



SPEC[®] CFP2006 Result

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Supermicro

SuperServer 5037MC-H8TRF (X9SCD-F single node, Intel E3-1220)

SPECfp[®]2006 = 59.9

SPECfp_base2006 = 58.3

CPU2006 license: 001176

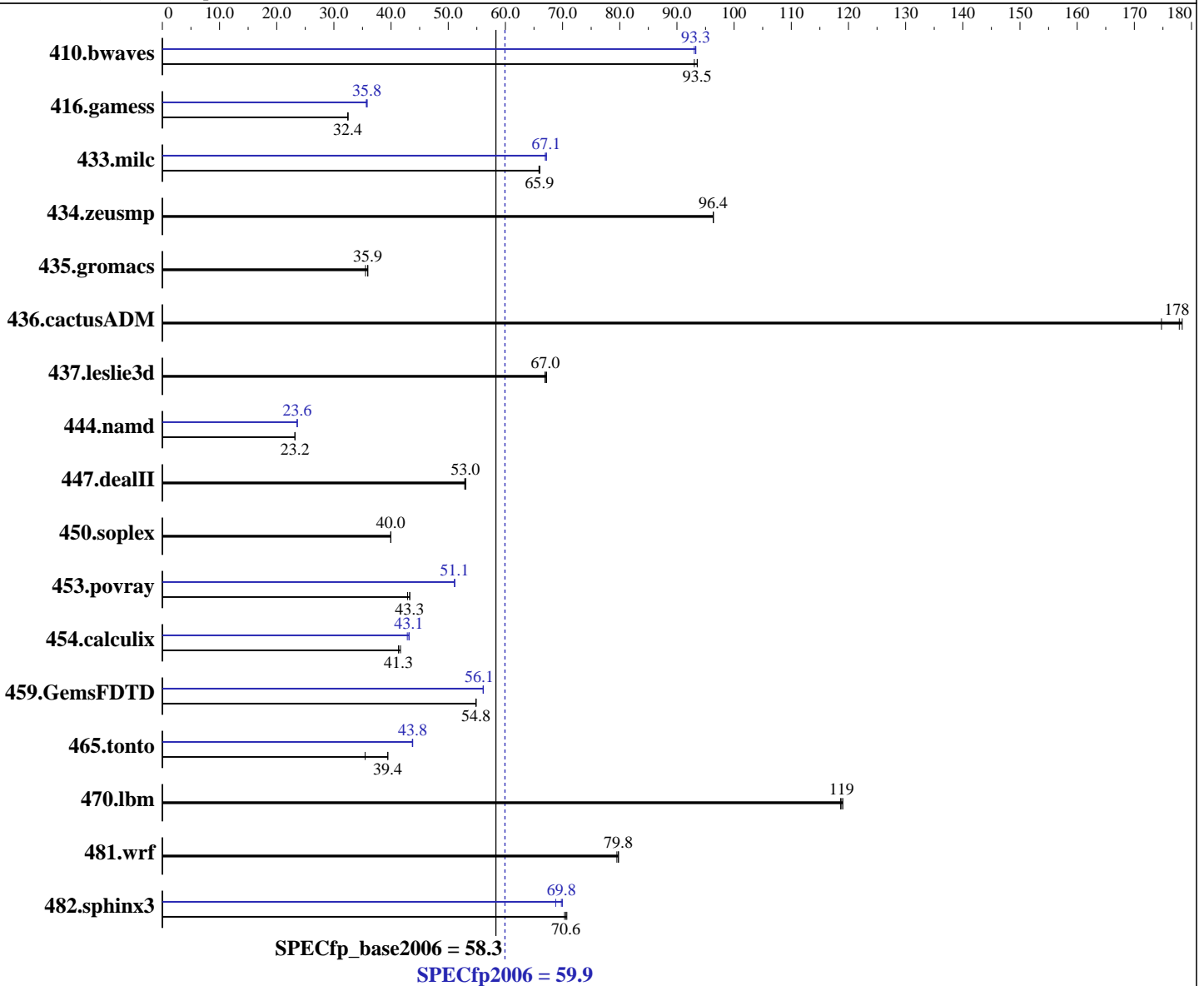
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2012

