



# SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Huawei

**SPECint®\_rate2006 = 3130**

**Huawei 2488 V5 (Intel Xeon Gold 6130T)**

**SPECint\_rate\_base2006 = 2970**

**CPU2006 license:** 3175

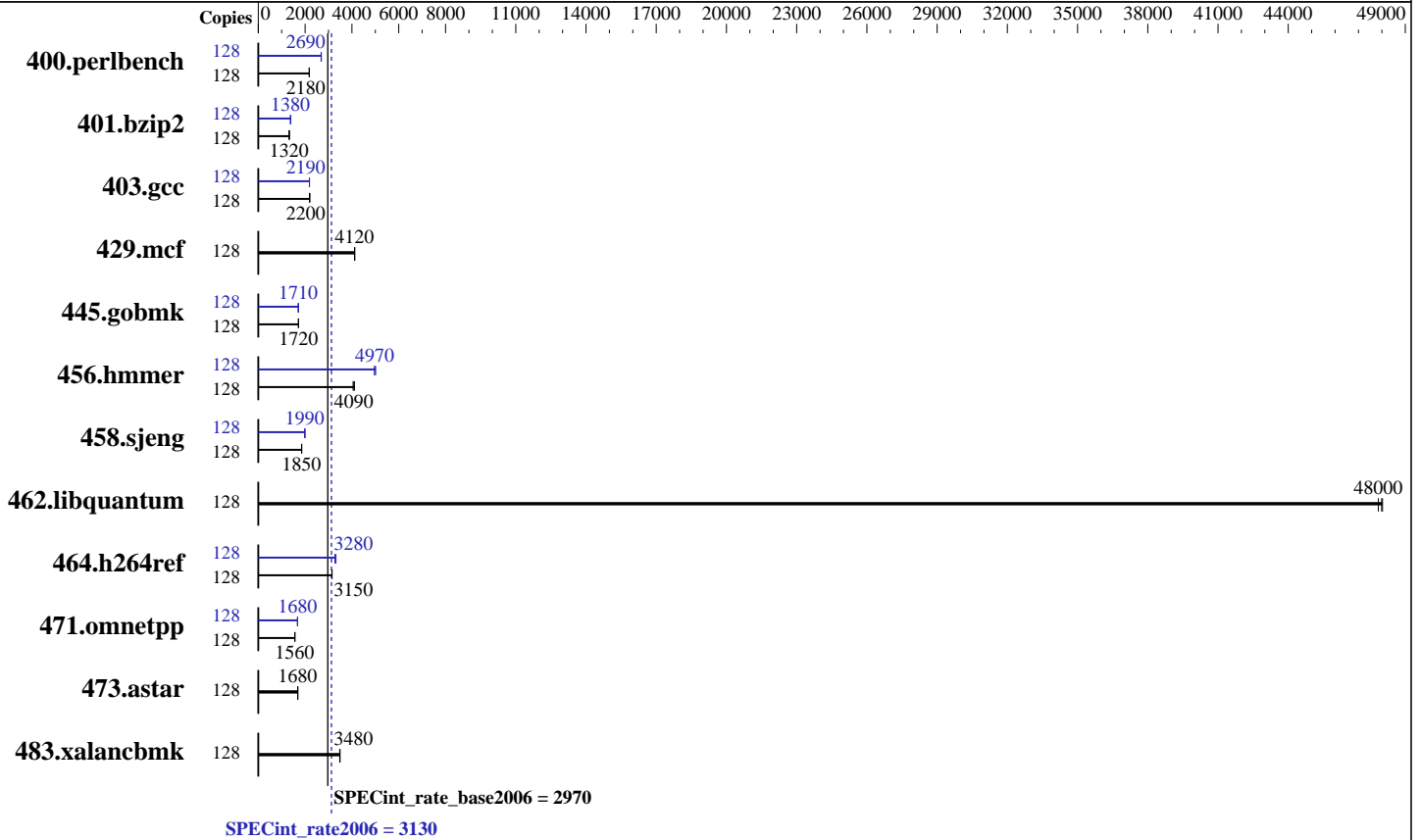
**Test date:** Aug-2017

**Test sponsor:** Huawei

**Hardware Availability:** Aug-2017

**Tested by:** Huawei

**Software Availability:** Apr-2017



### Hardware

**CPU Name:** Intel Xeon Gold 6130T  
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz  
**CPU MHz:** 2100  
**FPU:** Integrated  
**CPU(s) enabled:** 64 cores, 4 chips, 16 cores/chip, 2 threads/core  
**CPU(s) orderable:** 2,4 chip  
**Primary Cache:** 32 KB I + 32 KB D on chip per core  
**Secondary Cache:** 1 MB I+D on chip per core  
**L3 Cache:** 22 MB I+D on chip per chip  
**Other Cache:** None  
**Memory:** 384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)  
**Disk Subsystem:** 2 x 300 GB SAS, 10K RPM  
**Other Hardware:** None

