



# SPEC® CFP2006 Result

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## Supermicro

**SPECfp®2006 = 55.7**

SuperServer 5037MC-H8TRF (X9SCD-F, Intel E3-1260L)

**SPECfp\_base2006 = 52.8**

CPU2006 license: 001176

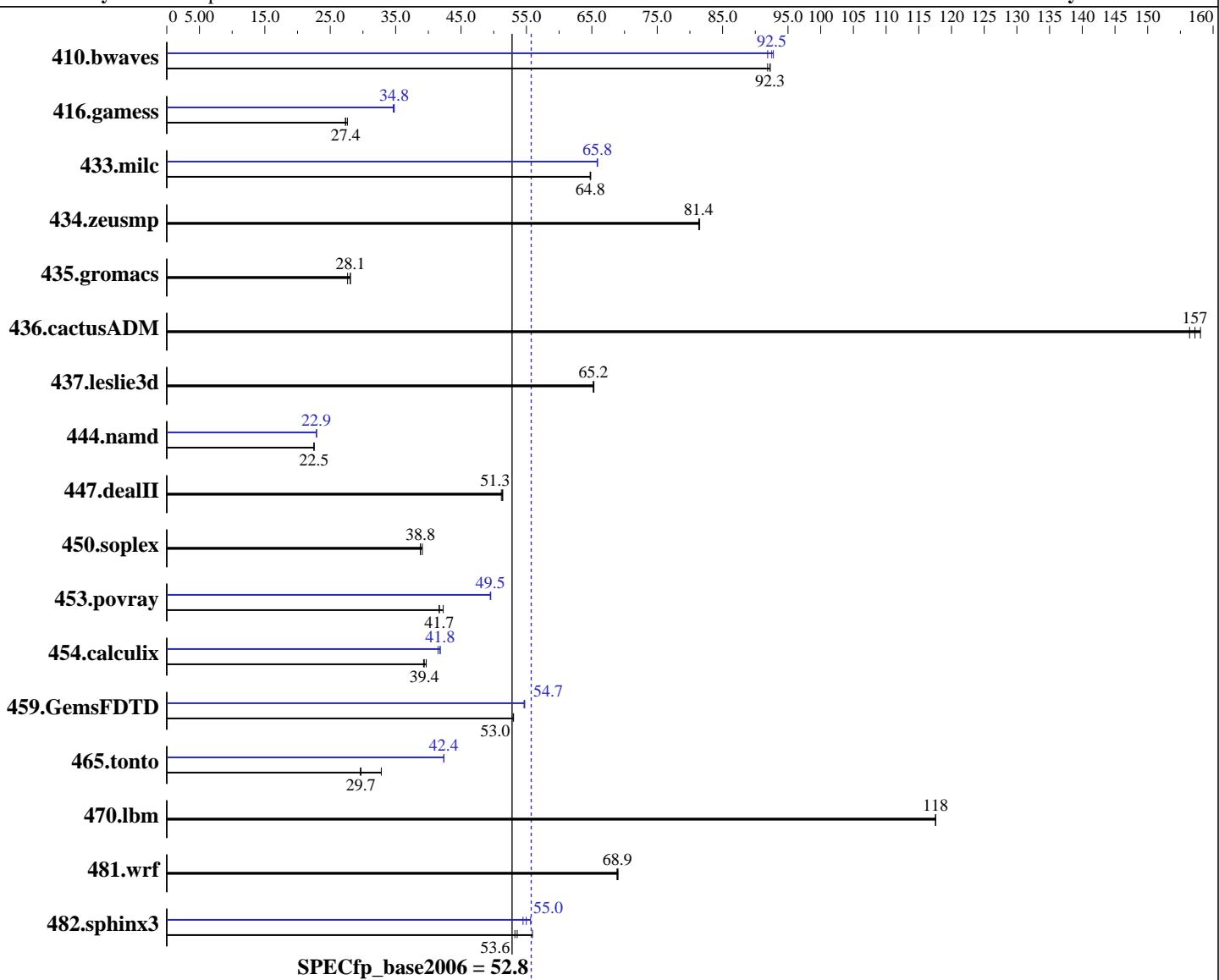
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2012

