SPEC® CINT2006 Result
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Supermicro

SuperServer 6027R-TRF
(X9DRi-F , Intel Xeon E5-2670 v2)

$SPECint^®2006 =$ 57.0

$SPECint\_base2006 =$ 52.4

Benchmark results chart:

Benchmark	Peak	Base
400.perlbench	37.9	30.4
401.bzip2	22.9	22.7
403.gcc	33.6	32.9
429.mcf		65.2
445.gobmk	25.9	22.4
456.hmmer	57.4	57.5
458.sjeng	28.4	27.9
462.libquantum		3640
464.h264ref	55.5	40.9
471.omnetpp	43.2	31.5
473.astar		30.6
483.xalancbmk	54.9	55.3

SPECint_base2006 = 52.4

SPECint2006 = 57.0

Hardware

CPU Name:	Intel Xeon E5-2670 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2500
FPU:	Integrated
CPU(s) enabled:	20 cores, 2 chips, 10 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:	25 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

Software

Operating System:	Red Hat Enterprise Linux Server release 6.4 (Santiago) 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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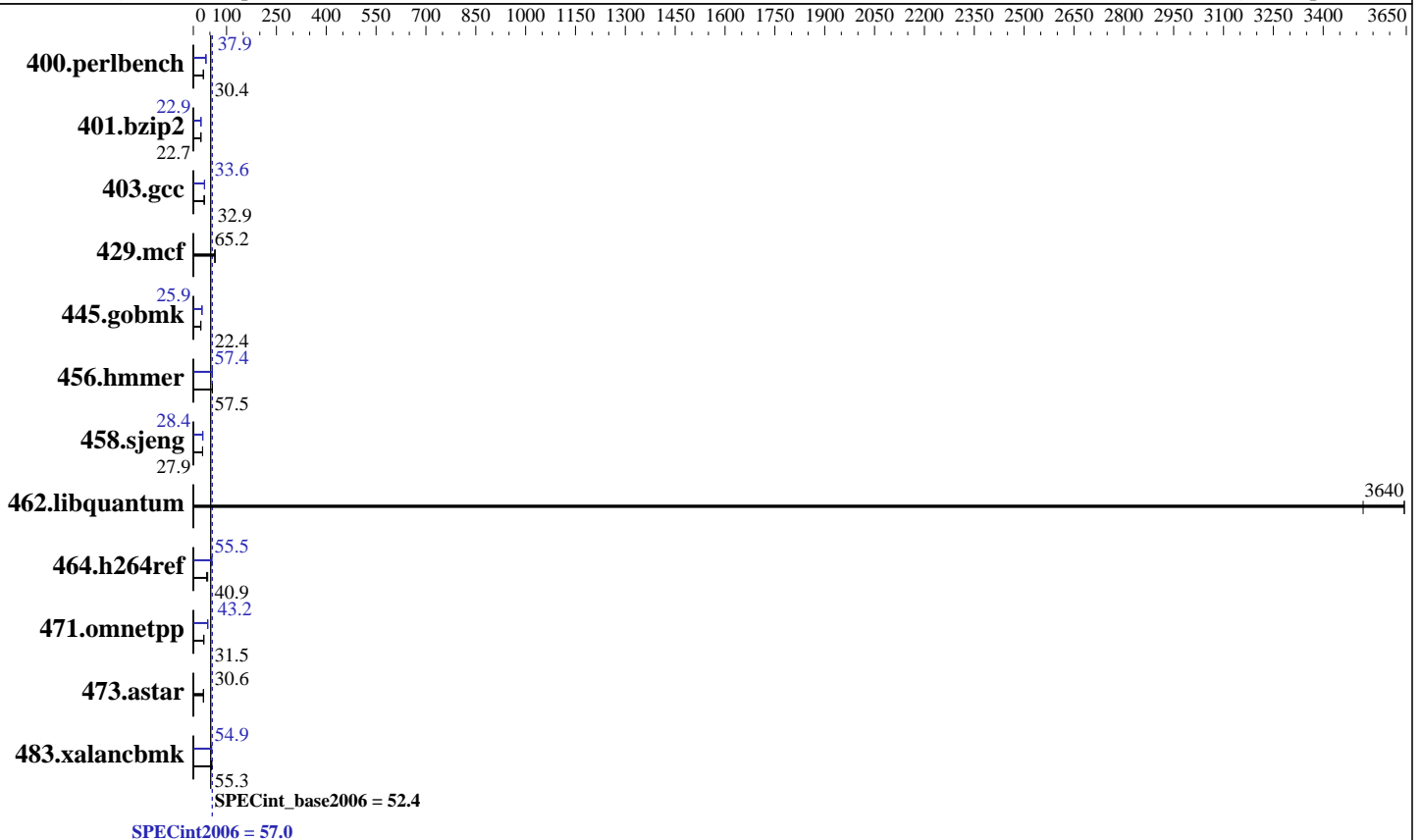$SPECint\_base2006 =$ 52.4

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

Test date: Oct-2013
Hardware Availability: Oct-2013
Software Availability: Sep-2013

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	321	30.4	321	30.4	**321**	**30.4**	257	38.0	259	37.8	**258**	**37.9**
401.bzip2	425	22.7	425	22.7	**425**	**22.7**	**421**	**22.9**	421	22.9	421	22.9
403.gcc	245	32.9	244	32.9	**244**	**32.9**	240	33.6	**239**	**33.6**	239	33.7
429.mcf	141	64.6	140	65.3	**140**	**65.2**	141	64.6	140	65.3	**140**	**65.2**
445.gobmk	459	22.9	478	21.9	**468**	**22.4**	404	26.0	404	25.9	**404**	**25.9**
456.hmmer	**162**	**57.5**	162	57.5	162	57.5	162	57.5	**162**	**57.4**	163	57.1
458.sjeng	**434**	**27.9**	434	27.9	434	27.9	426	28.4	**426**	**28.4**	425	28.5
462.libquantum	5.69	3640	5.89	3520	**5.69**	**3640**	5.69	3640	5.89	3520	**5.69**	**3640**
464.h264ref	511	43.3	547	40.5	**541**	**40.9**	399	55.5	**399**	**55.5**	399	55.5
471.omnetpp	200	31.2	198	31.6	**198**	**31.5**	143	43.6	145	43.2	**145**	**43.2**
473.astar	230	30.5	**229**	**30.6**	229	30.7	230	30.5	**229**	**30.6**	229	30.7
483.xalancbmk	124	55.5	127	54.4	**125**	**55.3**	**126**	**54.9**	126	54.8	125	55.0

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 Tue Oct 29 19:24:57 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 E5-2670 v2 @ 2.50GHz
      2 "physical id"s (chips)
      20 "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 : 10
      siblings  : 10
      physical 0: cores 0 1 2 3 4 8 9 10 11 12
      physical 1: cores 0 1 2 3 4 8 9 10 11 12
   cache size : 25600 KB
```

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Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:      132126408 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)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

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 29 19:22

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 1866 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/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
OMP_NUM_THREADS = "20"

 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:
    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:
    -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

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Peak Compiler Invocation (Continued)

```
    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: -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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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