



SPEC[®] CFP2006 Result

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Supermicro

SuperServer 5038D-I (X10SLL-F, Intel Xeon E3-1285 v3, 3.60 GHz)

SPECfp[®]2006 = 74.9

SPECfp_base2006 = 73.4

CPU2006 license: 001176

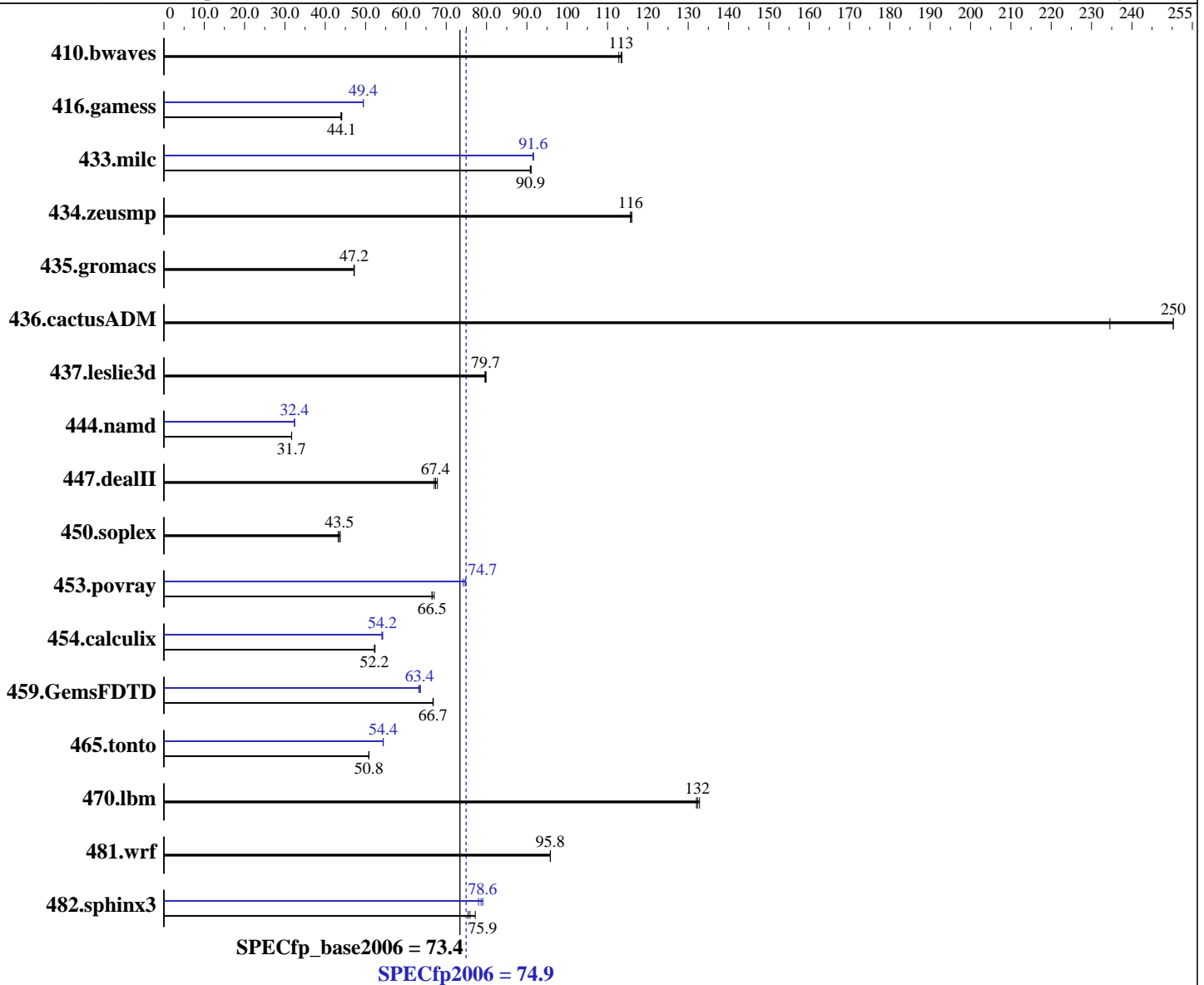
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2013

