



# SPEC® CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5038MD-H24TRF  
(X10SDE-DF, Intel Xeon D-1531)

SPECfp®2006 = 67.3

SPECfp\_base2006 = 62.7

CPU2006 license: 001176

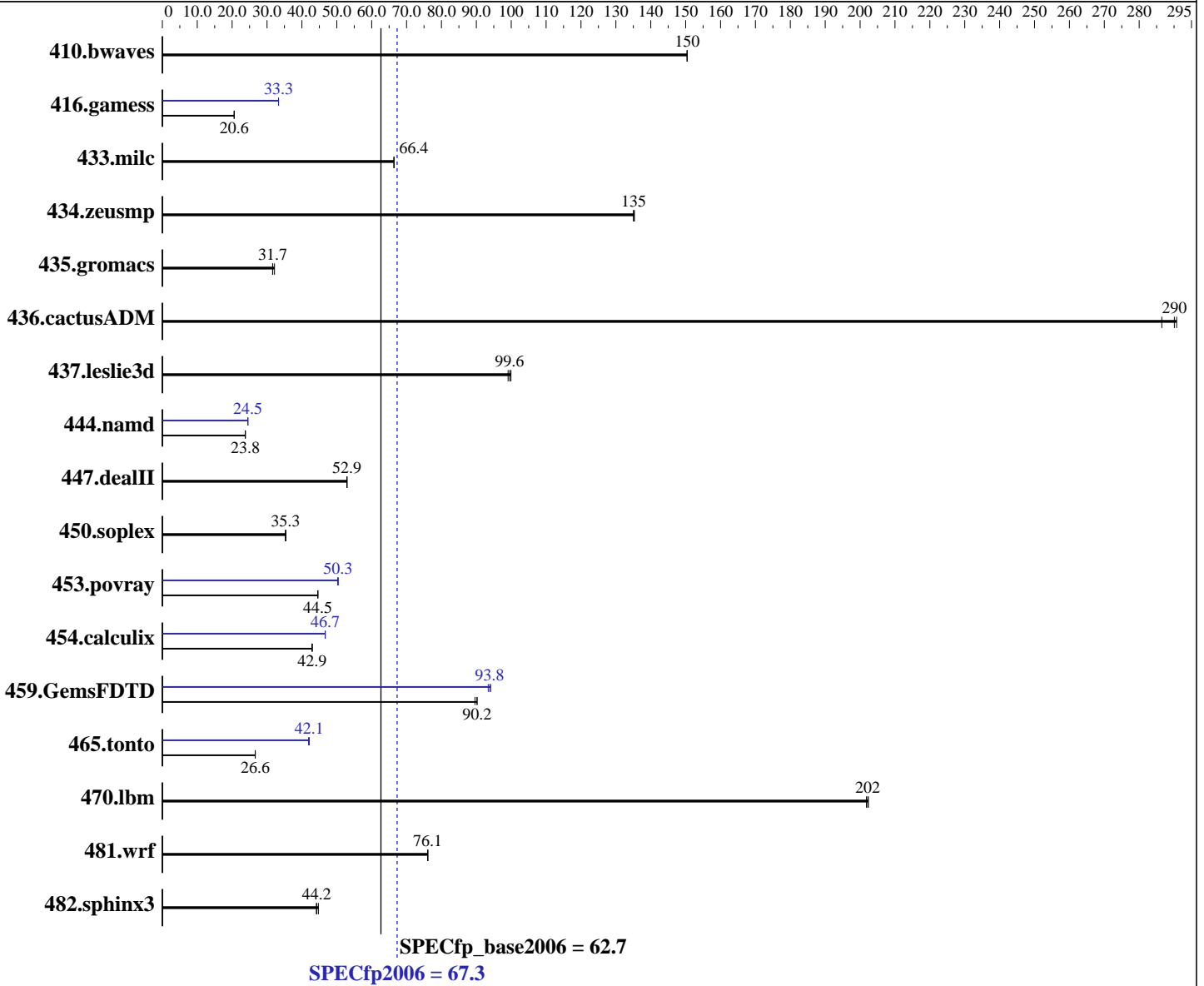
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2016

