPEC[®] CFP2006 Result

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NEC Corporation

SPECfp[®]2006 = **64.1**

Express5800/GT110f (Intel Core i3-4330)

SPECfp_base2006 = **63.0**

CPU2006 license: 9006

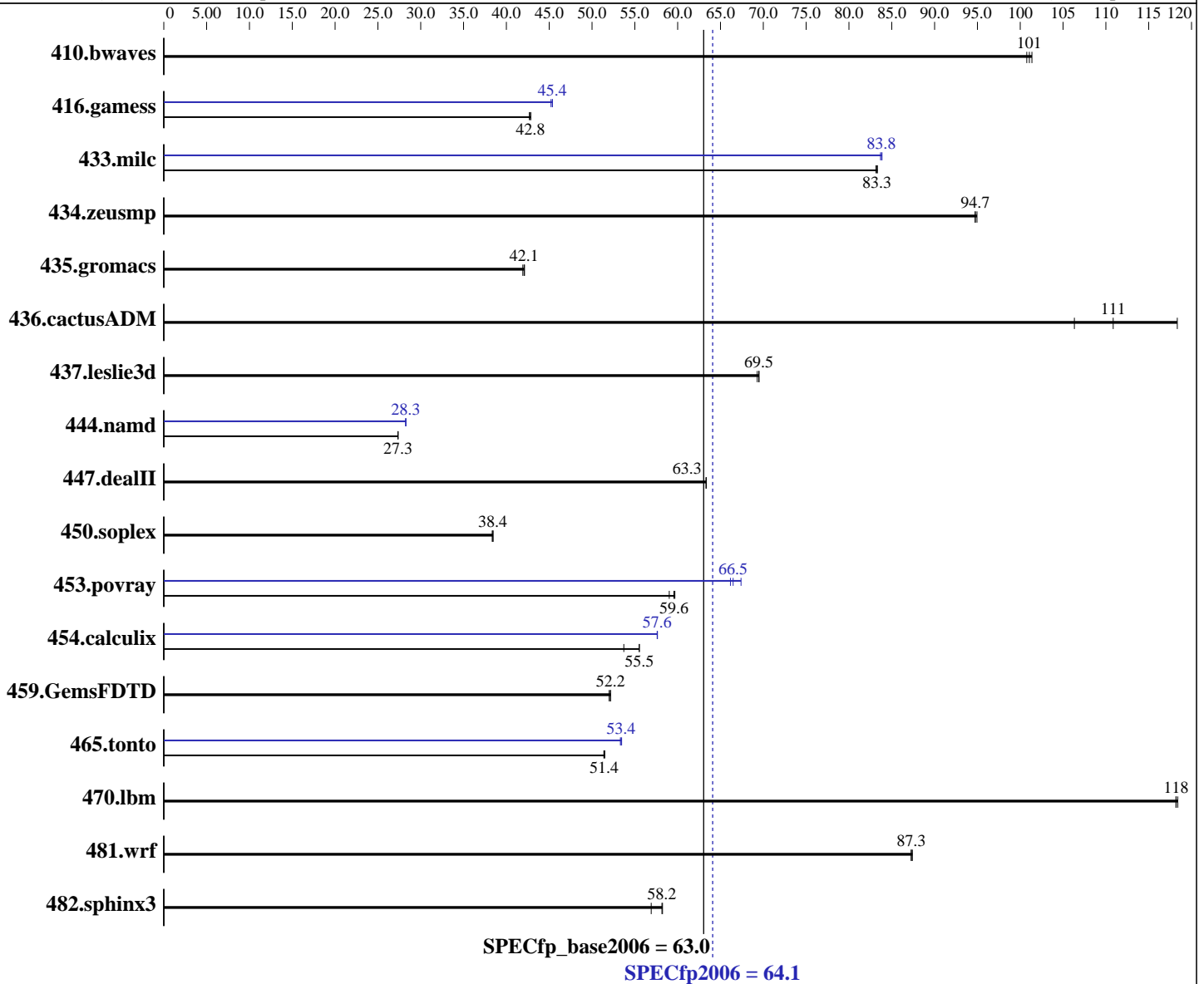
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Nov-2013

Hardware Availability: Oct-2013

Software Availability: Sep-2013



Hardware

CPU Name: Intel Core i3-4330
 CPU Characteristics:
 CPU MHz: 3500
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 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 14.0.0.080 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

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L3 Cache: 4 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 500 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	134	101	135	101	<u>134</u>	<u>101</u>	134	101	135	101	<u>134</u>	<u>101</u>
416.gamess	457	42.8	459	42.7	<u>457</u>	<u>42.8</u>	433	45.2	431	45.4	<u>432</u>	<u>45.4</u>
433.milc	110	83.3	<u>110</u>	<u>83.3</u>	110	83.1	110	83.7	<u>110</u>	<u>83.8</u>	109	83.9
434.zeusmp	<u>96.0</u>	<u>94.7</u>	95.8	94.9	96.0	94.7	<u>96.0</u>	<u>94.7</u>	95.8	94.9	96.0	94.7
435.gromacs	170	41.9	170	42.1	<u>170</u>	<u>42.1</u>	170	41.9	170	42.1	<u>170</u>	<u>42.1</u>
436.cactusADM	<u>108</u>	<u>111</u>	101	118	112	106	<u>108</u>	<u>111</u>	101	118	112	106
437.leslie3d	135	69.5	136	69.3	<u>135</u>	<u>69.5</u>	135	69.5	136	69.3	<u>135</u>	<u>69.5</u>
444.namd	293	27.3	<u>293</u>	<u>27.3</u>	293	27.3	<u>284</u>	<u>28.3</u>	284	28.2	284	28.3
447.dealII	<u>181</u>	<u>63.3</u>	181	63.3	181	63.3	<u>181</u>	<u>63.3</u>	181	63.3	181	63.3
450.soplex	217	38.4	<u>217</u>	<u>38.4</u>	218	38.3	217	38.4	<u>217</u>	<u>38.4</u>	218	38.3
453.povray	90.1	59.0	89.1	59.7	<u>89.3</u>	<u>59.6</u>	80.4	66.2	78.9	67.4	<u>80.0</u>	<u>66.5</u>
454.calculix	154	53.7	<u>149</u>	<u>55.5</u>	149	55.5	143	57.6	143	57.6	<u>143</u>	<u>57.6</u>
459.GemsFDTD	<u>203</u>	<u>52.2</u>	204	52.0	203	52.2	<u>203</u>	<u>52.2</u>	204	52.0	203	52.2
465.tonto	192	51.4	191	51.5	<u>191</u>	<u>51.4</u>	185	53.3	184	53.5	<u>184</u>	<u>53.4</u>
470.lbm	116	118	116	118	<u>116</u>	<u>118</u>	116	118	116	118	<u>116</u>	<u>118</u>
481.wrf	128	87.4	128	87.3	<u>128</u>	<u>87.3</u>	128	87.4	128	87.3	<u>128</u>	<u>87.3</u>
482.sphinx3	335	58.2	<u>335</u>	<u>58.2</u>	342	56.9	335	58.2	<u>335</u>	<u>58.2</u>	342	56.9

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:
 KMP_AFFINITY = "granularity=fine,compact,1,0"
 LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
 OMP_NUM_THREADS = "2"

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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.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

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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-ic14.0-official-linux64.20140128.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-ic14.0-official-linux64.20140128.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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