Hardware Availability: Aug-2011

Software Availability: Oct-2011



### Hardware

CPU Name: Intel Xeon E3-1260L  
CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
CPU MHz: 2400  
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

### Software

Operating System: Red Hat Enterprise Linux Server Release 6.1, Kernel 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  
System State: Run level 3 (multi-user)

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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

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>147</b>	<b>92.3</b>	147	92.3	148	91.9	<b>148</b>	<b>91.9</b>	146	92.8	<b>147</b>	<b>92.5</b>
416.gamess	<b>716</b>	<b>27.4</b>	716	27.3	709	27.6	<b>563</b>	<b>34.8</b>	565	34.6	<b>563</b>	<b>34.8</b>
433.milc	142	64.8	<b>142</b>	<b>64.8</b>	142	64.8	<b>139</b>	<b>65.9</b>	139	65.8	<b>139</b>	<b>65.8</b>
434.zeusmp	112	81.5	<b>112</b>	<b>81.4</b>	112	81.4	<b>112</b>	<b>81.5</b>	<b>112</b>	<b>81.4</b>	112	81.4
435.gromacs	258	27.7	<b>254</b>	<b>28.1</b>	254	28.1	<b>258</b>	<b>27.7</b>	<b>254</b>	<b>28.1</b>	254	28.1
436.cactusADM	<b>76.0</b>	<b>157</b>	75.6	158	76.4	156	<b>76.0</b>	<b>157</b>	75.6	158	76.4	156
437.leslie3d	<b>144</b>	<b>65.2</b>	144	65.3	144	65.2	<b>144</b>	<b>65.2</b>	144	65.3	144	65.2
444.namd	<b>356</b>	<b>22.5</b>	356	22.5	356	22.5	<b>350</b>	<b>22.9</b>	351	22.9	<b>350</b>	<b>22.9</b>
447.dealII	223	51.4	<b>223</b>	<b>51.3</b>	224	51.2	<b>223</b>	<b>51.4</b>	<b>223</b>	<b>51.3</b>	224	51.2
450.soplex	213	39.1	215	38.8	<b>215</b>	<b>38.8</b>	<b>213</b>	<b>39.1</b>	<b>215</b>	<b>38.8</b>	<b>215</b>	<b>38.8</b>
453.povray	<b>128</b>	<b>41.7</b>	128	41.7	126	42.3	<b>107</b>	<b>49.6</b>	108	49.5	<b>107</b>	<b>49.5</b>
454.calculix	208	39.7	<b>209</b>	<b>39.4</b>	210	39.3	<b>197</b>	<b>41.8</b>	199	41.5	197	41.8
459.GemsFDTD	200	53.0	<b>200</b>	<b>53.0</b>	200	53.0	<b>194</b>	<b>54.7</b>	<b>194</b>	<b>54.7</b>	194	54.6
465.tonto	<b>331</b>	<b>29.7</b>	300	32.8	332	29.6	<b>232</b>	<b>42.4</b>	232	42.4	232	42.4
470.lbm	<b>117</b>	<b>118</b>	117	118	117	118	<b>117</b>	<b>118</b>	117	118	117	118
481.wrf	162	68.8	<b>162</b>	<b>68.9</b>	162	69.0	<b>162</b>	<b>68.8</b>	<b>162</b>	<b>68.9</b>	162	69.0
482.sphinx3	<b>364</b>	<b>53.6</b>	349	55.9	366	53.2	<b>355</b>	<b>55.0</b>	358	54.5	350	55.6

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 = "/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 -unroll12 -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.dealII: 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) -unroll14 -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 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>

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

Tested with SPEC CPU2006 v1.2.

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