## SPEC® CFP2006 Result

### Supermicro

Supermicro X11SAE-M motherboard (X11SAE-M, Intel Xeon E3-1240L v5)

<table>
<thead>
<tr>
<th>SPECfp®2006</th>
<th>SPECfp_base2006</th>
</tr>
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<tbody>
<tr>
<td>84.8</td>
<td>82.8</td>
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</table>

#### CPU2006 license: 001176

- **Test date:** Mar-2016
- **Test sponsor:** Supermicro
- **Tested by:** Supermicro
- **Hardware Availability:** Oct-2015
- **Software Availability:** Sep-2015

<table>
<thead>
<tr>
<th>Benchmark</th>
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</tr>
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</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Xeon E3-1240L v5
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.20 GHz
- **CPU MHz:** 2100
- **FPU:** Integrated
- **CPU(s) enabled:** 4 cores, 1 chip, 4 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 X11SAE-M motherboard
(X11SAE-M, Intel Xeon E3-1240L v5)

SPECfp2006 = 84.8
SPECfp_base2006 = 82.8

CPU2006 license: 001176
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Hardware Availability: Oct-2015
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L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (2 x 16 GB 2Rx8 PC4-2133P-E)
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>Base Seconds</th>
<th>Base Ratio</th>
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</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

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

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Supermicro
Supermicro X11SAE-M motherboard
(X11SAE-M, Intel Xeon E3-1240L v5)

SPECfp2006 = 84.8
SPECfp_base2006 = 82.8

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

SPEC is set to: /usr/cpu2006

Platform Notes (Continued)

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E3-1240L v5 @ 2.10GHz
  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: 32760152 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 X10SRA-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 Mar 11 22:22

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:
  2x Not Specified Not Specified
  2x Samsung M391A2K43BB1-CPB 16 GB 2 rank 2133 MHz
Continued on next page
## SPEC CFP2006 Result

**Supermicro**

Supermicro X11SAE-M motherboard (X11SAE-M, Intel Xeon E3-1240L v5)

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**CPU2006 license:** 001176  
**Test date:** Mar-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 = "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.games`: `-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`

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# SPEC CFP2006 Result

**Supermicro**

Supermicro X11SAE-M motherboard  
(X11SAE-M, Intel Xeon E3-1240L v5)  

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## 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
Supermicro X11SAE-M motherboard
(X11SAE-M, Intel Xeon E3-1240L v5)

SPECfp2006 = 84.8
SPECfp_base2006 = 82.8

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
-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

Continued on next page
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Supermicro X11SAE-M motherboard (X11SAE-M, Intel Xeon E3-1240L v5)

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Hardware Availability: Oct-2015
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Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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