



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Sugon

SPECint®\_rate2006 = 847

Sugon I620-G20(Intel Xeon E5-2650 v3)

SPECint\_rate\_base2006 = 818

CPU2006 license: 9046

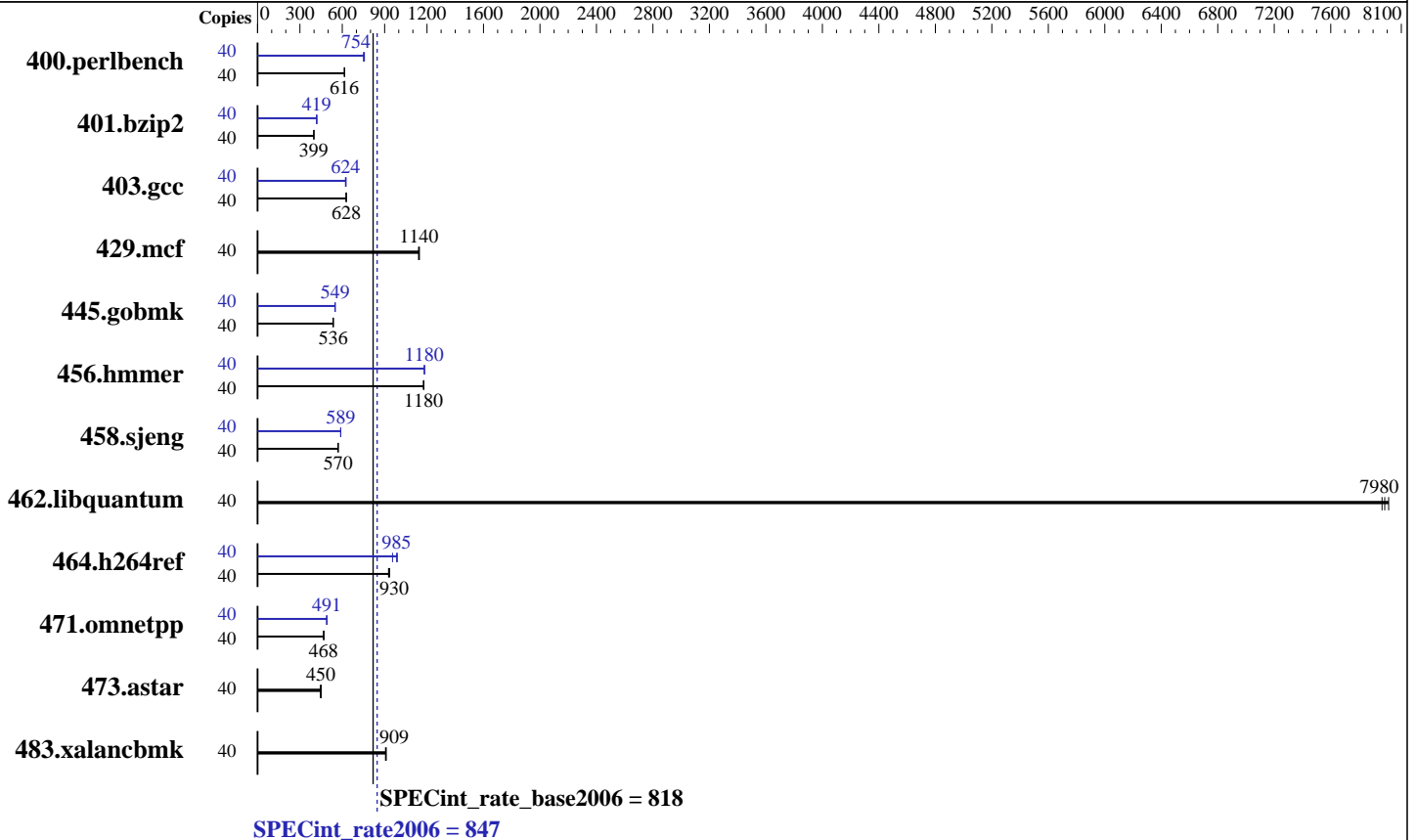
Test date: Oct-2014

Test sponsor: Sugon

Hardware Availability: Sep-2014

Tested by: Sugon

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2650 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz  
 CPU MHz: 2300  
 FPU: Integrated  
 CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2 chip  
 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: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)  
 Disk Subsystem: 1 x 2.0 TB SATA DISK  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
 2.6.32-358.el6.x86\_64  
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: ext4  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Sugon

SPECint\_rate2006 = 847

Sugon I620-G20(Intel Xeon E5-2650 v3)

