### SPEC® CFP2006 Result

**Supermicro**

**Motherboard X11SSi-LN4F**  
(Intel Xeon E3-1270 v5)

<table>
<thead>
<tr>
<th>SPECfp®2006</th>
<th>SPECfp_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>99.3</td>
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</tbody>
</table>

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

#### SPECfpm Measurement Results

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>SPECfp®2006</th>
<th>SPECfp_base2006</th>
</tr>
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<tbody>
<tr>
<td>410.bwaves</td>
<td>53.0</td>
<td>52.1</td>
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<tr>
<td>416.gamess</td>
<td>114</td>
<td>216</td>
</tr>
<tr>
<td>433.milc</td>
<td>70.5</td>
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<tr>
<td>434.zeusmp</td>
<td></td>
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<tr>
<td>435.gromacs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>436.cactusADM</td>
<td></td>
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</tr>
<tr>
<td>437.leslie3d</td>
<td>109</td>
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</tr>
<tr>
<td>444.namd</td>
<td>37.4</td>
<td>38.1</td>
</tr>
<tr>
<td>447.dealII</td>
<td>83.1</td>
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</tr>
<tr>
<td>450.soplex</td>
<td>57.5</td>
<td></td>
</tr>
<tr>
<td>453.povray</td>
<td>83.8</td>
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</tr>
<tr>
<td>454.calculix</td>
<td>74.4</td>
<td>81.2</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>84.4</td>
<td>85.9</td>
</tr>
<tr>
<td>465.tonto</td>
<td>73.4</td>
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<tr>
<td>470.lbm</td>
<td>69.7</td>
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</tr>
<tr>
<td>481.wrf</td>
<td></td>
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</tr>
<tr>
<td>482.sphinx3</td>
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</tr>
</tbody>
</table>

**SPECfp_base2006 = 99.3:**  
**SPECfp2006 = 100**

### Hardware

<table>
<thead>
<tr>
<th>Hardware</th>
<th></th>
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<tbody>
<tr>
<td>CPU Name:</td>
<td>Intel Xeon E3-1270 v5</td>
</tr>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 4.00 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>3600</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>4 cores, 1 chip, 4 cores/chip, 2 threads/core</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

<table>
<thead>
<tr>
<th>Software</th>
<th></th>
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<tbody>
<tr>
<td>Operating System:</td>
<td>Red Hat Enterprise Linux Server release 7.1, Kernel 3.10.0-229.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>
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<tr>
<td>Auto Parallel:</td>
<td>Yes</td>
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<tr>
<td>File System:</td>
<td>xfs</td>
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<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
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</table>

Continued on next page
### Supermicro

**Motherboard X11SSi-LN4F**  
(Intel Xeon E3-1270 v5)

**SPECfp2006 =** 100  
**SPECfp_base2006 =** 99.3

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

<table>
<thead>
<tr>
<th>L3 Cache:</th>
<th>8 MB I+D on chip per chip</th>
<th>Base Pointers:</th>
<th>64-bit</th>
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<tbody>
<tr>
<td>Other Cache:</td>
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<td>Peak Pointers:</td>
<td>32/64-bit</td>
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<tr>
<td>Memory:</td>
<td>16 GB (2 x 8 GB 2Rx8 PC4-2133P-U)</td>
<td>Other Software:</td>
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<tr>
<td>Disk Subsystem:</td>
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<td>Other Hardware:</td>
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**Test date:** Nov-2015  
**Hardware Availability:** Nov-2015  
**Software Availability:** Sep-2015

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>106</td>
<td>184</td>
<td>106</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 chassis used was a SuperChassis 813MTQ-350CB. The setup also includes a PWS-351-1H power supply, a SNK-P0046P heatsink, and 4 FAN-0065L4 cooling fans.

Sysinfo program /home/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Sun Nov 15 14:49:26 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
### Platform Notes (Continued)

From `/proc/cpuinfo`
- `model name`: Intel(R) Xeon(R) CPU E3-1270 v5 @ 3.60GHz
- `1 "physical id"s (chips)`
- `8 "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`: 8
- `physical 0: cores 0 1 2 3`
- `cache size`: 8192 KB

From `/proc/meminfo`
- `MemTotal`: 16213268 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 Nov 14 20:29

`SPEC` is set to: `/home/cpu2006`

`Filesystem`        `Type`  `Size`  `Used`  `Avail` `Use%`  `Mounted on`
---                  ---    ---     ----    ----    ----    ------------------
/dev/mapper/rhel-home xfs 873G  32G  841G  4%  /home

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 10/13/2015
- Memory:
  - 2x Not Specified Not Specified
  - 2x Samsung M391A1G43DB0-CPB 8 GB 2 rank 2133 MHz

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Supermicro
Motherboard X11SSi-LN4F
(Intel Xeon E3-1270 v5)

SPECfp2006 = 100
SPECfp_base2006 = 99.3

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.zesmp: -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
```
Supermicro
Motherboard X11SSi-LN4F
(Intel Xeon E3-1270 v5)

SPECfp2006 = 100
SPECfp_base2006 = 99.3

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

Test date: Nov-2015
Hardware Availability: Nov-2015
Software Availability: Sep-2015

Base Portability Flags (Continued)

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

Peak Optimization Flags

C benchmarks:

Continued on next page
Supermicro
Motherboard X11SSi-LN4F (Intel Xeon E3-1270 v3)

SPECfp2006 = 100
SPECfp_base2006 = 99.3

Peak Optimization Flags (Continued)

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
-parallel

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
Supermicro
Motherboard X11SSi-LN4F
(Intel Xeon E3-1270 v5)

SPECfp2006 = 100
SPECfp_base2006 = 99.3

CPU2006 license: 001176
Test sponsor: Supermicro
Test date: Nov-2015
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Hardware Availability: Nov-2015
Software Availability: Sep-2015

Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes
454.calculix: -xCORE-AVX2 -ipo -03 -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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