# SPEC® CFP2006 Result

## Supermicro

SuperServer 5019S-M  
(X11SSH-F, Intel Xeon E3-1240L v5)

<table>
<thead>
<tr>
<th>SPECfp(^\circ)2006 = 87.4</th>
<th>SPECfp(_{base})2006 = 85.2</th>
</tr>
</thead>
</table>

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

### Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon E3-1240L v5</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 3.20 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>2100</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>4 cores, 1 chip, 4 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>1 chip</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>256 KB I+D on chip per core</td>
</tr>
</tbody>
</table>

### Software

| Operating System: | Red Hat Enterprise Linux Server release 7.2  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Kernel 3.10.0-327.el7.x86_64</td>
</tr>
<tr>
<td>Compiler:</td>
<td>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</td>
</tr>
<tr>
<td>Auto Parallel:</td>
<td>Yes</td>
</tr>
<tr>
<td>File System:</td>
<td>xfs</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
</tbody>
</table>

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The test results are shown in the table below:

<table>
<thead>
<tr>
<th>SPEC</th>
<th>Benchmark</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECfp2006</td>
<td>410.bwaves</td>
<td>146</td>
</tr>
<tr>
<td></td>
<td>416.gamess</td>
<td>101</td>
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<tr>
<td></td>
<td>433.milc</td>
<td>193</td>
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<tr>
<td></td>
<td>434.zeusmp</td>
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<td>435.gromacs</td>
<td>107</td>
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<td></td>
<td>436.cactusADM</td>
<td>324</td>
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<td>447.dealII</td>
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<td>450.soplex</td>
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<td>453.povray</td>
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<td>454.calculix</td>
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<td>459.GemsFDTD</td>
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<td></td>
<td>482.sphinx3</td>
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*Continued on next page*
## Results Table

<table>
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<tr>
<th>Benchmark</th>
<th>Seconds</th>
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<th>Seconds</th>
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<td>235</td>
<td>83.1</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

BIOS Settings:
Hyper-threading = Disabled
Sysinfo program /home/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Fri Dec 11 12:23:06 2015

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

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Supermicro
SuperServer 5019S-M
(X11SSH-F, Intel Xeon E3-1240L v5)

SPECfp2006 = 87.4
SPECfp_base2006 = 85.2

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

Test date: Dec-2015
Hardware Availability: Oct-2015
Software Availability: Sep-2015

Platform Notes (Continued)

From /proc/cpuinfo
  model name : Intel(R) Xeon(R) CPU E3-1240L v5 @ 2.10GHz
    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 : 8192 KB

From /proc/meminfo
  MemTotal:       16088752 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 Dec 11 07:29

SPEC is set to: /home/cpu2006
  Filesystem    Type  Size  Used Avail Use% Mounted on
  /dev/mapper/rhel-root  xfs   280G   26G  254G  10% /

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 11/13/2015
Memory:
  2x Micron 16ATF1G64AZ-2G1A2 8 GB 2 rank 2133 MHz
  2x Not Specified Not Specified

Continued on next page
Supermicro
SuperServer 5019S-M
(X11SSH-F, Intel Xeon E3-1240L v5)

SPECfp2006 = 87.4
SPECfp_base2006 = 85.2

CPU2006 license: 001176
Test date: Dec-2015
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 = "/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 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

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**SPEC CFP2006 Result**

**Supermicro**
SuperServer 5019S-M  
(X11SSH-F, Intel Xeon E3-1240L v5)  

<table>
<thead>
<tr>
<th>SPECfp2006</th>
<th>87.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECfp_base2006</td>
<td>85.2</td>
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</table>

**CPU2006 license:** 001176  
**Test sponsor:** Supermicro  
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**Base Portability Flags (Continued)**

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`

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**Peak Portability Flags**

Same as Base Portability Flags

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**Peak Optimization Flags**

C benchmarks:
- `433.milc`  
- `basepeak = yes`

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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) 
-ip0(pass 2) -03(pass 2) -no-prec-div(pass 2) 
-par-num-threads=1(pass 1) -prof-use(pass 2) -fno-alias 
-auto-1lp32
447.dealII: basepeak = yes
450.soplex: basepeak = yes
453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) 
-ip0(pass 2) -03(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) 
-ip0(pass 2) -03(pass 2) -no-prec-div(pass 2) 
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2 
-inline-level=0 -scalar-rep-
343.zeusmp: basepeak = yes
347.leslie3d: basepeak = yes
459.GemsFDTD: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) 
-ip0(pass 2) -03(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) 
-ip0(pass 2) -03(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
Supermicro
SuperServer 5019S-M
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Peak Optimization Flags (Continued)

454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-llp32 -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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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