Supermicro
Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1280 v5)

SPECint\_rate\_base2006 = 251

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

Hardware
CPU Name: Intel Xeon E3-1280 v5
CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
CPU MHz: 3700
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
L3 Cache: 8 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

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
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 V10.2
**SPEC CINT2006 Result**

Supermicro
Supermicro X11SSM-F motherboard
(X11SSM-F, Intel Xeon E3-1280 v5)

**SPECint_rate2006 = 260**
**SPECint_rate_base2006 = 251**

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro
Hardware Availability: Oct-2015
Software Availability: Sep-2015
Test date: Jan-2016

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### Results Table

<table>
<thead>
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<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>8</td>
<td>388</td>
<td>202</td>
<td>389</td>
<td>201</td>
<td>388</td>
<td>201</td>
<td></td>
<td></td>
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<tr>
<td>401.bzip2</td>
<td>8</td>
<td>671</td>
<td>115</td>
<td>668</td>
<td>116</td>
<td>654</td>
<td>118</td>
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<tr>
<td>403.gcc</td>
<td>8</td>
<td>324</td>
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<td>199</td>
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<tr>
<td>429.mcf</td>
<td>8</td>
<td>233</td>
<td>313</td>
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<td>314</td>
<td>233</td>
<td>313</td>
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<tr>
<td>445.gobmk</td>
<td>8</td>
<td>510</td>
<td>165</td>
<td>511</td>
<td>164</td>
<td>513</td>
<td>163</td>
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<tr>
<td>456.hmmer</td>
<td>8</td>
<td>190</td>
<td>394</td>
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<td>392</td>
<td>192</td>
<td>389</td>
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<tr>
<td>458.sjeng</td>
<td>8</td>
<td>544</td>
<td>178</td>
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<td>178</td>
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<td>462.libquantum</td>
<td>8</td>
<td>62.2</td>
<td>2660</td>
<td>62.4</td>
<td>2660</td>
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<td>464.h264ref</td>
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<td>577</td>
<td>307</td>
<td>565</td>
<td>313</td>
<td>569</td>
<td>311</td>
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<td>471.omnetpp</td>
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<td>442</td>
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<td>430</td>
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<td>473.astar</td>
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<td>421</td>
<td>133</td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>8</td>
<td>183</td>
<td>302</td>
<td>184</td>
<td>301</td>
<td>183</td>
<td>302</td>
<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**

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 Mon Jan 11 23:20:27 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 E3-1280 v5 @ 3.70GHz
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
Continued on next page
<table>
<thead>
<tr>
<th>Platform Notes (Continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>cpu cores : 4</td>
</tr>
<tr>
<td>siblings : 8</td>
</tr>
<tr>
<td>physical 0: cores 0 1 2 3</td>
</tr>
<tr>
<td>cache size : 8192 KB</td>
</tr>
</tbody>
</table>

From `/proc/meminfo`

| MemTotal: | 32768248 kB |
| HugePages_Total: | 0 |
| Hugepagesize: | 2048 kB |

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

<table>
<thead>
<tr>
<th>os-release:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME=&quot;Red Hat Enterprise Linux Server&quot;</td>
</tr>
<tr>
<td>VERSION=&quot;7.1 (Maipo)&quot;</td>
</tr>
<tr>
<td>ID=&quot;rhel&quot;</td>
</tr>
<tr>
<td>ID_LIKE=&quot;fedora&quot;</td>
</tr>
<tr>
<td>VERSION_ID=&quot;7.1&quot;</td>
</tr>
<tr>
<td>PRETTY_NAME=&quot;Red Hat Enterprise Linux Server 7.1 (Maipo)&quot;</td>
</tr>
<tr>
<td>ANSI_COLOR=&quot;0;31&quot;</td>
</tr>
<tr>
<td>CPE_NAME=&quot;cpe:/o:redhat:enterprise_linux:7.1:GA:server&quot;</td>
</tr>
<tr>
<td>redhat-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)</td>
</tr>
<tr>
<td>system-release: Red Hat Enterprise Linux Server release 7.1 (Maipo)</td>
</tr>
</tbody>
</table>

