**Supermicro**

SuperServer 6027R-TRF
(X9DRi-F, Intel Xeon E5-2697 v2)

SPECint®2006 = 59.7
SPECint_base2006 = 54.8

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### Hardware

- **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
- **Memory:** 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)
- **Disk Subsystem:** 1 x 1TB SATA II, 5400 RPM
- **Other Cache:** None
- **Other Hardware:** None

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### Software

- **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
- **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:** Microquill SmartHeap V10.0
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<tbody>
<tr>
<td>400.perlbench</td>
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<td>32.8</td>
<td>299</td>
<td>32.7</td>
<td>299</td>
<td>32.7</td>
<td>250</td>
<td>39.1</td>
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<tr>
<td>401.bzip2</td>
<td><strong>414</strong></td>
<td><strong>23.3</strong></td>
<td>413</td>
<td>23.3</td>
<td>415</td>
<td>23.3</td>
<td>407</td>
<td>23.7</td>
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<tr>
<td>403.mcf</td>
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<td>32.8</td>
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<td>429.mcf</td>
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<td>66.2</td>
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<td><strong>64.6</strong></td>
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<tr>
<td>445.gobmk</td>
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<td>456.hmmer</td>
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<td>61.6</td>
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<td>458.sjeng</td>
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<td>462.libquantum</td>
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<td>5.10</td>
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<td>3640</td>
<td>5.10</td>
<td>4060</td>
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<td>464.h264ref</td>
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<td><strong>44.9</strong></td>
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<td>44.9</td>
<td>535</td>
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<tr>
<td>471.omnetpp</td>
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<tr>
<td>483.xalancbmk</td>
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<td>57.3</td>
<td><strong>121</strong></td>
<td><strong>57.0</strong></td>
<td><strong>122</strong></td>
<td><strong>56.6</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

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

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu/libs/32:/home/cpu/libs/64:/home/cpu/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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SPECint2006 =  59.7
SPECint_base2006 =  54.8

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

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

Continued on next page
**SPEC CINT2006 Result**

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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

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**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

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**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

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**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) -unroll14

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) -unroll12  
-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/Supernmicro-Platform-Settings-V1.2-revB.20130719.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/Supernmicro-Platform-Settings-V1.2-revB.20130719.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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