### Software

**Operating System:** SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default  
**Compiler:** C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux;  
 Fortran: Version 17.0.3.191 of Intel Fortran Compiler for Linux  
**Auto Parallel:** Yes  
**File System:** xfs  
**System State:** Run level 5 (multi user)  
**Base Pointers:** 32/64-bit  
**Peak Pointers:** 32/64-bit  
**Other Software:** None



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Huawei

SPECint\_rate2006 = 3130

## Huawei 2488 V5 (Intel Xeon Gold 6130T)

SPECint\_rate\_base2006 = 2970

CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei

Test date: Aug-2017  
Hardware Availability: Aug-2017  
Software Availability: Apr-2017

### Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	128	<b>574</b>	<b>2180</b>	575	2170	573	2180	128	464	2690	<b>465</b>	<b>2690</b>	466	2680
401.bzip2	128	<b>933</b>	<b>1320</b>	938	1320	931	1330	128	889	1390	900	1370	<b>896</b>	<b>1380</b>
403.gcc	128	468	2200	<b>469</b>	<b>2200</b>	472	2180	128	<b>471</b>	<b>2190</b>	472	2180	471	2190
429.mcf	128	284	4110	<b>284</b>	<b>4120</b>	283	4120	128	284	4110	<b>284</b>	<b>4120</b>	283	4120
445.gobmk	128	<b>782</b>	<b>1720</b>	781	1720	782	1720	128	784	1710	786	1710	<b>785</b>	<b>1710</b>
456.hammer	128	291	4110	295	4050	<b>292</b>	<b>4090</b>	128	238	5010	240	4970	<b>240</b>	<b>4970</b>
458.sjeng	128	836	1850	<b>836</b>	<b>1850</b>	836	1850	128	778	1990	<b>779</b>	<b>1990</b>	779	1990
462.libquantum	128	55.2	48000	55.4	47900	<b>55.3</b>	<b>48000</b>	128	55.2	48000	55.4	47900	<b>55.3</b>	<b>48000</b>
464.h264ref	128	901	3140	<b>900</b>	<b>3150</b>	899	3150	128	854	3320	865	3270	<b>864</b>	<b>3280</b>
471.omnetpp	128	513	1560	512	1560	<b>512</b>	<b>1560</b>	128	478	1680	477	1680	<b>477</b>	<b>1680</b>
473.astar	128	533	1680	532	1690	<b>533</b>	<b>1680</b>	128	533	1680	532	1690	<b>533</b>	<b>1680</b>
483.xalancbmk	128	253	3490	254	3480	<b>254</b>	<b>3480</b>	128	253	3490	254	3480	<b>254</b>	<b>3480</b>

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"  
Turbo mode set with:  
cpupower -c all frequency-set -g performance

### Platform Notes

BIOS configuration:  
Set SNC to enabled  
Set IMC interleaving to 1 way interleave  
Sysinfo program /home/cpu2006/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on linux-va9t Sat Aug 26 15:24:22 2017

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) Gold 6130T CPU @ 2.10GHz  
4 "physical id"s (chips)  
128 "processors"

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3130

Huawei 2488 V5 (Intel Xeon Gold 6130T)

