



SPEC® CFP2006 Result

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NEC Corporation

SPECfp®2006 = **65.4**

Express5800/T110g-S (Intel Core i3-4350)

SPECfp_base2006 = **64.3**

CPU2006 license: 9006

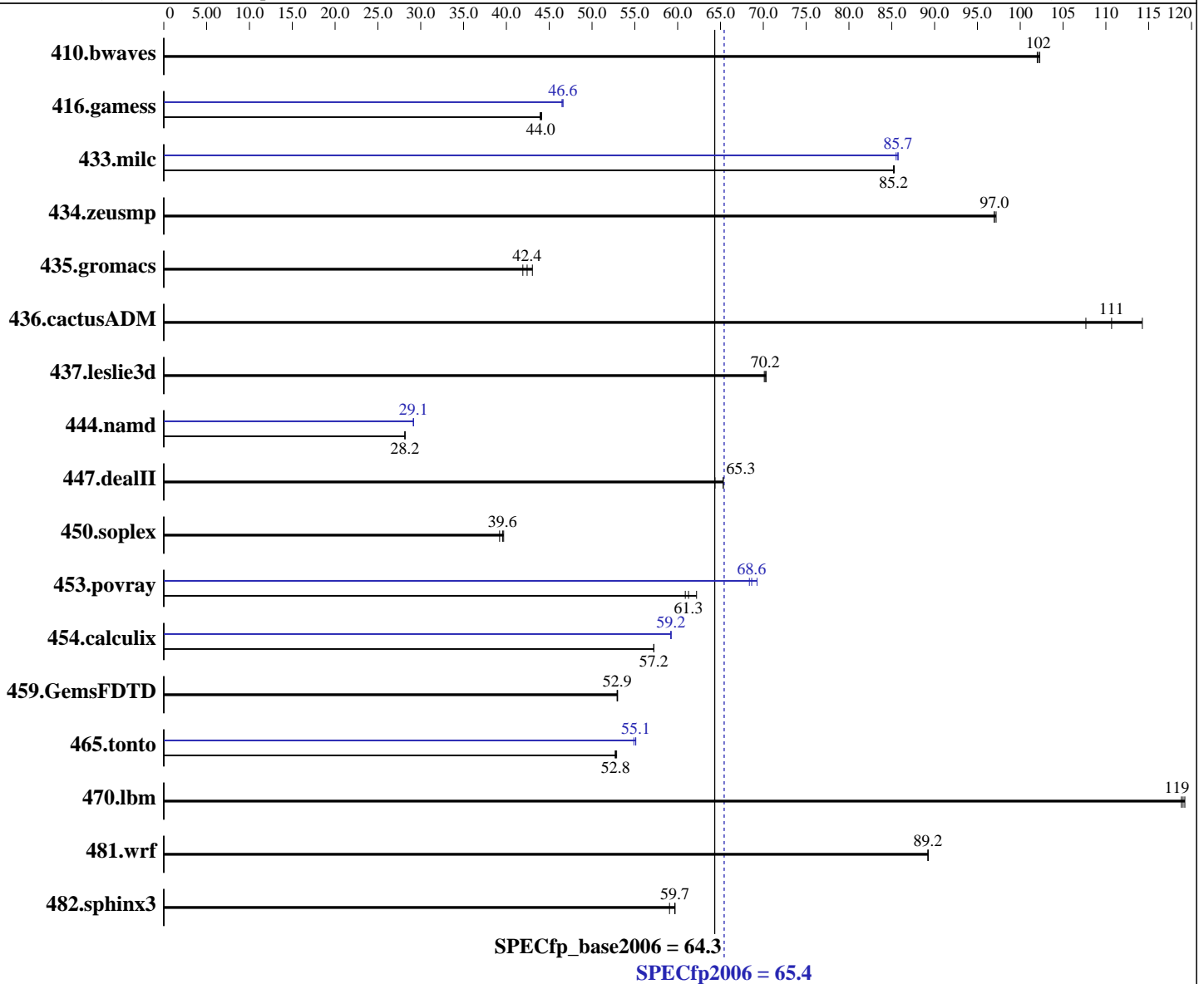
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2014

Hardware Availability: Jul-2014

Software Availability: Jan-2014



Hardware

CPU Name: Intel Core i3-4350
 CPU Characteristics:
 CPU MHz: 3600
 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

Continued on next page

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
 Kernel 2.6.32-431.el6.x86_64
 Compiler: C/C++: Version 14.0.2.144 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.2.144 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

Continued on next page



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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 PC3-12800E-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	<u>133</u>	<u>102</u>	133	102	133	102	<u>133</u>	<u>102</u>	133	102	133	102
416.gamess	444	44.1	446	43.9	<u>445</u>	<u>44.0</u>	<u>420</u>	<u>46.6</u>	420	46.6	421	46.5
433.milc	108	85.3	108	85.2	<u>108</u>	<u>85.2</u>	107	85.7	<u>107</u>	<u>85.7</u>	107	85.5
434.zeusmp	93.6	97.2	<u>93.8</u>	<u>97.0</u>	93.8	97.0	93.6	97.2	<u>93.8</u>	<u>97.0</u>	93.8	97.0
435.gromacs	166	43.0	<u>168</u>	<u>42.4</u>	170	41.9	166	43.0	<u>168</u>	<u>42.4</u>	170	41.9
436.cactusADM	<u>108</u>	<u>111</u>	105	114	111	108	<u>108</u>	<u>111</u>	105	114	111	108
437.leslie3d	134	70.3	134	70.1	<u>134</u>	<u>70.2</u>	134	70.3	134	70.1	<u>134</u>	<u>70.2</u>
444.namd	285	28.2	285	28.1	<u>285</u>	<u>28.2</u>	275	29.2	<u>275</u>	<u>29.1</u>	275	29.1
447.dealII	178	64.4	175	65.3	<u>175</u>	<u>65.3</u>	178	64.4	175	65.3	<u>175</u>	<u>65.3</u>
450.soplex	<u>211</u>	<u>39.6</u>	210	39.7	213	39.2	<u>211</u>	<u>39.6</u>	210	39.7	213	39.2
453.povray	85.5	62.2	87.4	60.9	<u>86.8</u>	<u>61.3</u>	77.8	68.4	76.8	69.3	<u>77.5</u>	<u>68.6</u>
454.calculix	144	57.2	144	57.2	<u>144</u>	<u>57.2</u>	139	59.2	<u>139</u>	<u>59.2</u>	139	59.2
459.GemsFDTD	200	53.0	200	52.9	<u>200</u>	<u>52.9</u>	200	53.0	200	52.9	<u>200</u>	<u>52.9</u>
465.tonto	<u>186</u>	<u>52.8</u>	187	52.7	186	52.9	179	55.1	179	54.9	<u>179</u>	<u>55.1</u>
470.lbm	<u>115</u>	<u>119</u>	115	119	116	119	<u>115</u>	<u>119</u>	115	119	116	119
481.wrf	125	89.2	<u>125</u>	<u>89.2</u>	125	89.2	125	89.2	<u>125</u>	<u>89.2</u>	125	89.2
482.sphinx3	326	59.7	<u>327</u>	<u>59.7</u>	330	59.0	326	59.7	<u>327</u>	<u>59.7</u>	330	59.0

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
 Processor C6 Report: Disabled
 Package C State Limit: C0



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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"

Added glibc-static-2.12-1.132.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



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Base Optimization Flags

C benchmarks:

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

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

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Peak Optimization Flags (Continued)

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

447.dealIII: 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-R120-RevB.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-R120-RevB.xml>



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

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