



# SPEC<sup>®</sup> CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

## Huawei

**SPECint<sup>®</sup>2006 = 78.3**

### Huawei 1288H V5 (Intel Xeon Gold 6130)

**SPECint\_base2006 = 74.8**

CPU2006 license: 3175

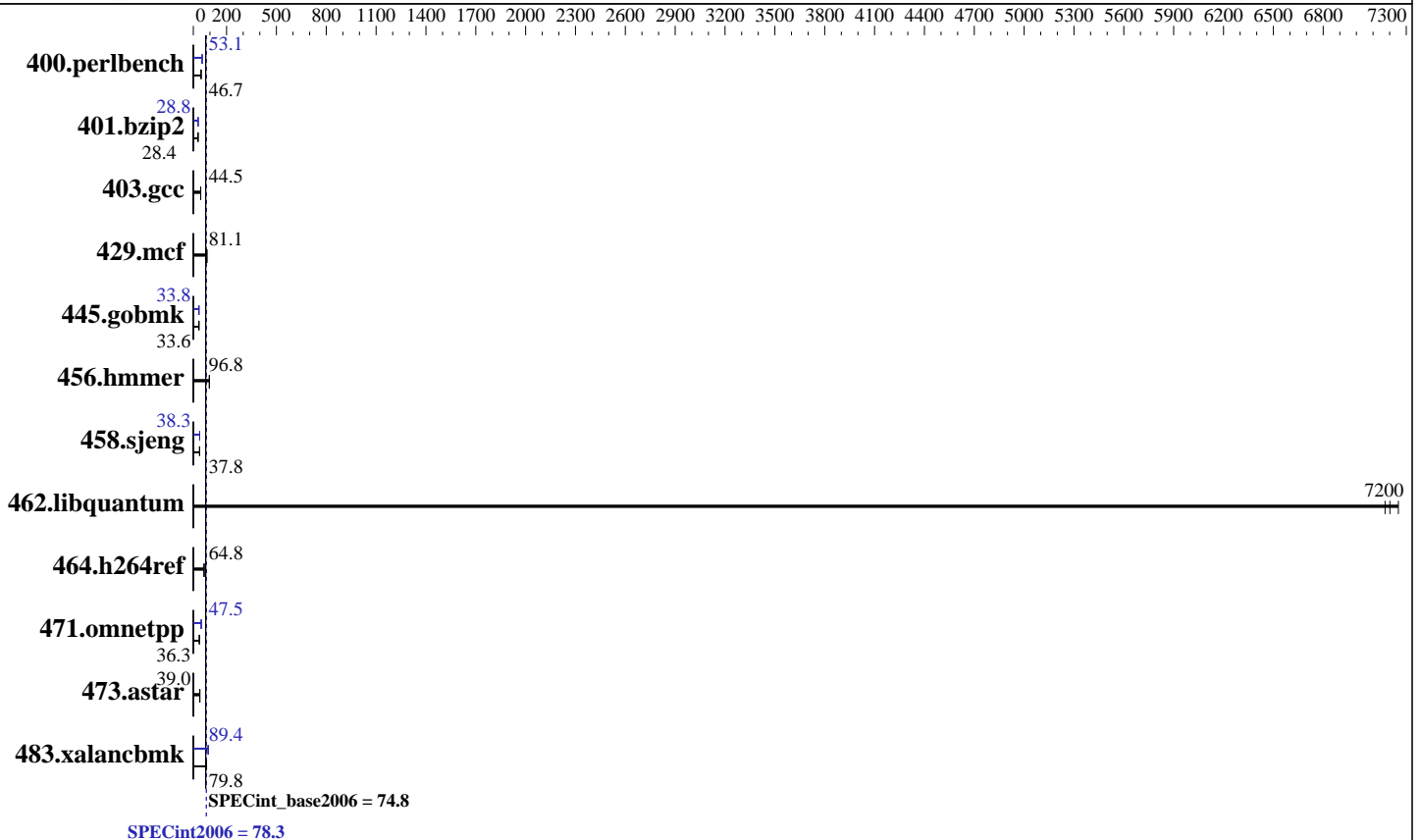
Test sponsor: Huawei

Tested by: Huawei

Test date: May-2017

Hardware Availability: Aug-2017

Software Availability: Nov-2016



### Hardware

CPU Name: Intel Xeon Gold 6130  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 2100  
 FPU: Integrated  
 CPU(s) enabled: 32 cores, 2 chips, 16 cores/chip  
 CPU(s) orderable: 1,2 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 2Rx8 PC4-2666V-R)  
 Disk Subsystem: 1 x 1200 GB SAS, 10000 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo)  
 Compiler: 3.10.0-514.el7.x86\_64 C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux  
 Auto Parallel: Yes  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.2



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 78.3

Huawei 1288H V5 (Intel Xeon Gold 6130)

SPECint\_base2006 = 74.8

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

Test date: May-2017  
Hardware Availability: Aug-2017  
Software Availability: Nov-2016

## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	209	46.7	<b>209</b>	<b>46.7</b>	210	46.6	<b>184</b>	<b>53.1</b>	184	53.1	184	53.2
401.bzip2	340	28.4	<b>340</b>	<b>28.4</b>	339	28.5	<b>335</b>	<b>28.8</b>	335	28.8	334	28.9
403.gcc	181	44.4	181	44.5	<b>181</b>	<b>44.5</b>	181	44.4	181	44.5	<b>181</b>	<b>44.5</b>
429.mcf	113	81.0	112	81.7	<b>112</b>	<b>81.1</b>	113	81.0	112	81.7	<b>112</b>	<b>81.1</b>
445.gobmk	312	33.6	312	33.6	<b>312</b>	<b>33.6</b>	310	33.8	310	33.8	<b>310</b>	<b>33.8</b>
456.hammer	96.2	97.0	<b>96.3</b>	<b>96.8</b>	96.9	96.3	96.2	97.0	<b>96.3</b>	<b>96.8</b>	96.9	96.3
458.sjeng	<b>320</b>	<b>37.8</b>	320	37.8	320	37.8	<b>316</b>	<b>38.3</b>	316	38.3	316	38.3
462.libquantum	<b>2.88</b>	<b>7200</b>	2.89	7170	2.86	7250	<b>2.88</b>	<b>7200</b>	2.89	7170	2.86	7250