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 11 19:16

SPEC is set to: /usr/cpu2006

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sda2</td>
<td>xfs</td>
<td>183G</td>
<td>39G</td>
<td>145G</td>
<td>21% /</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. 1.0b 12/29/2015
Memory:
4x Micron 18ASF1G72A2-2G1A1 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 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:
```bash
icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

C++ benchmarks:
```bash
icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

**Base Portability Flags**

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

**Base Optimization Flags**

C benchmarks:
```bash
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3
```

C++ benchmarks:
```bash
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap
```
SPEC CINT2006 Result

**Supermicro**
Supermicro X11SSM-F motherboard  
(X11SSM-F, Intel Xeon E3-1280 v5)  

**SPECint_rate2006 = 260**  
**SPECint_rate_base2006 = 251**

<table>
<thead>
<tr>
<th><strong>CPU2006 license:</strong></th>
<th>001176</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test sponsor:</strong></td>
<td>Supermicro</td>
</tr>
<tr>
<td><strong>Tested by:</strong></td>
<td>Supermicro</td>
</tr>
</tbody>
</table>

**Base Other Flags**

C benchmarks:

- 403.gcc: -Dalloca=_alloca

**Peak Compiler Invocation**

C benchmarks (except as noted below):

```
icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

- 400.perlbench: icc -m64
- 401.bzip2: icc -m64
- 456.hmmer: icc -m64
- 458.sjeng: icc -m64

C++ benchmarks:

```
icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

**Peak Portability Flags**

- 400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
- 401.bzip2: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
- 403.gcc: -D_FILE_OFFSET_BITS=64
- 429.mcf: -D_FILE_OFFSET_BITS=64
- 445.gobmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
- 456.hmmer: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
- 458.sjeng: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
- 462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
- 464.h264ref: -D_FILE_OFFSET_BITS=64
- 471.omnetpp: -D_FILE_OFFSET_BITS=64
- 473.astar: -D_FILE_OFFSET_BITS=64
- 483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64

**Peak Optimization Flags**

C benchmarks:

```
400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)  
-Iipo(pass 2) -03(pass 2) -no-prec-div(pass 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32
```

Continued on next page
<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
<th>Architecture</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>401.hzip2</td>
<td>-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) -opt-prefetch -auto-ilp32 -ansi-alias</td>
<td>X11SSM-F</td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>-xCORE-AVX2 -ipo -O3 -no-prec-div</td>
<td>X11SSM-F</td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>basepeak = yes</td>
<td>X11SSM-F</td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>-xCORE-AVX2 (pass 2) -prof-gen:threadsafe (pass 1) -prof-use (pass 2) -par-num-threads=1 (pass 1) -ansi-alias -opt-mem-layout-trans=3</td>
<td>X11SSM-F</td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32</td>
<td>X11SSM-F</td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>-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 -auto-ilp32</td>
<td>X11SSM-F</td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>basepeak = yes</td>
<td>X11SSM-F</td>
<td></td>
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<tr>
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<td></td>
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<td>471.omnetpp</td>
<td>-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) -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/sh -lsmartheap</td>
<td>X11SSM-F</td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>basepeak = yes</td>
<td>X11SSM-F</td>
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</tr>
<tr>
<td>483.xalancbmk</td>
<td>basepeak = yes</td>
<td>X11SSM-F</td>
<td></td>
</tr>
</tbody>
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**Peak Other Flags**

C benchmarks:

<table>
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<tr>
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<th>Flags</th>
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<th>Notes</th>
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<tr>
<td>403.gcc</td>
<td>-Dalloca=_alloca</td>
<td>X11SSM-F</td>
<td></td>
</tr>
</tbody>
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**Supermicro**

Supermicro X11SSM-F motherboard  
(X11SSM-F, Intel Xeon E3-1280 v5)  

| SPECint_rate2006 = 260 |  
| SPECint_rate_base2006 = 251 |  

CPU2006 license: 001176  
Test sponsor: Supermicro  
Tested by: Supermicro  
Test date: Jan-2016  
Hardware Availability: Oct-2015  
Software Availability: Sep-2015

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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