Supermicro
SuperServer 5019S-M2
(X11SSZ-QF , Intel Core i5-6400T)

SPECint\_rate2006 = 156
SPECint_rate_base2006 = 152

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

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

Test sponsor: Supermicro
Hardware Availability: Sep-2015

CPU Name: Intel Core i5-6400T
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2200
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
L3 Cache: 6 MB I+D on chip per chip
Other Cache: None
Memory: 32 GB (4 x 8 GB 2Rx8 PC4-2133P-U)
Disk Subsystem: 1 x 200 GB SATA III SSD
Other Hardware: None

Operating System: Red Hat Enterprise Linux Server release 7.1,
Kernel 3.10.0-229.el7.x86_64
Compiler: C++: Version 15.0.0.090 of Intel C++ Studio XE
for Linux
Auto Parallel: No
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0
Supermicro
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SPECint_rate2006 = 156
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark</td>
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<tr>
<td>Base</td>
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<tr>
<td>Base</td>
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<tr>
<td>Peak</td>
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</tr>
<tr>
<td>Peak</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

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

Platform Notes

Sysinfo program /usr/cpu2006/config/sysinfo_rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $ e3fbb8667b5a285932ceab81e28219e1
running on X11SSZ-01 Sat Nov 14 10:18:41 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

From /proc/cpuinfo

model name : Intel(R) Core(TM) i5-6400T CPU @ 2.20GHz
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

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**Supermicro**

SuperServer 5019S-M2  
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**SPEC CINT2006 Result**

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>156</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
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</tr>
</tbody>
</table>

**CPU2006 license:** 001176  
**Test date:** Nov-2015  
**Test sponsor:** Supermicro  
**Hardware Availability:** Sep-2015  
**Tested by:** Supermicro  
**Software Availability:** Sep-2014

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### Platform Notes (Continued)

- Physical 0: cores 0 1 2 3  
- Cache size: 6144 KB

From /proc/meminfo

```plaintext
MemTotal: 32888188 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB
```

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

```plaintext
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)  
```

```plaintext
uname -a:  
Linux X11SSZ-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 Nov 13 23:05

**SPEC is set to:** /usr/cpu2006

**Filesystem**  
<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>xfs</td>
<td>183G</td>
<td>21G</td>
<td>163G</td>
<td>11%</td>
<td>/</td>
</tr>
</tbody>
</table>

**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 10/30/2015

**Memory:**  
- 4x Micron 16ATF1G64AZ-2G1A2 8 GB 2 rank 2133 MHz

(End of data from sysinfo program)

---

### General Notes

**Environment variables set by runspec before the start of the run:**

```
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"
```

**Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0**

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General Notes (Continued)
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled

Base Compiler Invocation
C benchmarks:
  icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks:
  icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Base Portability Flags
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags
C benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch

C++ benchmarks:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
  -L/sh -lsmartheap

Base Other Flags
C benchmarks:
  403.gcc: -Dalloca=_alloca

Peak Compiler Invocation
C benchmarks (except as noted below):
  icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
  400.perlbench: icc -m64
  401.bzip2: icc -m64

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SPEC CINT2006 Result

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Peak Compiler Invocation (Continued)

456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -03 -no-prec-div
429.mcF: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias
456.hmmer: -xCORE-AVX2 -ipo -03 -no-prec-div -unroll2 -auto-ilp32
458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32
462.libquantum: basepeak = yes
464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

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Peak Optimization Flags (Continued)

C++ benchmarks:
471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes
483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revG.20141230.00.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revG.20141230.00.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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