SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

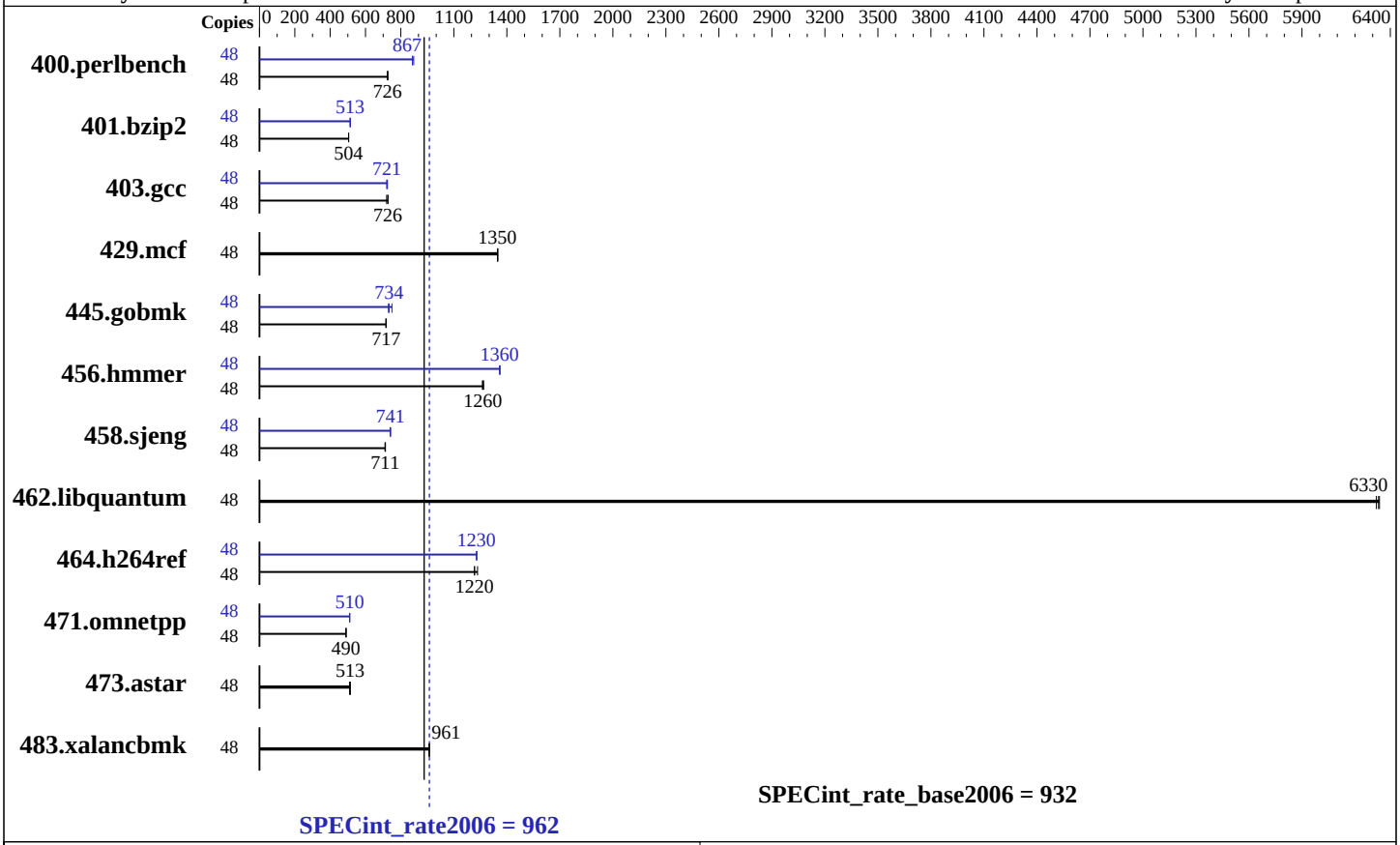
Supermicro SuperServer 6027R-N3RF4+
(X9DRW-3LN4F+, Intel Xeon E5-2697 v2)