SPECint\_rate\_base2006 = 2970

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2017

Hardware Availability: Aug-2017

Software Availability: Apr-2017

## 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 : 16
siblings  : 32
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size : 22528 KB

```

From /proc/meminfo

MemTotal: 394387292 kB

HugePages\_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lbs\_release -d

SUSE Linux Enterprise Server 12 SP2

From /etc/\*release\* /etc/\*version\*

SuSE-release:

SUSE Linux Enterprise Server 12 (x86\_64)

VERSION = 12

PATCHLEVEL = 2

# This file is deprecated and will be removed in a future service pack or release.

# Please check /etc/os-release for details about this release.

os-release:

NAME="SLES"

VERSION="12-SP2"

VERSION\_ID="12.2"

PRETTY\_NAME="SUSE Linux Enterprise Server 12 SP2"

ID="sles"

ANSI\_COLOR="0;32"

CPE\_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:

Linux linux-va9t 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016 (9464f67) x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 5 Aug 26 14:32

SPEC is set to: /home/cpu2006

Filesystem Type Size Used Avail Use% Mounted on

/dev/sda4 xfs 516G 106G 410G 21% /home

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.

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3130

Huawei 2488 V5 (Intel Xeon Gold 6130T)

SPECint\_rate\_base2006 = 2970

CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei

Test date: Aug-2017  
Hardware Availability: Aug-2017  
Software Availability: Apr-2017

## Platform Notes (Continued)

BIOS INSYDE Corp. 0.38 07/28/2017

Memory:

8x NO DIMM NO DIMM

24x Samsung M393A2K43BB1-CTD 16 GB 2 rank 2666 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/lib/ia32:/home/cpu2006/lib/intel64:/home/cpu2006/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.2

Transparent Huge Pages enabled by default

Filesystem page cache cleared with:

shell invocation of 'sync; echo 3 > /proc/sys/vm/drop\_caches' prior to run

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

## Base Compiler Invocation

C benchmarks:

icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

## Base Portability Flags

400.perlbench: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX\_IA32

401.bzip2: -D\_FILE\_OFFSET\_BITS=64

403.gcc: -D\_FILE\_OFFSET\_BITS=64

429.mcf: -D\_FILE\_OFFSET\_BITS=64

445.gobmk: -D\_FILE\_OFFSET\_BITS=64

456.hmmer: -D\_FILE\_OFFSET\_BITS=64

458.sjeng: -D\_FILE\_OFFSET\_BITS=64

462.libquantum: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

464.h264ref: -D\_FILE\_OFFSET\_BITS=64

471.omnetpp: -D\_FILE\_OFFSET\_BITS=64

473.astar: -D\_FILE\_OFFSET\_BITS=64

483.xalancbmk: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3130

Huawei 2488 V5 (Intel Xeon Gold 6130T)

SPECint\_rate\_base2006 = 2970

CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei

Test date: Aug-2017  
Hardware Availability: Aug-2017  
Software Availability: Apr-2017

## Base Optimization Flags

C benchmarks:

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-qopt-mem-layout-trans=3

C++ benchmarks:

-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

icpc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64

401.bzip2: -DSPEC\_CPU\_LP64

403.gcc: -D\_FILE\_OFFSET\_BITS=64

429.mcf: -D\_FILE\_OFFSET\_BITS=64

445.gobmk: -D\_FILE\_OFFSET\_BITS=64

456.hmmer: -DSPEC\_CPU\_LP64

458.sjeng: -DSPEC\_CPU\_LP64

462.libquantum: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

464.h264ref: -D\_FILE\_OFFSET\_BITS=64

471.omnetpp: -D\_FILE\_OFFSET\_BITS=64

473.astar: -D\_FILE\_OFFSET\_BITS=64

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3130

Huawei 2488 V5 (Intel Xeon Gold 6130T)

SPECint\_rate\_base2006 = 2970

CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei

Test date: Aug-2017  
Hardware Availability: Aug-2017  
Software Availability: Apr-2017

## Peak Portability Flags (Continued)

483.xalancbmk: -D\_FILE\_OFFSET\_BITS=64 -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -auto-ilp32 -qopt-mem-layout-trans=3

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-prefetch -auto-ilp32  
-qopt-mem-layout-trans=3

403.gcc: -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3

429.mcf: basepeak = yes

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-mem-layout-trans=3

456.hmmmer: -xCORE-AVX512 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-qopt-mem-layout-trans=3

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll4 -auto-ilp32  
-qopt-mem-layout-trans=3

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll2 -qopt-mem-layout-trans=3

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2)  
-qopt-ra-region-strategy=block  
-qopt-mem-layout-trans=3 -Wl,-z,muldefs  
-L/sh10.2 -lsmartheap

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3130

Huawei 2488 V5 (Intel Xeon Gold 6130T)

SPECint\_rate\_base2006 = 2970

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2017

Hardware Availability: Aug-2017

Software Availability: Apr-2017

## Peak Optimization Flags (Continued)

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-ic17.0-official-linux64-revF.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-SKL-V1.6.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64-revF.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-SKL-V1.6.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 Wed Sep 20 11:01:40 2017 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 19 September 2017.