



SPEC® CFP2006 Result

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Supermicro

SuperServer 2018TP-DTR
(X10DRT-P, Intel Xeon E5-2667 v3)

SPECfp®2006 = 117

SPECfp_base2006 = 113

CPU2006 license: 001176

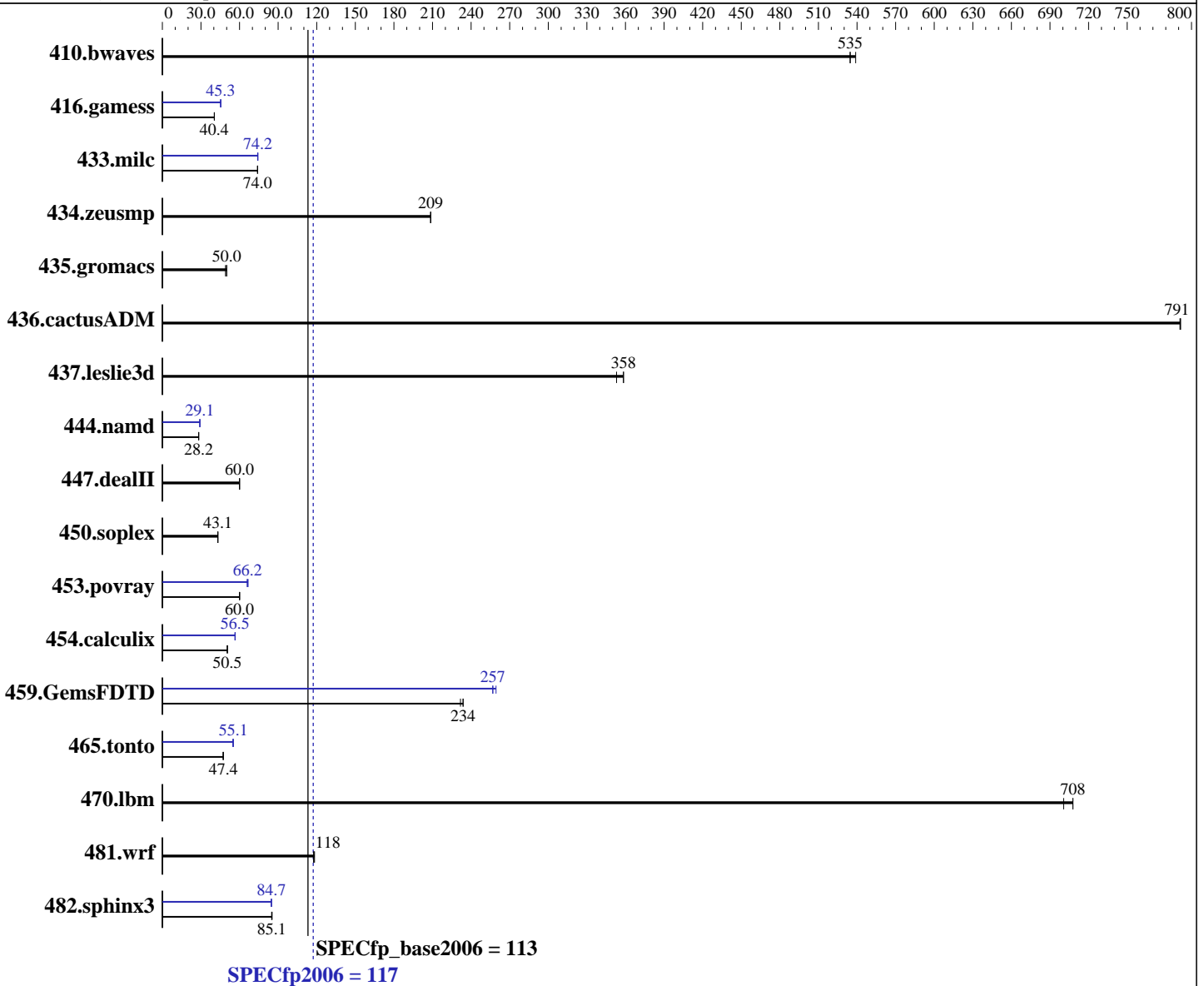
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Aug-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013



