## SPEC® CFP2006 Result

**Supermicro**
Supermicro X11SAT-F motherboard (X11SAT-F, Intel Core i3-6100TE)

### SPECfp®2006 = 71.1

### SPECfp_base2006 = 70.1

<table>
<thead>
<tr>
<th>Tested by:</th>
<th>Supermicro</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Supermicro</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>Oct-2015</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Sep-2015</td>
</tr>
<tr>
<td>Test date:</td>
<td>Jan-2016</td>
</tr>
<tr>
<td>CPU2006 license:</td>
<td>001176</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPECfp_base2006 = 70.1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>410.bwaves</strong></td>
</tr>
<tr>
<td><strong>416.gamess</strong></td>
</tr>
<tr>
<td><strong>433.milc</strong></td>
</tr>
<tr>
<td><strong>434.zeusmp</strong></td>
</tr>
<tr>
<td><strong>435.gromacs</strong></td>
</tr>
<tr>
<td><strong>436.cactusADM</strong></td>
</tr>
<tr>
<td><strong>437.leslie3d</strong></td>
</tr>
<tr>
<td><strong>444.namd</strong></td>
</tr>
<tr>
<td><strong>447.dealII</strong></td>
</tr>
<tr>
<td><strong>450.soplex</strong></td>
</tr>
<tr>
<td><strong>453.povray</strong></td>
</tr>
<tr>
<td><strong>454.calculix</strong></td>
</tr>
<tr>
<td><strong>459.GemsFDTD</strong></td>
</tr>
<tr>
<td><strong>465.tonto</strong></td>
</tr>
<tr>
<td><strong>470.lbm</strong></td>
</tr>
<tr>
<td><strong>481.wrf</strong></td>
</tr>
<tr>
<td><strong>482.sphinx3</strong></td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Core i3-6100TE
- **CPU Characteristics:**
  - CPU MHz: 2700
  - FPU: Integrated
  - CPU(s) enabled: 2 cores, 1 chip, 2 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 7.1, Kernel 3.10.0-229.el7.x86_64
- **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)
### Supermicro

Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i3-6100TE)

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>97.2</td>
<td>140</td>
<td>97.2</td>
<td>140</td>
<td>97.1</td>
<td>140</td>
<td>97.2</td>
<td>140</td>
<td>97.1</td>
<td>140</td>
</tr>
<tr>
<td>416.gamess</td>
<td>537</td>
<td>36.4</td>
<td>537</td>
<td>36.4</td>
<td>538</td>
<td>36.4</td>
<td>514</td>
<td>38.1</td>
<td>514</td>
<td>38.1</td>
</tr>
<tr>
<td>433.milc</td>
<td>103</td>
<td>89.0</td>
<td>103</td>
<td>89.0</td>
<td>103</td>
<td>89.0</td>
<td>103</td>
<td>89.0</td>
<td>103</td>
<td>89.0</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>69.1</td>
<td>132</td>
<td>69.3</td>
<td>131</td>
<td>69.2</td>
<td>132</td>
<td>69.1</td>
<td>132</td>
<td>69.2</td>
<td>132</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>159</td>
<td>45.0</td>
<td>159</td>
<td>45.0</td>
<td>159</td>
<td>44.9</td>
<td>159</td>
<td>45.0</td>
<td>159</td>
<td>44.9</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>66.7</td>
<td>179</td>
<td>66.8</td>
<td>179</td>
<td>66.8</td>
<td>179</td>
<td>66.7</td>
<td>179</td>
<td>66.8</td>
<td>179</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>113</td>
<td>82.9</td>
<td>113</td>
<td>82.9</td>
<td>113</td>
<td>82.9</td>
<td>113</td>
<td>82.9</td>
<td>113</td>
<td>82.9</td>
</tr>
<tr>
<td>444.namd</td>
<td>314</td>
<td>25.5</td>
<td>314</td>
<td>25.5</td>
<td>314</td>
<td>25.5</td>
<td>308</td>
<td>26.0</td>
<td>308</td>
<td>26.0</td>
</tr>
<tr>
<td>447.dealII</td>
<td>202</td>
<td>56.7</td>
<td>202</td>
<td>56.8</td>
<td>202</td>
<td>56.7</td>
<td>202</td>
<td>56.7</td>
<td>202</td>
<td>56.7</td>
</tr>
<tr>
<td>450.soplex</td>
<td>209</td>
<td>39.9</td>
<td>212</td>
<td>39.3</td>
<td>208</td>
<td>40.0</td>
<td>209</td>
<td>39.9</td>
<td>212</td>
<td>39.3</td>
</tr>
<tr>
<td>453.povray</td>
<td>108</td>
<td>49.2</td>
<td>109</td>
<td>48.9</td>
<td>107</td>
<td>49.7</td>
<td>95.2</td>
<td>55.9</td>
<td>94.8</td>
<td>55.6</td>
</tr>
<tr>
<td>454.calculix</td>
<td>149</td>
<td>55.5</td>
<td>149</td>
<td>55.5</td>
<td>149</td>
<td>55.4</td>
<td>150</td>
<td>54.8</td>
<td>151</td>
<td>54.7</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>152</td>
<td>69.8</td>
<td>152</td>
<td>69.7</td>
<td>152</td>
<td>69.6</td>
<td>148</td>
<td>71.7</td>
<td>148</td>
<td>71.7</td>
</tr>
<tr>
<td>465.tonto</td>
<td>205</td>
<td>48.0</td>
<td>205</td>
<td>47.9</td>
<td>205</td>
<td>47.9</td>
<td>194</td>
<td>50.7</td>
<td>194</td>
<td>50.7</td>
</tr>
<tr>
<td>470.lbm</td>
<td>74.0</td>
<td>186</td>
<td>73.9</td>
<td>186</td>
<td>74.0</td>
<td>186</td>
<td>74.0</td>
<td>186</td>
<td>74.0</td>
<td>186</td>
</tr>
<tr>
<td>481.wrf</td>
<td>114</td>
<td>98.2</td>
<td>114</td>
<td>98.1</td>
<td>114</td>
<td>98.4</td>
<td>114</td>
<td>98.2</td>
<td>114</td>
<td>98.1</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>317</td>
<td>61.6</td>
<td>316</td>
<td>61.7</td>
<td>317</td>
<td>61.4</td>
<td>317</td>
<td>61.6</td>
<td>316</td>
<td>61.7</td>
</tr>
</tbody>
</table>