Hardware Availability: Nov-2015

Software Availability: Sep-2015



### Hardware

CPU Name: Intel Xeon D-1531  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.70 GHz  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 6 cores, 1 chip, 6 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: SUSE Linux Enterprise Server 12 SP1, Kernel 3.12.49-11-default  
 Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux;  
 Fortran: Version 16.0.0.101 of Intel Fortran Studio XE for Linux  
 Auto Parallel: Yes  
 File System: xfs  
 System State: Run level 3 (multi-user)

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5038MD-H24TRF  
(X10SDE-DF, Intel Xeon D-1531)

SPECfp2006 = **67.3**

SPECfp\_base2006 = **62.7**

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2016

Hardware Availability: Nov-2015

Software Availability: Sep-2015

L3 Cache: 9 MB I+D on chip per chip  
Other Cache: None  
Memory: 64 GB (4 x 16 GB 1Rx4 PC4-2400T-R, running at 2133 MHz)  
Disk Subsystem: 1 x 240 GB SATA III SSD  
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	90.3	150	<b>90.3</b>	<b>150</b>	90.4	150	90.3	150	<b>90.3</b>	<b>150</b>	90.4	150
416.gamess	<b>951</b>	<b>20.6</b>	951	20.6	951	20.6	<b>588</b>	<b>33.3</b>	588	33.3	588	33.3
433.milc	<b>138</b>	<b>66.4</b>	138	66.4	138	66.4	<b>138</b>	<b>66.4</b>	138	66.4	138	66.4
434.zeusmp	<b>67.3</b>	<b>135</b>	67.4	135	67.2	135	<b>67.3</b>	<b>135</b>	67.4	135	67.2	135
435.gromacs	<b>226</b>	<b>31.7</b>	222	32.1	226	31.6	<b>226</b>	<b>31.7</b>	222	32.1	226	31.6
436.cactusADM	41.1	291	41.7	286	<b>41.2</b>	<b>290</b>	41.1	291	41.7	286	<b>41.2</b>	<b>290</b>
437.leslie3d	<b>94.4</b>	<b>99.6</b>	94.1	99.9	94.9	99.1	<b>94.4</b>	<b>99.6</b>	94.1	99.9	94.9	99.1
444.namd	337	23.8	337	23.8	<b>337</b>	<b>23.8</b>	<b>327</b>	<b>24.5</b>	327	24.5	327	24.5
447.dealII	216	52.9	216	52.9	<b>216</b>	<b>52.9</b>	216	52.9	216	52.9	<b>216</b>	<b>52.9</b>
450.soplex	236	35.4	236	35.3	<b>236</b>	<b>35.3</b>	236	35.4	236	35.3	<b>236</b>	<b>35.3</b>
453.povray	<b>119</b>	<b>44.5</b>	119	44.6	119	44.5	<b>106</b>	<b>50.3</b>	106	50.3	106	50.4
454.calculix	192	43.0	192	42.9	<b>192</b>	<b>42.9</b>	177	46.7	177	46.7	<b>177</b>	<b>46.7</b>
459.GemsFDTD	<b>118</b>	<b>90.2</b>	118	90.2	118	89.6	113	94.1	114	93.4	<b>113</b>	<b>93.8</b>
465.tonto	370	26.6	<b>370</b>	<b>26.6</b>	369	26.6	235	41.9	234	42.1	<b>234</b>	<b>42.1</b>
470.lbm	<b>68.0</b>	<b>202</b>	68.1	202	67.9	202	<b>68.0</b>	<b>202</b>	68.1	202	67.9	202
481.wrf	147	76.1	<b>147</b>	<b>76.1</b>	147	76.0	147	76.1	<b>147</b>	<b>76.1</b>	147	76.0
482.sphinx3	436	44.7	<b>441</b>	<b>44.2</b>	441	44.2	436	44.7	<b>441</b>	<b>44.2</b>	441	44.2