Hardware Availability: Aug-2011

Software Availability: Oct-2011



Hardware

CPU Name: Intel Xeon E3-1220
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 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

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Software

Operating System: Red Hat Enterprise Linux Server release 6.1 (Santiago)
 2.6.32-131.0.15.el6.x86_64
 Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;
 Fortran: Version 12.1.0.225 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: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem: 1 x 500 GB SATA III, 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>145</u>	<u>93.5</u>	146	93.0	145	93.6	<u>146</u>	<u>93.3</u>	146	93.3	146	93.0
416.gamess	603	32.5	604	32.4	<u>604</u>	<u>32.4</u>	<u>547</u>	<u>35.8</u>	547	35.8	549	35.7
433.milc	139	65.9	<u>139</u>	<u>65.9</u>	139	66.0	137	67.0	<u>137</u>	<u>67.1</u>	137	67.2
434.zeusmp	94.4	96.4	94.4	96.4	<u>94.4</u>	<u>96.4</u>	94.4	96.4	94.4	96.4	<u>94.4</u>	<u>96.4</u>
435.gromacs	<u>199</u>	<u>35.9</u>	201	35.5	199	35.9	<u>199</u>	<u>35.9</u>	201	35.5	199	35.9
436.cactusADM	67.0	178	<u>67.2</u>	<u>178</u>	68.4	175	67.0	178	<u>67.2</u>	<u>178</u>	68.4	175
437.leslie3d	<u>140</u>	<u>67.0</u>	140	67.2	140	66.9	<u>140</u>	<u>67.0</u>	140	67.2	140	66.9
444.namd	346	23.2	346	23.2	<u>346</u>	<u>23.2</u>	340	23.6	340	23.6	<u>340</u>	<u>23.6</u>
447.dealII	216	52.9	<u>216</u>	<u>53.0</u>	216	53.1	216	52.9	<u>216</u>	<u>53.0</u>	216	53.1
450.soplex	209	40.0	<u>209</u>	<u>40.0</u>	209	39.9	209	40.0	<u>209</u>	<u>40.0</u>	209	39.9
453.povray	123	43.3	<u>123</u>	<u>43.3</u>	124	42.9	104	51.1	<u>104</u>	<u>51.1</u>	104	51.1
454.calculix	198	41.7	200	41.3	<u>200</u>	<u>41.3</u>	191	43.2	<u>191</u>	<u>43.1</u>	193	42.8
459.GemsFDTD	193	54.8	<u>193</u>	<u>54.8</u>	193	54.9	<u>189</u>	<u>56.1</u>	189	56.1	189	56.1
465.tonto	<u>250</u>	<u>39.4</u>	250	39.4	278	35.5	<u>225</u>	<u>43.8</u>	225	43.8	225	43.7
470.lbm	116	119	115	119	<u>116</u>	<u>119</u>	116	119	115	119	<u>116</u>	<u>119</u>
481.wrf	141	79.5	<u>140</u>	<u>79.8</u>	140	79.8	141	79.5	<u>140</u>	<u>79.8</u>	140	79.8
482.sphinx3	<u>276</u>	<u>70.6</u>	275	70.7	277	70.3	278	70.0	<u>279</u>	<u>69.8</u>	283	68.8

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"

General Notes

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

KMP_AFFINITY = "granularity=fine,scatter"

LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"

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



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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:
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Fortran benchmarks:
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
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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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel

C++ benchmarks:

444.namd: -xAVX(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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel
-static

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Peak Optimization Flags (Continued)

416.gamess: -xAVX(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: -xAVX(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: -xAVX(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: -xAVX -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-ic12.1-official-linux64.20111122.html>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-revA.xml>

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

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