Supermicro
Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Core i3-6100TE)

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

SPECfp®2006 = 72.1
SPECfp_base2006 = 71.1

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

SPECfp2006 = 72.1
SPECfp_base2006 = 71.1

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)

Hardware
CPU Name: Intel Core i3-6100TE
CPU Characteristics:
CPU MHz: 2700
FPU: Integrated
CPU(s) enabled: 2 cores, 1 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
Supermicro

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (4 x 8 GB 2Rx8 PC4-2133P-E)
Disk Subsystem: 1 x 200 GB SATA III SSD
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

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<th>Ratio</th>
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<td>62.4</td>
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<td>62.1</td>
</tr>
</tbody>
</table>

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

As tested, the system used a Supermicro CSE-113MFAC2-R606CB chassis. The chassis is configured with 2 PWS-606P-1R redundant power supply, 1 SNK-P0046P heatsink, as well as 4 FAN-0154L4 middle cooling fan.

Sysinfo program /usr/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on X11SSM-01 Tue Jan 5 19:43:55 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
SPEC CFP2006 Result

Supermicro
Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Core i3-6100TE)

SPECfp2006 = 72.1
SPECfp_base2006 = 71.1

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

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

Platform Notes (Continued)

From /proc/cpuinfo
  model name : Intel(R) Core(TM) i3-6100TE CPU @ 2.70GHz
  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 : 2
siblings : 4
physical 0: cores 0 1
cache size : 4096 KB

From /proc/meminfo
  MemTotal: 32769044 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 X11SSM-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 Jan 5 19:36

SPEC is set to: /usr/cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 183G 30G 153G 17% /

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. 1.0b 12/29/2015
Memory:
  4x Micron 18ASF1G72AZ-2G1A1 8 GB 2 rank 2133 MHz

Continued on next page
**Supermicro**

Supermicro X11SSM-F motherboard  
(X11SSM-F, Intel Core i3-6100TE)

**SPEC CFP2006 Result**

<table>
<thead>
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<th>SPECfp2006</th>
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<td>71.1</td>
</tr>
</tbody>
</table>

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

**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 = "2"

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.leshe3d: -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.GemsFD: -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

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Supermicro
Supermicro X11SSM-F motherboard (X11SSM-F, Intel Core i3-6100TE)

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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 CompilerInvocation
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

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**Supermicro**  
Supermicro X11SSM-F motherboard  
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| SPECfp2006 = | 72.1 |
| SPECfp_base2006 = | 71.1 |

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

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### 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)  
  -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

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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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