Supermicro
SuperServer 5019S-WR
(X11SSW-F, Intel Xeon E3-1220 v5)

SPECint_rate2006 = 198
SPECint_rate_base2006 = 193

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

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

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### SPEC CINT2006 Result

**Supermicro**
SuperServer 5019S-WR (X11SSW-F, Intel Xeon E3-1220 v5)

<table>
<thead>
<tr>
<th>Benchmarks</th>
<th>Base Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak Copies</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>perlbench</td>
<td>4</td>
<td>252</td>
<td>155</td>
<td>4</td>
<td>212</td>
<td>184</td>
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<tr>
<td>bzip2</td>
<td>4</td>
<td>431</td>
<td>89.6</td>
<td>4</td>
<td>406</td>
<td>95.1</td>
</tr>
<tr>
<td>gcc</td>
<td>4</td>
<td>215</td>
<td>150</td>
<td>4</td>
<td>212</td>
<td>152</td>
</tr>
<tr>
<td>mcf</td>
<td>4</td>
<td>149</td>
<td>245</td>
<td>4</td>
<td>149</td>
<td>245</td>
</tr>
<tr>
<td>gobmk</td>
<td>4</td>
<td>378</td>
<td>111</td>
<td>4</td>
<td>383</td>
<td>111</td>
</tr>
<tr>
<td>hammer</td>
<td>4</td>
<td>119</td>
<td>312</td>
<td>4</td>
<td>116</td>
<td>313</td>
</tr>
<tr>
<td>sjeng</td>
<td>4</td>
<td>374</td>
<td>129</td>
<td>4</td>
<td>362</td>
<td>134</td>
</tr>
<tr>
<td>libquantum</td>
<td>4</td>
<td>42.1</td>
<td>1970</td>
<td>4</td>
<td>42.1</td>
<td>1970</td>
</tr>
<tr>
<td>h264ref</td>
<td>4</td>
<td>357</td>
<td>248</td>
<td>4</td>
<td>348</td>
<td>255</td>
</tr>
<tr>
<td>omnetpp</td>
<td>4</td>
<td>265</td>
<td>94.2</td>
<td>4</td>
<td>254</td>
<td>98.6</td>
</tr>
<tr>
<td>astar</td>
<td>4</td>
<td>268</td>
<td>105</td>
<td>4</td>
<td>268</td>
<td>105</td>
</tr>
<tr>
<td>xalancbmk</td>
<td>4</td>
<td>118</td>
<td>234</td>
<td>4</td>
<td>118</td>
<td>234</td>
</tr>
</tbody>
</table>

**Results 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 /home/cpu2006/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Thu Jan  7 12:08:51 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

From /proc/cpuinfo
- model name: Intel(R) Xeon(R) CPU E3-1220 v5 @ 3.00GHz
- 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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Platform Notes (Continued)

    physical 0: cores 0 1 2 3
    cache size : 8192 KB

From /proc/meminfo
    MemTotal: 65630872 kB
    HugePages_Total: 0
    Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
    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 Jan 7 02:57

SPEC is set to: /home/cpu2006
    Filesystem Type Size Used Avail Use% Mounted on
    /dev/mapper/rhel-home xfs 865G 170G 696G 20% /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. 1.0a 12/29/2015
    Memory:
    4x Samsung M391A2K43BB1-CPB 16 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 = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
memory using RedHat EL 7.0
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SPECint\_rate2006 = 198
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<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU2006 license</td>
<td>001176</td>
</tr>
<tr>
<td>Test sponsor</td>
<td>Supermicro</td>
</tr>
<tr>
<td>Tested by</td>
<td>Supermicro</td>
</tr>
<tr>
<td>Hardware Availability</td>
<td>Oct-2015</td>
</tr>
<tr>
<td>Software Availability</td>
<td>Mar-2015</td>
</tr>
<tr>
<td>Test date</td>
<td>Jan-2016</td>
</tr>
</tbody>
</table>

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
-opt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -W1,-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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**Software Availability:** Mar-2015

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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)  
-O3(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)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(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)  
-O3(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)
   -O3(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 other inquiries, please contact webmaster@spec.org.

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