



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 6017B-URF(X9DBU-IF, Intel Xeon E5-2470)

SPECfp®2006 = **69.9**

SPECfp\_base2006 = **66.4**

CPU2006 license: 001176

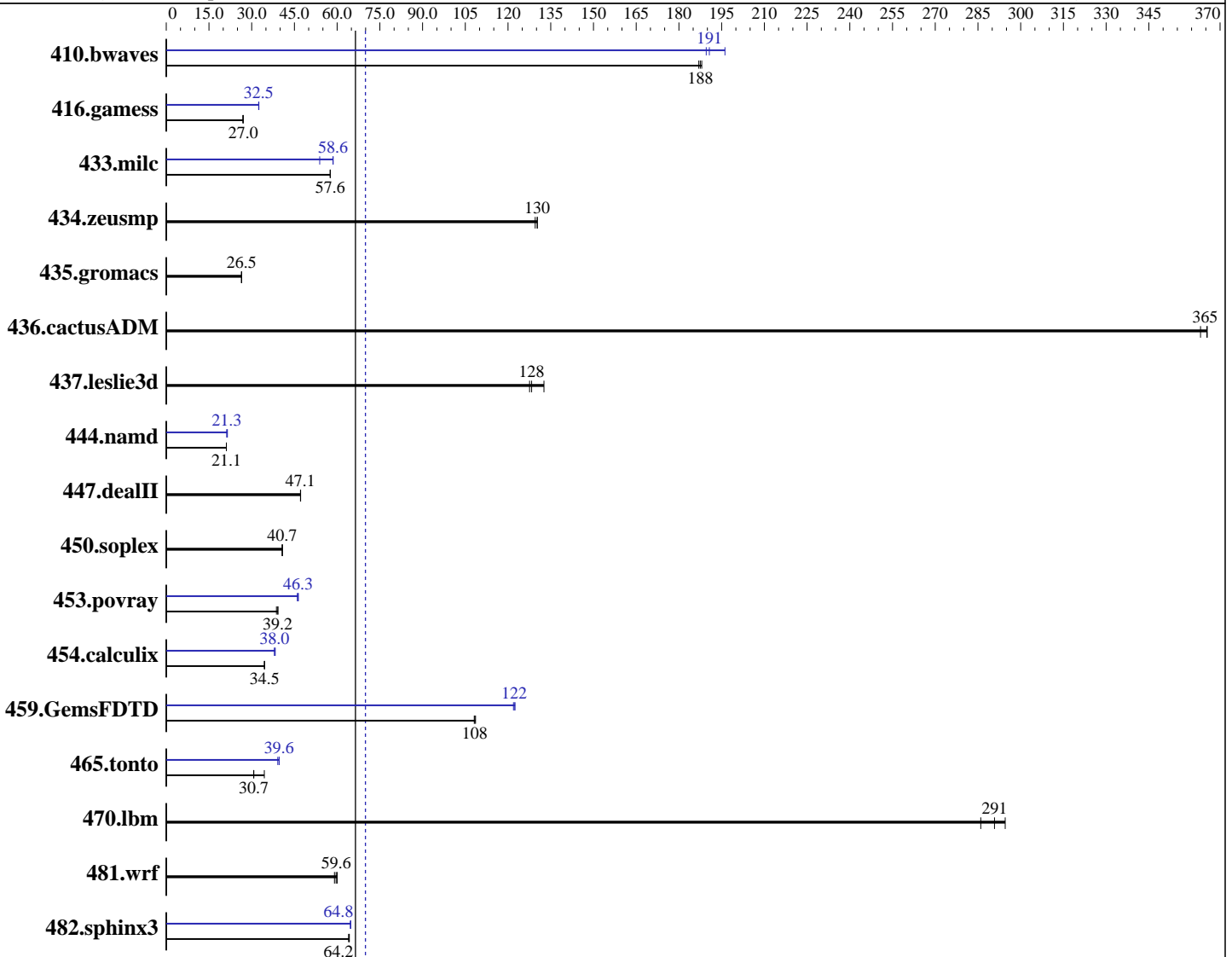
Test sponsor: Supermicro

Tested by: Supermicro

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Dec-2011



SPECfp\_base2006 = 66.4

SPECfp2006 = 69.9

### Hardware

CPU Name: Intel Xeon E5-2470  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz  
 CPU MHz: 2300  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
 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 6.2, Kernel 2.6.32-220.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  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 6017B-URF(X9DBU-IF, Intel Xeon E5-2470)