SPECint\_rate\_base2006 = 818

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

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	40	<b>635</b>	<b>616</b>	636	615	634	616	40	521	750	<b>519</b>	<b>754</b>	516	757
401.bzip2	40	<b>968</b>	<b>399</b>	968	399	968	399	40	921	419	<b>921</b>	<b>419</b>	922	419
403.gcc	40	<b>512</b>	<b>628</b>	514	627	512	629	40	<b>516</b>	<b>624</b>	513	627	517	622
429.mcf	40	320	1140	318	1150	<b>319</b>	<b>1140</b>	40	320	1140	318	1150	<b>319</b>	<b>1140</b>
445.gobmk	40	<b>783</b>	<b>536</b>	784	535	782	537	40	764	549	764	549	<b>764</b>	<b>549</b>
456.hammer	40	317	1180	318	1180	<b>317</b>	<b>1180</b>	40	<b>316</b>	<b>1180</b>	316	1180	316	1180
458.sjeng	40	<b>849</b>	<b>570</b>	849	570	847	571	40	<b>822</b>	<b>589</b>	822	589	822	589
462.libquantum	40	103	8010	<b>104</b>	<b>7980</b>	104	7960	40	103	8010	<b>104</b>	<b>7980</b>	104	7960
464.h264ref	40	<b>952</b>	<b>930</b>	954	927	946	936	40	894	990	926	956	<b>899</b>	<b>985</b>
471.omnetpp	40	<b>534</b>	<b>468</b>	534	468	532	470	40	<b>510</b>	<b>491</b>	511	489	509	491
473.astar	40	624	450	<b>625</b>	<b>450</b>	631	445	40	624	450	<b>625</b>	<b>450</b>	631	445
483.xalancbmk	40	<b>304</b>	<b>909</b>	305	906	303	911	40	<b>304</b>	<b>909</b>	305	906	303	911

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

```

Enforce POR set to disabled
Memory Frequency set to 2133
Early Snoop set to disabled
COD set to enable
Power Technology set to performance
Sysinfo program /home/cpu2006/config/sysinfo.rev6874
$Rev: 6874 $ $Date:: 2013-11-20 #$ 654bd3fcf53b06faef0efe54ed011998
running on localhost Wed Oct 22 08:12:15 2014

```

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 E5-2650 v3 @ 2.30GHz
2 "physical id"s (chips)
40 "processors"

```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Sugon

SPECint\_rate2006 = 847

### Sugon I620-G20(Intel Xeon E5-2650 v3)

SPECint\_rate\_base2006 = 818

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2013

## Platform Notes (Continued)

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  : 20
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 : 12800 KB
```

From /proc/meminfo

```
MemTotal:      264477868 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 localhost 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Oct 20 15:12

SPEC is set to: /home/cpu2006

```
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda3        ext4      1.8T  446G  1.3T  26% /
```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS American Megatrends Inc. 067 08/13/2014

Memory:

```
8x NO DIMM NO DIMM
16x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz
```

(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"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint\_rate2006 = 847

Sugon I620-G20(Intel Xeon E5-2650 v3)

SPECint\_rate\_base2006 = 818

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2013

## General Notes (Continued)

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>

Submitted\_by: Tian Yuwan <tianyw@sugon.com>

Submitted: Wed Nov 5 03:41:05 EST 2014

Submission: cpu2006-20141023-32565.sub

## 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:  
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3

C++ benchmarks:  
-xCORE-AVX2 -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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint\_rate2006 = 847

Sugon I620-G20(Intel Xeon E5-2650 v3)

SPECint\_rate\_base2006 = 818

CPU2006 license: 9046  
Test sponsor: Sugon  
Tested by: Sugon

Test date: Oct-2014  
Hardware Availability: Sep-2014  
Software Availability: Sep-2013

## 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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div  
  
429.mcf: basepeak = yes  
  
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3  
  
456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
  
458.sjeng: -xCORE-AVX2(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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Sugon

SPECint\_rate2006 = 847

Sugon I620-G20(Intel Xeon E5-2650 v3)

SPECint\_rate\_base2006 = 818

CPU2006 license: 9046

Test sponsor: Sugon

Tested by: Sugon

Test date: Oct-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2013

## Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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-revC.html>

<http://www.spec.org/cpu2006/flags/Sugon-Platform-Settings-V1.2-HSW-revA.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-revC.xml>

<http://www.spec.org/cpu2006/flags/Sugon-Platform-Settings-V1.2-HSW-revA.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.

Report generated on Tue Nov 18 16:32:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 18 November 2014.