



# SPEC<sup>®</sup> CFP2006 Result

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## Supermicro

SuperServer 5038ML-H12TRF (X10SLE-F single node,  
Intel Xeon E3-1240 v3)

SPECfp<sup>®</sup>2006 = **73.6**

SPECfp\_base2006 = **71.6**

CPU2006 license: 001176

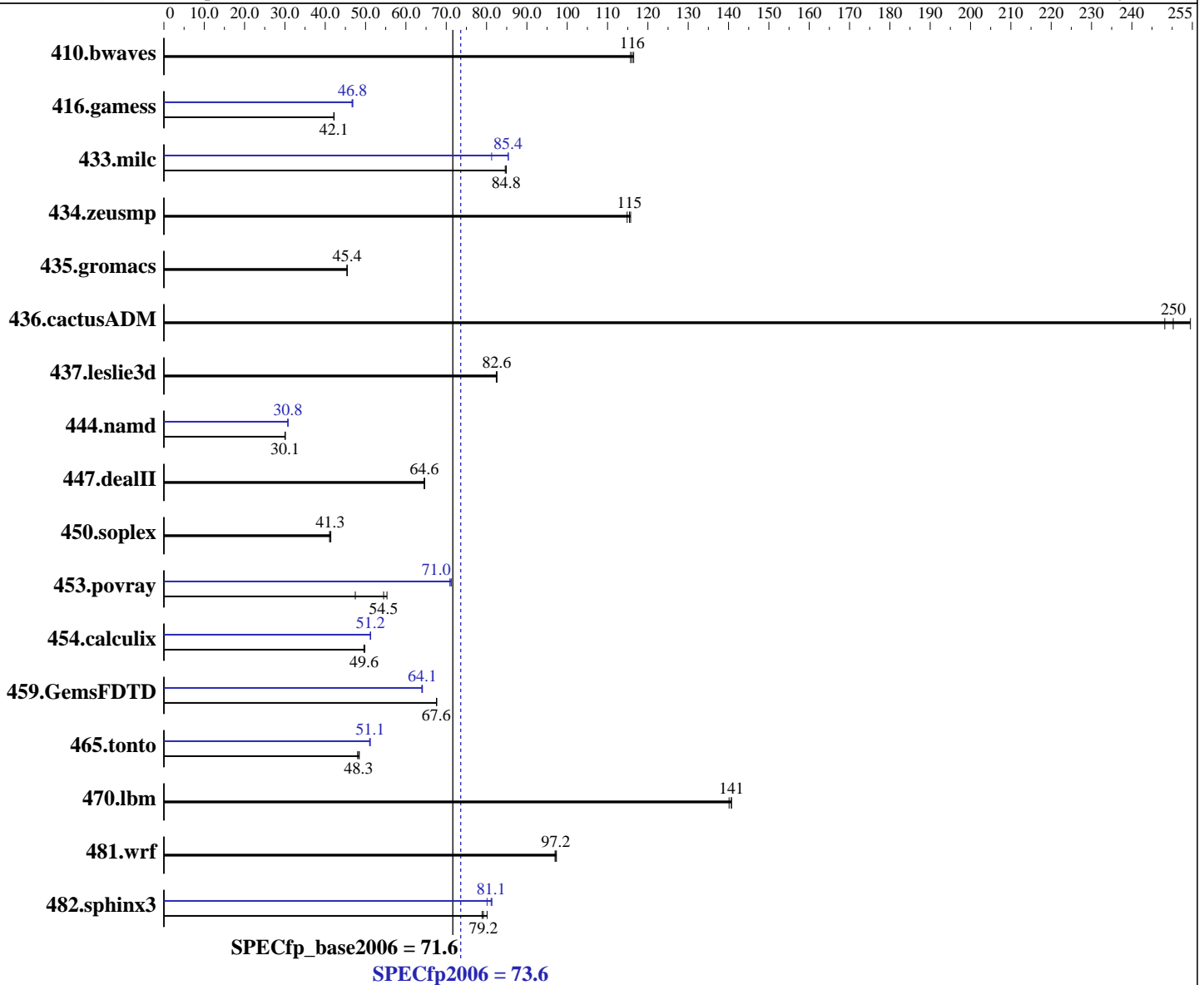
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2013

Hardware Availability: Jun-2013

Software Availability: May-2013



### Hardware

CPU Name: Intel Xeon E3-1240 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
 CPU MHz: 3400  
 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