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

As tested, the system used a Supermicro CSE-732D4-903B chassis. The chassis is configured with a PWS-903-PQ power supply, 1 SNK-P0046A4 heatsink, as well as 1 FAN-0124L4 chassis fan.

Sysinfo program /usr/cpu2006/config/sysinfo.rev6914

$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on X11SAT-01 Tue Jan 19 01:18:18 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

Continued on next page
Supermicro
Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i3-6100TE)

SPECfp2006 = 71.1
SPECfp_base2006 = 70.1

CPU2006 license: 001176
Test sponsor: Supermicro
Test date: Jan-2016
Hardware Availability: Oct-2015
Tested by: Supermicro
Software Availability: Sep-2015

Platform Notes (Continued)

From /proc/cpuinfo
model name : Intel(R) Core(TM) i3-6100TE CPU @ 2.70GHz
  1 "physical id"s (chips)
  4 "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 : 2
siblings : 4
physical 0: cores 0 1
cache size : 4096 KB

From /proc/meminfo
MemTotal: 16248396 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
os-release:
  NAME="Red Hat Enterprise Linux Server"
  VERSION="7.1 (Maipo)"
  ID="rhel"
  ID_LIKE="fedora"
  VERSION_ID="7.1"
  PRETTY_NAME="Red Hat Enterprise Linux Server 7.1 (Maipo)"
  ANSI_COLOR="0;31"
  CPE_NAME=cpe:/o:redhat:enterprise_linux:7.1:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)

uname -a:
  Linux X11SAT-01 3.10.0-229.el7.x86_64 #1 SMP Thu Jan 29 18:37:38 EST 2015
  x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 19 01:16

SPEC is set to: /usr/cpu2006

Filesystem      Type   Size  Used Avail Use% Mounted on
/dev/sda2        xfs   183G   45G  139G  25% /

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.

BIOS American Megatrends Inc. 1.0 12/18/2015
Memory:
  4x Micron 8ATF51264AZ-2G1A2 4 GB 1 rank 2133 MHz

Continued on next page
Supermicro
Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i3-6100TE)

| SPECfp2006 | 71.1 |
| SPECfp_base2006 | 70.1 |

CPU2006 license: 001176
Test date: Jan-2016
Test sponsor: Supermicro
Hardware Availability: Oct-2015
Tested by: Supermicro
Software Availability: Sep-2015

Platform Notes (Continued)

(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 = "2"

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
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

Continued on next page
Supermicro
Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i3-6100TE)

SPECfp2006 = 71.1
SPECfp_base2006 = 70.1

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

Test date: Jan-2016
Hardware Availability: Oct-2015
Software Availability: Sep-2015

Base Portability Flags (Continued)

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

Peak Optimization Flags

C benchmarks:
433.milc: basepeak = yes

Continued on next page
Peak Optimization Flags (Continued)

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-llp32

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:

435.gromacs: basepeak = yes
436.cactusADM: basepeak = yes

Continued on next page
Supermicro
Supermicro X11SAT-F motherboard
(X11SAT-F, Intel Core i3-6100TE)

SPECfp2006 = 71.1
SPECfp_base2006 = 70.1

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

Test date: Jan-2016
Hardware Availability: Oct-2015
Software Availability: Sep-2015

Peak Optimization Flags (Continued)

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.

Tested with SPEC CPU2006 v1.2.
Originally published on 9 February 2016.