Hardware

CPU Name: Intel Xeon E5-2667 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip
 CPU(s) orderable: 1,2 chips
 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, Kernel 2.6.32-431.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
 System State: Run level 3 (multi-user)

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L3 Cache: 20 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x 500 GB SATA III, 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	25.4	535	25.2	539	<u>25.4</u>	<u>535</u>	25.4	535	25.2	539	<u>25.4</u>	<u>535</u>
416.gamess	<u>485</u>	<u>40.4</u>	485	40.4	484	40.4	433	45.3	431	45.4	<u>432</u>	<u>45.3</u>
433.milc	<u>124</u>	<u>74.0</u>	124	74.1	124	74.0	124	74.3	124	74.0	<u>124</u>	<u>74.2</u>
434.zeusmp	43.6	209	43.6	209	<u>43.6</u>	<u>209</u>	43.6	209	43.6	209	<u>43.6</u>	<u>209</u>
435.gromacs	143	50.0	146	49.1	<u>143</u>	<u>50.0</u>	143	50.0	146	49.1	<u>143</u>	<u>50.0</u>
436.cactusADM	15.1	791	<u>15.1</u>	<u>791</u>	15.1	791	15.1	791	<u>15.1</u>	<u>791</u>	15.1	791
437.leslie3d	26.6	353	26.2	358	<u>26.2</u>	<u>358</u>	26.6	353	26.2	358	<u>26.2</u>	<u>358</u>
444.namd	<u>284</u>	<u>28.2</u>	284	28.2	284	28.2	275	29.1	<u>275</u>	<u>29.1</u>	275	29.1
447.dealII	191	60.0	<u>191</u>	<u>60.0</u>	191	60.0	191	60.0	<u>191</u>	<u>60.0</u>	191	60.0
450.soplex	<u>193</u>	<u>43.1</u>	193	43.2	194	43.0	<u>193</u>	<u>43.1</u>	193	43.2	194	43.0
453.povray	<u>88.7</u>	<u>60.0</u>	88.5	60.1	88.8	59.9	79.8	66.6	80.7	65.9	<u>80.4</u>	<u>66.2</u>
454.calculix	163	50.5	<u>163</u>	<u>50.5</u>	163	50.5	146	56.5	<u>146</u>	<u>56.5</u>	146	56.5
459.GemsFDTD	45.4	234	<u>45.4</u>	<u>234</u>	45.8	232	<u>41.3</u>	<u>257</u>	40.9	259	41.3	257
465.tonto	209	47.2	208	47.4	<u>208</u>	<u>47.4</u>	<u>178</u>	<u>55.1</u>	178	55.2	180	54.8
470.lbm	19.6	701	19.4	708	<u>19.4</u>	<u>708</u>	19.6	701	19.4	708	<u>19.4</u>	<u>708</u>
481.wrf	95.0	118	94.4	118	<u>94.8</u>	<u>118</u>	95.0	118	94.4	118	<u>94.8</u>	<u>118</u>
482.sphinx3	<u>229</u>	<u>85.1</u>	229	84.9	228	85.3	230	84.9	<u>230</u>	<u>84.7</u>	230	84.7

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:
Hyper-Threading (ALL) set to Disabled
Memory Frequency set to 2133
Early Snoop set to Disabled



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General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=core,compact"
LD_LIBRARY_PATH = "/home/SPEC-CPU/SPEC2006_v11/libs/32:/home/SPEC-CPU/SPEC2006_v11/libs/64:/home/SPEC-CPU/SPEC2006_v11/sh"
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
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>

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



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Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -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)
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel

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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-

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/Intel-ic14.0-official-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revE.html>



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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/Supermicro-Platform-Settings-V1.2-revE.xml>

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