Supermicro
SuperServer 5019S-MT
(X11SSH-TF, Intel Xeon E3-1235L v5)

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

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

SPECfp®2006 = 83.7
SPECfp_base2006 = 81.6

Hardware
CPU Name: Intel Xeon E3-1235L v5
CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
CPU MHz: 2000
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 7.2
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)
## SPEC CFP2006 Result

**Supermicro**

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<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Pointers</th>
<th>Peak Pointers</th>
<th>Other Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>64-bit</td>
<td>64-bit</td>
<td>None</td>
</tr>
<tr>
<td>416.gamepp</td>
<td>32/64-bit</td>
<td>32/64-bit</td>
<td>None</td>
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</table>

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Ratio</th>
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<tbody>
<tr>
<td>410.bwaves</td>
<td>93.5</td>
<td>145</td>
<td>93.8</td>
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<tr>
<td>416.gamepp</td>
<td>458</td>
<td>42.8</td>
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<td>42.7</td>
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<td>42.7</td>
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<tr>
<td>433.milc</td>
<td>94.8</td>
<td>96.9</td>
<td>94.3</td>
<td>97.3</td>
<td>94.2</td>
<td>97.5</td>
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<tr>
<td>434.milc</td>
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<tr>
<td>435.milc</td>
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<td>436.cactusADM</td>
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<td>437.leslie3d</td>
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<td>88.4</td>
<td>106</td>
<td>88.2</td>
<td>107</td>
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<tr>
<td>444.namd</td>
<td>277</td>
<td>29.4</td>
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<td>29.9</td>
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<td>447.dealII</td>
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<td>63.8</td>
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<td>179</td>
<td>63.8</td>
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<tr>
<td>450.soplex</td>
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<td>179</td>
<td>63.8</td>
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<td>63.8</td>
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<td>453.povray</td>
<td>95.7</td>
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<td>56.0</td>
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<td>55.6</td>
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<td>454.calculix</td>
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<td>136</td>
<td>60.5</td>
<td>136</td>
<td>60.5</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
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<td>82.1</td>
<td>129</td>
<td>82.1</td>
<td>127</td>
<td>83.5</td>
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<tr>
<td>465.tonto</td>
<td>195</td>
<td>50.4</td>
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<td>50.5</td>
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<td>470.lbm</td>
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<td>74.7</td>
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<tr>
<td>481.wrf</td>
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<td>113</td>
<td>99.0</td>
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<tr>
<td>482.sphinx3</td>
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<td>77.0</td>
<td>254</td>
<td>76.6</td>
<td>254</td>
<td>76.6</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

Sysinfo program /home/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1 running on localhost.localdomain Thu Jan 7 14:37:41 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

model name : Intel(R) Xeon(R) CPU E3-1235L v5 @ 2.00GHz

Continued on next page
Platform Notes (Continued)

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
cautions.)
cpu cores : 4
siblings : 4
physical 0: cores 0 1 2 3
cache size : 8192 KB

From /proc/meminfo
MemTotal: 16088400 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

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

os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.2 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.2"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.2 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.2:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)

uname -a:
Linux localhost.localdomain 3.10.0-327.el7.x86_64 #1 SMP Thu Oct 29 17:29:29
EDT 2015 x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Jan 6 19:02

SPEC is set to: /home/cpu2006

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. T20151229190512 12/29/2015
Memory:
2x Micron 16ATF1G64AZ-2G1A2 8 GB 2 rank 2133 MHz
2x Not Specified Not Specified

(End of data from sysinfo program)
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**General Notes**

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
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 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
- 482.sphinx3: -DSPEC_CPU_LP64
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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
  470.lbm: basepeak = yes
  482.sphinx3: basepeak = yes

C++ benchmarks:

Continued on next page
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SPECfp2006 =  83.7  
SPECfp_base2006 =  81.6  

Peak Optimization Flags (Continued)

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) -unroll14
            -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

454.calculix:  -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes
# SPEC CFP2006 Result

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The flags files that were used to format this result can be browsed at:

- [Intel ic16.0-official-linux64.html](http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html)
- [Supermicro-Platform-Settings-V1.2-revH.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:

- [Intel ic16.0-official-linux64.xml](http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml)
- [Supermicro-Platform-Settings-V1.2-revH.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.

Tested with SPEC CPU2006 v1.2.  
Originally published on 19 April 2016.