



# SPEC® CFP2006 Result

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## Supermicro

SuperServer 5037MC-H8TRF (X9SCD-F single node, Intel E3-1240)

SPECfp®2006 = 62.6

SPECfp\_base2006 = 60.8

CPU2006 license: 001176

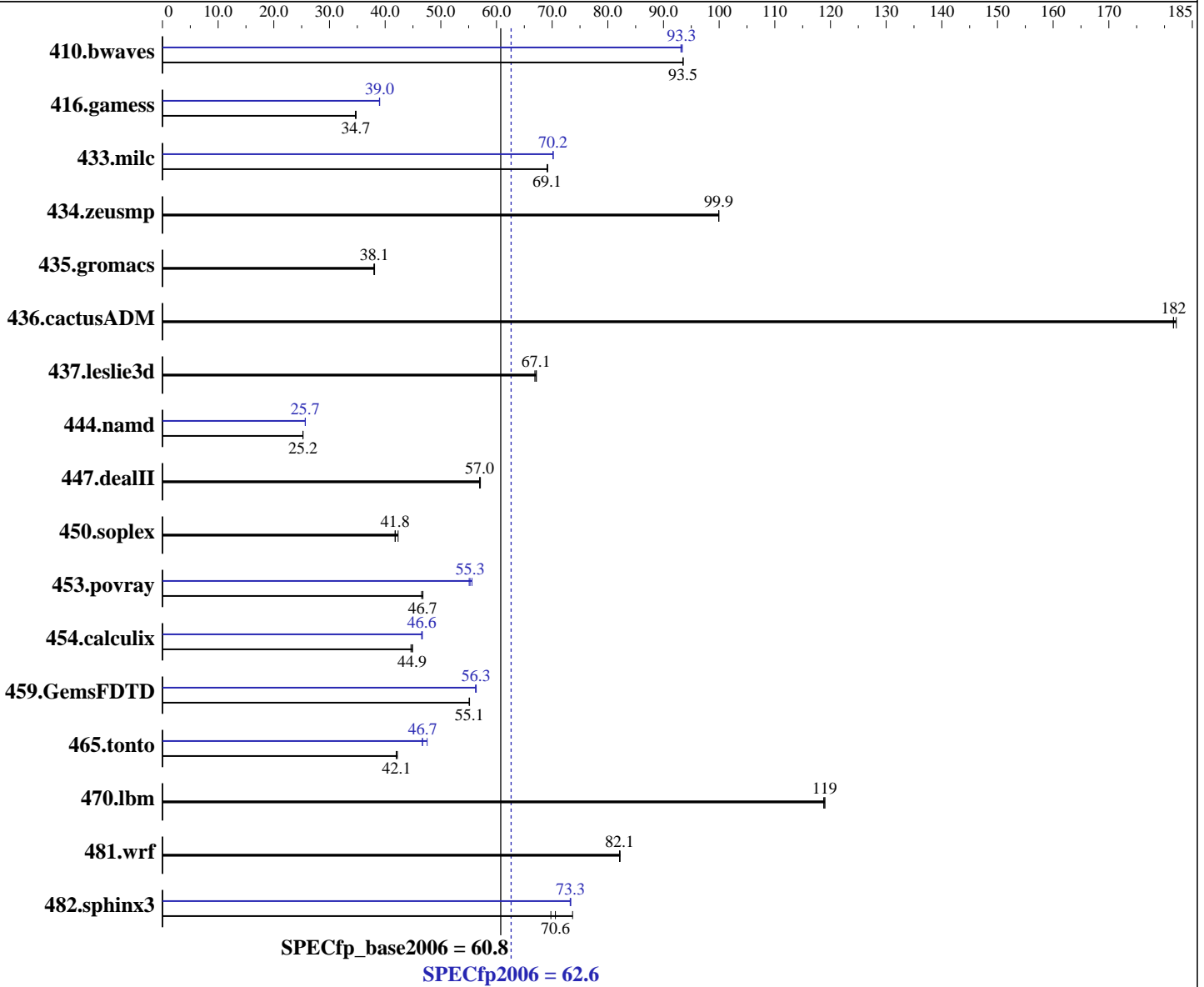
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2012

Hardware Availability: Aug-2011

Software Availability: Oct-2011



### Hardware

CPU Name: Intel Xeon E3-1240  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 3300  
 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 6.1 (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	<b>145</b>	<b>93.5</b>	145	93.5	145	93.5	146	93.4	<b>146</b>	<b>93.3</b>	146	93.1
416.gamess	563	34.8	565	34.6	<b>564</b>	<b>34.7</b>	<b>502</b>	<b>39.0</b>	502	39.0	502	39.0
433.milc	133	69.1	133	69.2	<b>133</b>	<b>69.1</b>	<b>131</b>	<b>70.2</b>	131	70.2	131	70.2
434.zeusmp	91.1	99.9	<b>91.1</b>	<b>99.9</b>	91.1	99.9	91.1	99.9	<b>91.1</b>	<b>99.9</b>	91.1	99.9
435.gromacs	188	38.0	187	38.1	<b>188</b>	<b>38.1</b>	188	38.0	187	38.1	<b>188</b>	<b>38.1</b>
436.cactusADM	65.6	182	<b>65.8</b>	<b>182</b>	65.8	182	65.6	182	<b>65.8</b>	<b>182</b>	65.8	182
437.leslie3d	140	67.2	141	66.9	<b>140</b>	<b>67.1</b>	140	67.2	141	66.9	<b>140</b>	<b>67.1</b>
444.namd	318	25.2	<b>318</b>	<b>25.2</b>	318	25.2	312	25.7	313	25.6	<b>313</b>	<b>25.7</b>
447.dealII	200	57.1	<b>201</b>	<b>57.0</b>	201	57.0	200	57.1	<b>201</b>	<b>57.0</b>	201	57.0
450.soplex	<b>199</b>	<b>41.8</b>	200	41.8	197	42.3	<b>199</b>	<b>41.8</b>	200	41.8	197	42.3
453.povray	114	46.5	114	46.8	<b>114</b>	<b>46.7</b>	96.6	55.1	<b>96.3</b>	<b>55.3</b>	95.7	55.6
454.calculix	184	44.9	<b>184</b>	<b>44.9</b>	185	44.6	177	46.6	177	46.7	<b>177</b>	<b>46.6</b>
459.GemsFDTD	192	55.2	193	55.1	<b>193</b>	<b>55.1</b>	189	56.2	188	56.4	<b>188</b>	<b>56.3</b>
465.tonto	233	42.2	<b>234</b>	<b>42.1</b>	234	42.0	211	46.7	207	47.5	<b>211</b>	<b>46.7</b>
470.lbm	116	119	115	119	<b>115</b>	<b>119</b>	116	119	115	119	<b>115</b>	<b>119</b>
481.wrf	136	82.2	136	82.1	<b>136</b>	<b>82.1</b>	136	82.2	136	82.1	<b>136</b>	<b>82.1</b>
482.sphinx3	265	73.7	<b>276</b>	<b>70.6</b>	279	69.8	266	73.3	266	73.2	<b>266</b>	<b>73.3</b>

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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.

Report generated on Thu Jul 24 02:56:55 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 27 March 2012.

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