Supermicro
SuperServer 6027R-TRF
(X9DRi-f, Intel Xeon E5-2620 v2)

SPECint®2006 = 42.8
SPECint_base2006 = 40.3

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

CPU Name: Intel Xeon E5-2620 v2
CPU Characteristics: Intel Turbo Boost Technology up to 2.60 GHz
CPU MHz: 2100
FPU: Integrated
CPU(s) enabled: 12 cores, 2 chips, 6 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: 15 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem: 1 x 300 GB SATA III 7200 RPM
Other Hardware: None

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
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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Benchmark | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
--- | --- | --- | --- | --- | --- | --- | --- | --- |
400.perlbench | 407 | 24.0 | 407 | 24.0 | 327 | 29.9 | 327 | 29.9 |
401.bzip2 | 536 | 18.0 | 536 | 18.0 | 531 | 18.2 | 531 | 18.2 |
403.gcc | 314 | 25.6 | 314 | 25.6 | 312 | 25.8 | 307 | 26.2 |
429.mcf | 173 | 52.8 | 174 | 52.4 | 172 | 53.1 | 173 | 52.8 |
445.gobmk | 562 | 18.7 | 561 | 18.7 | 561 | 18.7 | 517 | 20.3 |
456.hmmer | 209 | 44.7 | 208 | 44.9 | 207 | 45.0 | 207 | 45.0 |
458.sjeng | 548 | 22.1 | 548 | 22.1 | 548 | 22.1 | 538 | 22.5 |
462.libquantum | 10.7 | 1940 | 10.1 | 2050 | 10.1 | 2050 | 10.7 | 1940 |
464.h264ref | 600 | 36.9 | 601 | 36.8 | 601 | 36.8 | 507 | 43.7 |
471.omnetpp | 294 | 21.2 | 295 | 21.2 | 294 | 21.2 | 233 | 28.0 |
473.astar | 292 | 24.0 | 290 | 24.2 | 291 | 24.2 | 292 | 24.0 |
483.xalancbmk | 162 | 42.6 | 158 | 43.7 | 158 | 43.8 | 160 | 43.3 |

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

Operating System Notes
Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes
BIOS Configuration:
Hyper-threading = Disabled
Sysinfo program /home/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on 188-209.jnet Mon Oct 28 11:33:50 2013

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 E5-2620 v2 @ 2.10GHz
2 "physical id"s (chips)
12 "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 : 6
siblings : 6
physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
cache size : 15360 KB

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Platform Notes (Continued)

From /proc/meminfo
MemTotal: 132127432 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)

From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)

uname -a:
Linux 188-209.jnet 2.6.32-358.18.1.el6.x86_64 #1 SMP Fri Aug 2 17:04:38 EDT 2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 28 11:31

SPEC is set to: /home/cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/vg_188209-lv_home ext4 210G 159G 42G 80% /home

Additional information from dmidecode:
BIOS American Megatrends Inc. 3.0a 07/31/2013
Memory:
  16x 8 GB
  16x Hynix Semiconducto HMT31GR7CFR4C 8 GB 1600 MHz 1 rank

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2006/32:/home/cpu2006/64:/home/cpu2006/sh"
OMP_NUM_THREADS = "12"

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>

Base Compiler Invocation

C benchmarks:
  icc -m64

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Base Compiler Invocation (Continued)
C++ benchmarks:
icpe -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:
xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
C++ benchmarks:
xSSE4.2 -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
400.perlbench: icc -m32
445.gobmk: icc -m32
**SPEC CINT2006 Result**

**Supermicro**
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| SPECint2006 | 42.8 |
| SPECint_base2006 | 40.3 |

**CPU2006 license:** 001176  
**Test date:** Oct-2013  
**Test sponsor:** Supermicro  
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**Tested by:** Supermicro  
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**Peak Compiler Invocation (Continued)**

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):

```bash
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`

---

**Peak Optimization Flags**

C benchmarks:

400.perlbench: `-xSSE4.2(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: `-xSSE4.2(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: `-xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32 -ansi-alias`

458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4`

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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes
464.h264ref: -xSSE4.2(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: -xSSE4.2(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: basepeak = yes
483.xalancbmk: -xSSE4.2 -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-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/Supermicro-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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