SPECfp2006 = **69.9**

SPECfp\_base2006 = **66.4**

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: May-2012

Hardware Availability: May-2012

Software Availability: Dec-2011

L3 Cache: 20 MB I+D on chip per chip  
Other Cache: None  
Memory: 96 GB (12 x 8 GB 2Rx4 PC3-12800R-11, ECC)  
Disk Subsystem: 1 x 1 TB SATA II, 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>72.5</u>	<u>188</u>	72.7	187	72.3	188	71.7	190	<u>71.3</u>	<u>191</u>	69.3	196
416.gamess	728	26.9	724	27.0	<u>725</u>	<u>27.0</u>	<u>603</u>	<u>32.5</u>	602	32.5	604	32.4
433.milc	159	57.6	159	57.6	<u>159</u>	<u>57.6</u>	170	53.9	<u>157</u>	<u>58.6</u>	157	58.6
434.zeusmp	70.3	130	<u>69.9</u>	<u>130</u>	69.9	130	70.3	130	<u>69.9</u>	<u>130</u>	69.9	130
435.gromacs	270	26.4	270	26.5	<u>270</u>	<u>26.5</u>	270	26.4	270	26.5	<u>270</u>	<u>26.5</u>
436.cactusADM	<u>32.7</u>	<u>365</u>	32.7	365	32.9	363	<u>32.7</u>	<u>365</u>	32.7	365	32.9	363
437.leslie3d	73.7	128	<u>73.3</u>	<u>128</u>	70.9	133	73.7	128	<u>73.3</u>	<u>128</u>	70.9	133
444.namd	<u>380</u>	<u>21.1</u>	380	21.1	380	21.1	373	21.5	<u>377</u>	<u>21.3</u>	377	21.3
447.dealII	242	47.2	<u>243</u>	<u>47.1</u>	243	47.1	242	47.2	<u>243</u>	<u>47.1</u>	243	47.1
450.soplex	205	40.7	<u>205</u>	<u>40.7</u>	204	40.8	205	40.7	<u>205</u>	<u>40.7</u>	204	40.8
453.povray	138	38.7	136	39.2	<u>136</u>	<u>39.2</u>	115	46.4	116	46.0	<u>115</u>	<u>46.3</u>
454.calculix	239	34.5	239	34.5	<u>239</u>	<u>34.5</u>	<u>217</u>	<u>38.0</u>	217	38.0	216	38.3
459.GemsFDTD	97.7	109	<u>97.9</u>	<u>108</u>	98.1	108	87.0	122	<u>86.8</u>	<u>122</u>	86.6	122
465.tonto	<u>320</u>	<u>30.7</u>	321	30.7	286	34.4	248	39.6	<u>248</u>	<u>39.6</u>	251	39.1
470.lbm	48.0	286	<u>47.2</u>	<u>291</u>	46.6	295	48.0	286	<u>47.2</u>	<u>291</u>	46.6	295
481.wrf	186	60.0	189	59.1	<u>187</u>	<u>59.6</u>	186	60.0	189	59.1	<u>187</u>	<u>59.6</u>
482.sphinx3	303	64.3	304	64.0	<u>304</u>	<u>64.2</u>	301	64.8	<u>301</u>	<u>64.8</u>	302	64.6

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 = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"  
OMP\_NUM\_THREADS = "16"

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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 6017B-URF(X9DBU-IF, Intel Xeon E5-2470)

SPECfp2006 = 69.9

SPECfp\_base2006 = 66.4

CPU2006 license: 001176  
Test sponsor: Supermicro  
Tested by: Supermicro

Test date: May-2012  
Hardware Availability: May-2012  
Software Availability: Dec-2011

## 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  
-ansi-alias



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 6017B-URF(X9DBU-IF, Intel Xeon E5-2470)

SPECfp2006 = 69.9

SPECfp\_base2006 = 66.4

CPU2006 license: 001176  
Test sponsor: Supermicro  
Tested by: Supermicro

Test date: May-2012  
Hardware Availability: May-2012  
Software Availability: Dec-2011

## 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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 6017B-URF(X9DBU-IF, Intel Xeon E5-2470)

**SPECfp2006 = 69.9**

**SPECfp\_base2006 = 66.4**

**CPU2006 license:** 001176

**Test sponsor:** Supermicro

**Tested by:** Supermicro

**Test date:** May-2012

**Hardware Availability:** May-2012

**Software Availability:** Dec-2011

## 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 file that was used to format this result can be browsed at

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

You can also download the XML flags source by saving the following link:

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

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 10:29:26 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 11 September 2012.