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

Sysinfo program /usr/cpu2006/config/sysinfo.rev6914  
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on linux-ux9z Thu Jun 23 10:31:03 2016

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:  
<http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

From /proc/cpuinfo

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5038MD-H24TRF  
(X10SDE-DF, Intel Xeon D-1531)

SPECfp2006 = 67.3

SPECfp\_base2006 = 62.7

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2016

Hardware Availability: Nov-2015

Software Availability: Sep-2015

### Platform Notes (Continued)

model name : Intel(R) Xeon(R) CPU D-1531 @ 2.20GHz

1 "physical id"s (chips)

12 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 6

siblings : 12

physical 0: cores 0 1 2 3 4 5

cache size : 9216 KB

From /proc/meminfo

MemTotal: 65814800 kB

HugePages\_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lsb\_release -d

SUSE Linux Enterprise Server 12 SP1

From /etc/\*release\* /etc/\*version\*

SuSE-release:

SUSE Linux Enterprise Server 12 (x86\_64)

VERSION = 12

PATCHLEVEL = 1

# This file is deprecated and will be removed in a future service pack or release.

# Please check /etc/os-release for details about this release.

os-release:

NAME="SLES"

VERSION="12-SP1"

VERSION\_ID="12.1"

PRETTY\_NAME="SUSE Linux Enterprise Server 12 SP1"

ID="sles"

ANSI\_COLOR="0;32"

CPE\_NAME="cpe:/o:suse:sles:12:sp1"

uname -a:

Linux linux-ux9z 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015  
(8d714a0) x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 5 Jun 23 10:18

SPEC is set to: /usr/cpu2006

Filesystem Type Size Used Avail Use% Mounted on

/dev/sda3 xfs 217G 117G 100G 54% /

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 3



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5038MD-H24TRF  
(X10SDE-DF, Intel Xeon D-1531)

SPECfp2006 = 67.3

SPECfp\_base2006 = 62.7

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2016

Hardware Availability: Nov-2015

Software Availability: Sep-2015

## Platform Notes (Continued)

BIOS American Megatrends Inc. 1.0 05/13/2016

Memory:

4x Micron 18ADF2G72PZ-2G3A1 16 GB 1 rank 2400 MHz, configured at 2133 MHz

(End of data from sysinfo program)

## General Notes

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

KMP\_AFFINITY = "granularity=fine,compact,1,0"

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

OMP\_NUM\_THREADS = "12"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/

Page 4



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5038MD-H24TRF  
(X10SDE-DF, Intel Xeon D-1531)

SPECfp2006 = 67.3

SPECfp\_base2006 = 62.7

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2016

Hardware Availability: Nov-2015

Software Availability: Sep-2015

## Base Portability Flags (Continued)

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 -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



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5038MD-H24TRF  
(X10SDE-DF, Intel Xeon D-1531)

SPECfp2006 = 67.3

SPECfp\_base2006 = 62.7

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2016

Hardware Availability: Nov-2015

Software Availability: Sep-2015

## Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -fno-alias  
-auto-ilp32

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4  
-ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -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:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2  
-inline-level=0 -opt-prefetch -parallel

465.tonto: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -inline-calloc  
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2016 Standard Performance Evaluation Corporation

## Supermicro

SuperServer 5038MD-H24TRF  
(X10SDE-DF, Intel Xeon D-1531)

SPECfp2006 = 67.3

SPECfp\_base2006 = 62.7

CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Jun-2016

Hardware Availability: Nov-2015

Software Availability: Sep-2015

## Peak Optimization Flags (Continued)

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-ic16.0-official-linux64.html>

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

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

<http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revH.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 Tue Jul 26 16:13:27 2016 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 26 July 2016.