Supermicro
Supermicro X11SAE-M motherboard
(X11SAE-M, Intel Core i5-6500T)

**SPECfp®2006 = 82.6**

**SPECfp_base2006 = 80.5**

**CPU2006 license:** 001176
**Test date:** Jan-2016

**Test sponsor:** Supermicro
**Hardware Availability:** Sep-2015

**Tested by:** Supermicro
**Software Availability:** Sep-2015

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>43.6</td>
</tr>
<tr>
<td>416.gamess</td>
<td>38.5</td>
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<tr>
<td>433.milc</td>
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</tr>
<tr>
<td>434.zeusmp</td>
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<tr>
<td>435.gromacs</td>
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<tr>
<td>436.cactusADM</td>
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<td>437.leslie3d</td>
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<tr>
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<td>450.soplex</td>
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<tr>
<td>481.wrf</td>
<td>110</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>74.5</td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Core i5-6500T
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.10 GHz
- **CPU MHz:** 2500
- **FPU:** Integrated
- **CPU(s) enabled:** 4 cores, 1 chip, 4 cores/chip
- **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.e17.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 X11SAE-M motherboard (X11SAE-M, Intel Core i5-6500T)

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

- **L3 Cache:** 6 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 16 GB (4 x 4 GB 1Rx8 PC4-2133P-U)  
- **Disk Subsystem:** 1 x 400 GB SATA III SSD  
- **Other Hardware:** None  
- **Base Pointers:** 64-bit  
- **Peak Pointers:** 32/64-bit  
- **Other Software:** None

### Results Table

<table>
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<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>262</td>
<td>74.5</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-731i-300B chassis. The chassis is configured with 2 PWS-305-PQ redundant power supply, 1 SNK-P0046A4 heatsink, as well as 1 FAN-0108L4 rear cooling fan.

Sysinfo program /usr/cpu2006/config/sysinfo.rev6914  
$Rev: 6914 $ $Date:: 2014-06-25 $# e3fbb8667b5a285932ceab81e28219e1  
running on localhost.localdomain Sat Jan 30 13:30:28 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 X11SAE-M motherboard (X11SAE-M, Intel Core i5-6500T)

SPECfp2006 = 82.6
SPECfp_base2006 = 80.5

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

Platform Notes (Continued)

From /proc/cpuinfo
   model name : Intel(R) Core(TM) i5-6500T CPU @ 2.50GHz
   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 : 4
      siblings : 4
      physical 0: cores 0 1 2 3
   cache size : 6144 KB

From /proc/meminfo
   MemTotal: 16039968 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 localhost.localdomain 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 29 12:32

   SPEC is set to: /usr/cpu2006
   Filesystem Type Size Used Avail Use% Mounted on
      /dev/sda2 xfs 369G 173G 197G 47% /

   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. 1.0a 12/21/2015
   Memory:
      4x Micron 8ATF51264AZ-2G1A2 4 GB 1 rank 2133 MHz

Continued on next page
**SPEC CFP2006 Result**

**Supermicro**
Supermicro X11SAE-M motherboard
(X11SAE-M, Intel Core i5-6500T)

**SPECfp2006 =** 82.6
**SPECfp_base2006 =** 80.5

**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 = "4"

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  -DSPEC_CPU_CASE_FLAG  -DSPEC_CPU_LINUX
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64  -DSPEC_CPU_CASE_FLAG  -DSPEC_CPU_LINUX

Continued on next page
Supermicro
Supermicro X11SAE-M motherboard
(X11SAE-M, Intel Core i5-6500T)

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SPECfp_base2006 = 80.5

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

Test date: Jan-2016
Hardware Availability: Sep-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
Supermicro  
Supermicro X11SAE-M motherboard  
(X11SAE-M , Intel Core i5-6500T)

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CPU2006 license: 001176  
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Hardware Availability: Sep-2015  
Tested by: Supermicro  
Software Availability: Sep-2015

**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-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:

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

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Supermicro
Supermicro X11SAE-M motherboard
(X11SAE-M, Intel Core i5-6500T)

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Tested by: Supermicro

Test date: Jan-2016
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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

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For other inquiries, please contact webmaster@spec.org.

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