SPECint®_rate2006 = 962

SPECint_rate_base2006 = 932

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

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



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, 2 threads/core
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

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; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
Auto Parallel:	No
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	None

SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

Supermicro SuperServer 6027R-N3RF4+
(X9DRW-3LN4F+, Intel Xeon E5-2697 v2)

SPECint_rate2006 = 962

SPECint_rate_base2006 = 932

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

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	48	646	726	**646**	**726**	648	724	48	**541**	**867**	542	866	537	873
401.bzip2	48	918	504	**918**	**504**	918	504	48	899	515	903	513	**903**	**513**
403.gcc	48	537	720	**532**	**726**	531	728	48	536	721	533	724	**536**	**721**
429.mcf	48	324	1350	**325**	**1350**	325	1350	48	324	1350	**325**	**1350**	325	1350
445.gobmk	48	701	718	**703**	**717**	704	715	48	672	750	690	730	**686**	**734**
456.hmmer	48	353	1270	355	1260	**354**	**1260**	48	330	1360	329	1360	**329**	**1360**
458.sjeng	48	817	711	**817**	**711**	815	713	48	**783**	**741**	785	740	783	741
462.libquantum	48	157	6320	157	6340	**157**	**6330**	48	157	6320	157	6340	**157**	**6330**
464.h264ref	48	**873**	**1220**	873	1220	861	1230	48	865	1230	864	1230	**865**	**1230**
471.omnetpp	48	613	490	**612**	**490**	612	490	48	588	510	587	511	**588**	**510**
473.astar	48	**657**	**513**	656	514	661	510	48	**657**	**513**	656	514	661	510
483.xalancbmk	48	345	960	344	962	**345**	**961**	48	345	960	344	962	**345**	**961**

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

Submit Notes

```
The numactl mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate numactl 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

```
Disable C1E Support, DRAM RAPL Mode, Demand Scrub, Double Refresh.
Set Package C-state Limit to C0
 Sysinfo program /usr/cpu2006/config/sysinfo.rev6818
 $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
 running on 194-195.jnet Wed Oct 23 18:03:11 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 E5-2697 v2 @ 2.70GHz
       2 "physical id"s (chips)
       48 "processors"
    cores, siblings (Caution: counting these is hw and system dependent.  The
    following excerpts from /proc/cpuinfo might not be reliable.  Use with
    caution.)
```

Continued on next page

Platform Notes (Continued)

```
        cpu cores : 12
        siblings  : 24
        physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
        physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
     cache size : 30720 KB

  From /proc/meminfo
     MemTotal:       132120832 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 194-195.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 23 17:58

  SPEC is set to: /usr/cpu2006
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/sda2      ext4    1.3T   98G  1.2T   8% /

  Additional information from dmidecode:
    BIOS American Megatrends Inc. 3.00 06/20/2013
    Memory:
     1x   16 MB
     16x   8 GB
     1x DimmA3_Manufacturer DimmA3_PartNumber
     1x DimmB3_Manufacturer DimmB3_PartNumber
     1x DimmC3_Manufacturer DimmC3_PartNumber
     1x DimmD3_Manufacturer DimmD3_PartNumber
     1x DimmE3_Manufacturer DimmE3_PartNumber
     1x DimmF3_Manufacturer DimmF3_PartNumber
     1x DimmG3_Manufacturer DimmG3_PartNumber
     1x DimmH3_Manufacturer DimmH3_PartNumber
     16x Hynix Semiconductor HMT41GR7AFR8C-RD 8 GB 1866 MHz 2 rank
     1x Micron/Numonyx 25Q Series 16 MB 33 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 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
 Filesystem page cache cleared with:
 echo 1>       /proc/sys/vm/drop_caches
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:
```
icc  -m32
```

C++ benchmarks:
```
icpc -m32
```

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Base Optimization Flags

C benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/sh -lsmartheap
```

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
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)
-auto-ilp32

401.bzip2: -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 -auto-ilp32 -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

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

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 -auto-ilp32

Continued on next page

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) -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

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

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 20:01:44 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 25 February 2014.