Hardware Availability: Jun-2013

Software Availability: May-2013



SPECfp_base2006 = 73.4

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Hardware

CPU Name: Intel Xeon E3-1285 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
 CPU MHz: 3600
 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, 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
 System State: Run level 3 (multi-user)

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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (4 x 8 GB 2Rx4 PC3-12800E-11, ECC)
Disk Subsystem: 1 x 250 GB SATA I, 7200 RPM
Other Hardware: None

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>120</u>	<u>113</u>	120	114	120	113	<u>120</u>	<u>113</u>	120	114	120	113
416.gamess	<u>444</u>	<u>44.1</u>	444	44.1	446	43.9	396	49.5	396	49.4	<u>396</u>	<u>49.4</u>
433.milc	<u>101</u>	<u>90.9</u>	101	90.8	101	91.1	<u>100</u>	<u>91.6</u>	100	91.6	100	91.5
434.zeusmp	<u>78.6</u>	<u>116</u>	78.4	116	78.6	116	<u>78.6</u>	<u>116</u>	78.4	116	78.6	116
435.gromacs	<u>151</u>	<u>47.2</u>	151	47.2	152	47.1	<u>151</u>	<u>47.2</u>	151	47.2	152	47.1
436.cactusADM	<u>47.7</u>	<u>250</u>	50.9	235	47.7	250	<u>47.7</u>	<u>250</u>	50.9	235	47.7	250
437.leslie3d	118	79.6	118	79.9	<u>118</u>	<u>79.7</u>	118	79.6	118	79.9	<u>118</u>	<u>79.7</u>
444.namd	253	31.7	<u>253</u>	<u>31.7</u>	253	31.7	<u>248</u>	<u>32.4</u>	248	32.4	248	32.4
447.dealII	<u>170</u>	<u>67.4</u>	171	67.0	169	67.8	<u>170</u>	<u>67.4</u>	171	67.0	169	67.8
450.soplex	193	43.2	191	43.7	<u>192</u>	<u>43.5</u>	193	43.2	191	43.7	<u>192</u>	<u>43.5</u>
453.povray	79.4	67.0	80.0	66.5	<u>80.0</u>	<u>66.5</u>	71.7	74.2	71.1	74.9	<u>71.2</u>	<u>74.7</u>
454.calculix	158	52.4	<u>158</u>	<u>52.2</u>	158	52.2	152	54.2	<u>152</u>	<u>54.2</u>	153	54.0
459.GemsFDTD	159	66.7	<u>159</u>	<u>66.7</u>	159	66.8	168	63.2	<u>167</u>	<u>63.4</u>	167	63.6
465.tonto	<u>194</u>	<u>50.8</u>	194	50.8	194	50.8	181	54.4	181	54.3	<u>181</u>	<u>54.4</u>
470.lbm	<u>104</u>	<u>132</u>	103	133	104	132	<u>104</u>	<u>132</u>	103	133	104	132
481.wrf	117	95.8	<u>117</u>	<u>95.8</u>	117	95.8	117	95.8	<u>117</u>	<u>95.8</u>	117	95.8
482.sphinx3	252	77.2	258	75.4	<u>257</u>	<u>75.9</u>	<u>248</u>	<u>78.6</u>	246	79.1	250	78.0

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"

General Notes

Environment variables set by runspec before the start of the run:

LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"
OMP_NUM_THREADS = "4"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>



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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

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



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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:

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:

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Peak Optimization Flags (Continued)

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: -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 -opt-prefetch -parallel

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/Supermicro-Platform-Settings-V1.2-revB.20130719.html>

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.xml>

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