### SPECint2006 Result

**Supermicro**

Supermicro SuperServer F627R3-R72B+
(X9DRFR, Intel Xeon E5-2697 v2)

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

| SPECint2006 = | 59.3 |
| SPECint_base2006 = | 55.0 |

<table>
<thead>
<tr>
<th>Test date</th>
<th>Oct-2013</th>
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<tbody>
<tr>
<td>Hardware Availability</td>
<td>Sep-2013</td>
</tr>
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</table>

**CPU Name:** Intel Xeon E5-2697 v2  
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.50 GHz  
**CPU MHz:** 2700  
**FPU:** Integrated  
**CPU(s) enabled:** 24 cores, 2 chips, 12 cores/chip  
**CPU(s) orderable:** 1.2 chips  
**Primary Cache:** 32 KB I + 32 KB D on chip per core  
**Secondary Cache:** 256 KB I+D on chip per core  
**L3 Cache:** 30 MB I+D on chip per chip  
**Other Cache:** None  
**Memory:** 128 GB (16 x 8 GB 2Rx8 PC3-14900R-13, ECC)  
**Disk Subsystem:** 1 x 500 GB SATA II, 7200 RPM  
**Other Hardware:** None

<table>
<thead>
<tr>
<th>Software</th>
</tr>
</thead>
</table>
| Operating System: | Red Hat Enterprise Linux Server release 6.4, Kernel 2.6.32-358.18.1.el6.x86_64  
| Compiler: | C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux  
| Auto Parallel: | Yes  
| File System: | ext4  
| System State: | Run level 3 (multi-user)  
| Base Pointers: | 32/64-bit  
| Peak Pointers: | 32/64-bit  
| Other Software: | None  

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For detailed information on the tests and results, please refer to the SPEC website at http://www.spec.org.
**SPEC CINT2006 Result**

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CPU2006 license: 001176  
Test sponsor: Supermicro  
Tested by: Supermicro  
Test date: Oct-2013  
Hardware Availability: Sep-2013  
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### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Ratio</th>
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</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>297</td>
<td>32.8</td>
<td>298</td>
<td>32.8</td>
<td>297</td>
<td>32.9</td>
<td><strong>249</strong></td>
<td><strong>39.2</strong></td>
<td>249</td>
<td>39.2</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>414</td>
<td>23.3</td>
<td><strong>414</strong></td>
<td><strong>23.3</strong></td>
<td>413</td>
<td>23.4</td>
<td>407</td>
<td>23.7</td>
<td>408</td>
<td><strong>23.7</strong></td>
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<tr>
<td>403.mcf</td>
<td>238</td>
<td>33.8</td>
<td>237</td>
<td>33.9</td>
<td><strong>238</strong></td>
<td><strong>33.8</strong></td>
<td>232</td>
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<td>232</td>
<td><strong>34.6</strong></td>
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<td>429.mcf</td>
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<td>65.3</td>
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<td><strong>65.3</strong></td>
<td>142</td>
<td>64.4</td>
<td>140</td>
<td>65.3</td>
<td><strong>140</strong></td>
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<tr>
<td>445.gobmk</td>
<td><strong>439</strong></td>
<td><strong>23.9</strong></td>
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<td>23.9</td>
<td>440</td>
<td>23.8</td>
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<td><strong>27.5</strong></td>
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<tr>
<td>456.hmmer</td>
<td>152</td>
<td>61.3</td>
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<td>151</td>
<td>61.7</td>
<td>158</td>
<td>59.1</td>
<td><strong>155</strong></td>
<td><strong>60.0</strong></td>
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<td>458.sjeng</td>
<td><strong>414</strong></td>
<td><strong>29.3</strong></td>
<td>414</td>
<td>29.2</td>
<td>414</td>
<td>29.3</td>
<td>403</td>
<td>30.1</td>
<td>402</td>
<td><strong>30.1</strong></td>
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<tr>
<td>462.libquantum</td>
<td>5.70</td>
<td><strong>3640</strong></td>
<td>5.71</td>
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<td>5.10</td>
<td>4060</td>
<td><strong>5.70</strong></td>
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<td>5.71</td>
<td>3630</td>
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<tr>
<td>464.h264ref</td>
<td><strong>487</strong></td>
<td><strong>45.4</strong></td>
<td>487</td>
<td>45.4</td>
<td>489</td>
<td>45.2</td>
<td><strong>388</strong></td>
<td><strong>57.1</strong></td>
<td>388</td>
<td>57.0</td>
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<tr>
<td>471.omnetpp</td>
<td><strong>179</strong></td>
<td><strong>35.0</strong></td>
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<td>34.9</td>
<td>173</td>
<td>36.0</td>
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<td><strong>48.0</strong></td>
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<tr>
<td>473.astar</td>
<td>220</td>
<td>31.9</td>
<td>222</td>
<td>31.6</td>
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<td><strong>31.9</strong></td>
<td>220</td>
<td>31.9</td>
<td><strong>220</strong></td>
<td><strong>32.0</strong></td>
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<tr>
<td>483.xalancbmk</td>
<td>121</td>
<td>57.0</td>
<td>121</td>
<td>57.2</td>
<td><strong>121</strong></td>
<td><strong>57.2</strong></td>
<td>122</td>
<td>56.6</td>
<td><strong>122</strong></td>
<td><strong>56.5</strong></td>
</tr>
</tbody>
</table>

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

### Submit Notes

The config file option 'submit' was used.

### Operating System Notes

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

### Platform Notes

Disable Hyper-threading, C1E Support, DRAM RAPL Mode, Demand Scrub, Double Refresh.  
Set Package C-state Limit to C0

### General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,0,1"
LD_LIBRARY_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64:/usr/cpu2006/sh"
OMP_NUM_THREADS = "24"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage(enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
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Base Compiler Invocation

C benchmarks:
  icc  -m64

C++ benchmarks:
  icpc -m64

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
  -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
  -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
  -L/sh -lsmartheap64

Base Other Flags

C benchmarks:
  403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
  icc  -m64

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Peak Compiler Invocation (Continued)

400.perlbench: icc -m32
445.gobmk: icc -m32
464.h264ref: icc -m32

C++ benchmarks (except as noted below):
icpc -m32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
-ansi-alias

401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch
-ansi-alias

403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias

Continued on next page
Peak Optimization Flags (Continued)

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
   -no-prec-div(pass 2) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
   -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
   -ansi-alias

C++ benchmarks:

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
   -no-prec-div(pass 2) -prof-use(pass 2)
   -opt-ra-region-strategy=block
   -ansi-alias
   -Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
   -Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch
   -ansi-alias
   -Wl,-z,muldefs -L/sh -lsmartheap

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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revD.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revD.xml