



SPEC® CFP2006 Result

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Supermicro

SuperServer 6028TP-HTR
(X10DRT-P, Intel Xeon E5-2667 v3)

SPECfp®2006 = **120**

SPECfp_base2006 = **115**

CPU2006 license: 001176

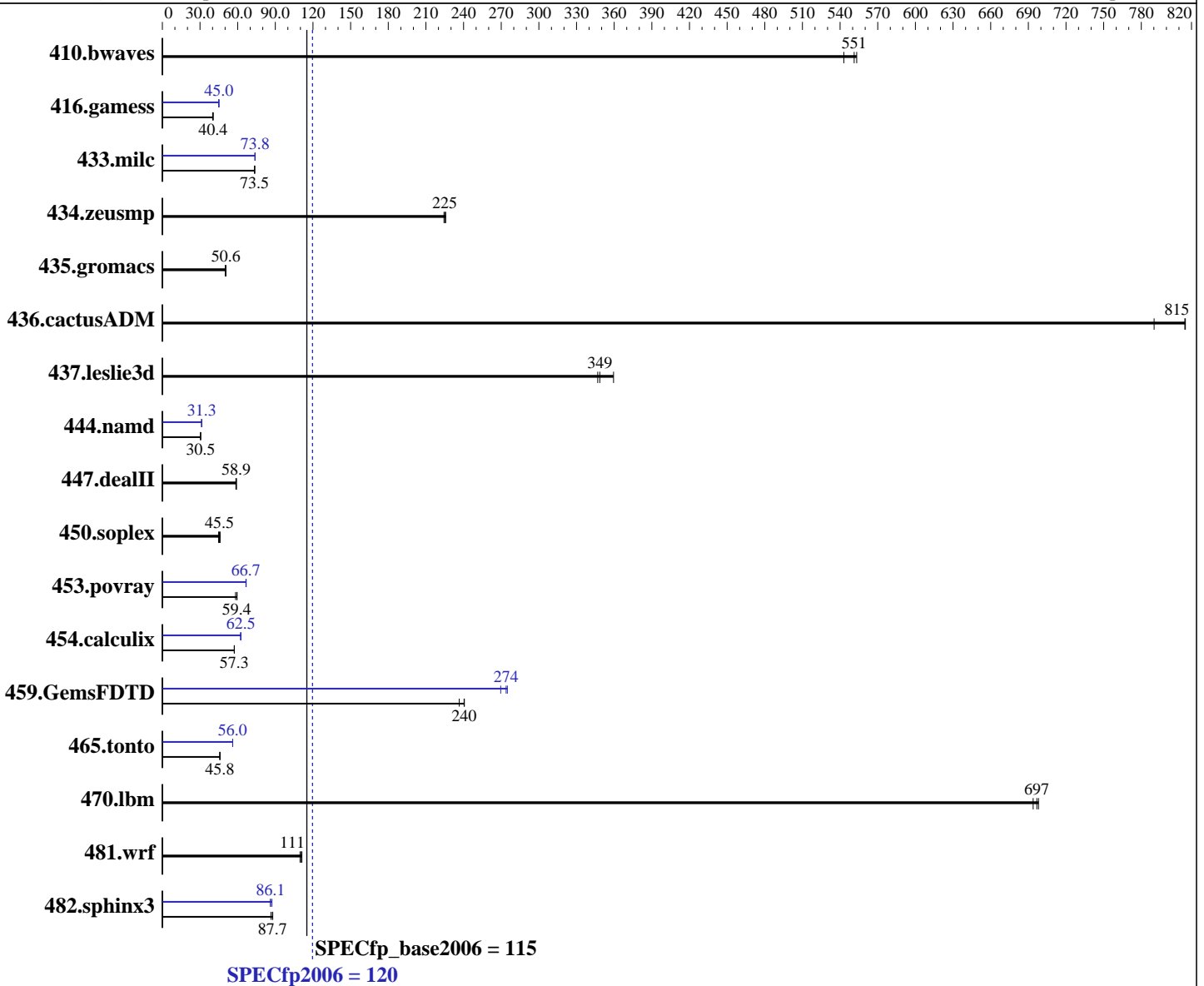
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2014



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

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Software

Operating System: CentOS Linux release 7.0,
Kernel 3.10.0-123.8.1.el7.x86_64
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE
for Linux;
Fortran: Version 15.0.0.090 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 2000 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	24.6	553	<u>24.7</u>	<u>551</u>	25.0	543	24.6	553	<u>24.7</u>	<u>551</u>	25.0	543
416.gamess	<u>485</u>	<u>40.4</u>	483	40.5	489	40.1	<u>435</u>	<u>45.0</u>	434	45.1	436	44.9
433.milc	125	73.6	<u>125</u>	<u>73.5</u>	125	73.4	124	73.8	124	74.0	<u>124</u>	<u>73.8</u>
434.zeusmp	40.3	226	40.6	224	<u>40.4</u>	<u>225</u>	40.3	226	40.6	224	<u>40.4</u>	<u>225</u>
435.gromacs	143	50.1	<u>141</u>	<u>50.6</u>	141	50.6	143	50.1	<u>141</u>	<u>50.6</u>	141	50.6
436.cactusADM	<u>14.7</u>	<u>815</u>	14.7	815	15.1	790	<u>14.7</u>	<u>815</u>	14.7	815	15.1	790
437.leslie3d	27.1	347	<u>27.0</u>	<u>349</u>	26.1	359	27.1	347	<u>27.0</u>	<u>349</u>	26.1	359
444.namd	263	30.5	263	30.5	<u>263</u>	<u>30.5</u>	256	31.3	256	31.3	<u>256</u>	<u>31.3</u>
447.dealII	195	58.6	<u>194</u>	<u>58.9</u>	194	59.0	195	58.6	<u>194</u>	<u>58.9</u>	194	59.0
450.soplex	<u>183</u>	<u>45.5</u>	181	46.0	186	44.7	<u>183</u>	<u>45.5</u>	181	46.0	186	44.7
453.povray	89.4	59.5	<u>89.6</u>	<u>59.4</u>	91.3	58.3	<u>79.8</u>	<u>66.7</u>	79.9	66.6	79.6	66.8
454.calculix	<u>144</u>	<u>57.3</u>	144	57.3	144	57.3	132	62.6	<u>132</u>	<u>62.5</u>	132	62.3
459.GemsFDTD	<u>44.1</u>	<u>240</u>	44.1	241	44.9	237	<u>38.7</u>	<u>274</u>	38.6	275	39.4	270
465.tonto	214	45.9	215	45.8	<u>215</u>	<u>45.8</u>	175	56.1	176	56.0	<u>176</u>	<u>56.0</u>
470.lbm	<u>19.7</u>	<u>697</u>	19.8	694	19.7	698	<u>19.7</u>	<u>697</u>	19.8	694	19.7	698
481.wrf	<u>101</u>	<u>111</u>	100	111	102	110	<u>101</u>	<u>111</u>	100	111	102	110
482.sphinx3	222	88.0	225	86.5	<u>222</u>	<u>87.7</u>	226	86.1	223	87.3	<u>226</u>	<u>86.1</u>

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) = Disable
Early Snoop = Disable
Enforce POR = Disable



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General Notes

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

KMP_AFFINITY = "granularity=fine,compact,0,1"

LD_LIBRARY_PATH = "/home/Trial/SPEC2006_v11/libs/32:/home/Trial/SPEC2006_v11/libs/64:/home/Trial/SPEC2006_v11/sh"

OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/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 -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-ic15.0-official-linux64.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-ic15.0-official-linux64.xml>

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

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

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