Continued on next page

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
 Kernel 2.6.32-358.el6.x86\_64  
 Compiler: C/C++: Version 13.1.1.163 of Intel C++ Studio XE for Linux;  
 Fortran: Version 13.1.1.163 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: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, 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	117	116	117	116	<b><u>117</u></b>	<b><u>116</u></b>	117	116	117	116	<b><u>117</u></b>	<b><u>116</u></b>
416.gamess	464	42.2	<b><u>465</u></b>	<b><u>42.1</u></b>	465	42.1	418	46.8	420	46.6	<b><u>418</u></b>	<b><u>46.8</u></b>
433.milc	108	84.6	108	84.9	<b><u>108</u></b>	<b><u>84.8</u></b>	<b><u>108</u></b>	<b><u>85.4</u></b>	113	81.3	107	85.4
434.zeusmp	79.2	115	78.6	116	<b><u>78.8</u></b>	<b><u>115</u></b>	79.2	115	78.6	116	<b><u>78.8</u></b>	<b><u>115</u></b>
435.gromacs	157	45.4	157	45.4	<b><u>157</u></b>	<b><u>45.4</u></b>	157	45.4	157	45.4	<b><u>157</u></b>	<b><u>45.4</u></b>
436.cactusADM	47.0	255	<b><u>47.8</u></b>	<b><u>250</u></b>	48.2	248	47.0	255	<b><u>47.8</u></b>	<b><u>250</u></b>	48.2	248
437.leslie3d	<b><u>114</u></b>	<b><u>82.6</u></b>	114	82.4	114	82.6	<b><u>114</u></b>	<b><u>82.6</u></b>	114	82.4	114	82.6
444.namd	<b><u>267</u></b>	<b><u>30.1</u></b>	267	30.1	267	30.0	<b><u>261</u></b>	<b><u>30.8</u></b>	261	30.8	261	30.7
447.dealII	<b><u>177</u></b>	<b><u>64.6</u></b>	177	64.6	177	64.5	<b><u>177</u></b>	<b><u>64.6</u></b>	177	64.6	177	64.5
450.soplex	202	41.4	<b><u>202</u></b>	<b><u>41.3</u></b>	203	41.1	202	41.4	<b><u>202</u></b>	<b><u>41.3</u></b>	203	41.1
453.povray	112	47.5	<b><u>97.7</u></b>	<b><u>54.5</u></b>	96.2	55.3	<b><u>75.0</u></b>	<b><u>71.0</u></b>	75.0	70.9	74.6	71.3
454.calculix	166	49.6	166	49.8	<b><u>166</u></b>	<b><u>49.6</u></b>	<b><u>161</u></b>	<b><u>51.2</u></b>	161	51.2	161	51.3
459.GemsFDTD	<b><u>157</u></b>	<b><u>67.6</u></b>	157	67.6	157	67.7	<b><u>166</u></b>	<b><u>64.1</u></b>	166	64.1	166	63.9
465.tonto	203	48.4	<b><u>204</u></b>	<b><u>48.3</u></b>	205	48.0	<b><u>192</u></b>	<b><u>51.1</u></b>	192	51.1	193	51.0
470.lbm	97.6	141	<b><u>97.6</u></b>	<b><u>141</u></b>	98.1	140	97.6	141	<b><u>97.6</u></b>	<b><u>141</u></b>	98.1	140
481.wrf	<b><u>115</u></b>	<b><u>97.2</u></b>	115	97.3	115	97.0	<b><u>115</u></b>	<b><u>97.2</u></b>	115	97.3	115	97.0
482.sphinx3	243	80.1	<b><u>246</u></b>	<b><u>79.2</u></b>	247	78.9	243	80.1	240	81.3	<b><u>240</u></b>	<b><u>81.1</u></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:

LD\_LIBRARY\_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"  
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

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>



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

Test date: Jun-2013  
Hardware Availability: Jun-2013  
Software Availability: May-2013

## 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.lelie3d: -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:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias

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

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

Benchmarks using both Fortran and C:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch  
-ansi-alias



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Software Availability: May-2013

## 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) -static  
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

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

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:

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## Peak Optimization Flags (Continued)

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- -static

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-ic13-official-linux64.20130702.html>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.20130702.xml>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revB.20130719.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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