464.h264ref	<b>342</b>	<b>64.8</b>	342	64.7	341	64.8	<b>342</b>	<b>64.8</b>	342	64.7	341	64.8
471.omnetpp	172	36.3	<b>172</b>	<b>36.3</b>	172	36.3	132	47.4	131	47.7	<b>131</b>	<b>47.5</b>
473.astar	180	38.9	180	39.0	<b>180</b>	<b>39.0</b>	180	38.9	180	39.0	<b>180</b>	<b>39.0</b>
483.xalancbmk	86.6	79.7	86.4	79.8	<b>86.4</b>	<b>79.8</b>	<b>77.2</b>	<b>89.4</b>	77.5	89.1	76.9	89.7

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

## Submit Notes

The config file option 'submit' was used.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS configuration:  
Set Power Efficiency Mode to Custom  
Set Hyper-Threading to Disable  
Sysinfo program /spec17/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on localhost.localdomain Thu May 25 02:05:45 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 6130 CPU @ 2.10GHz  
2 "physical id"s (chips)  
32 "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 : 16

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 78.3

Huawei 1288H V5 (Intel Xeon Gold 6130)

SPECint\_base2006 = 74.8

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2017

Hardware Availability: Aug-2017

Software Availability: Nov-2016

## Platform Notes (Continued)

```

siblings      : 16
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
cache size   : 22528 KB

```

From /proc/meminfo

```

MemTotal:      394145204 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

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

```

os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.3 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.3"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server

```

uname -a:

```

Linux localhost.localdomain 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13
EDT 2016 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 May 24 17:20

SPEC is set to: /spec17

```

Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/sda2       xfs       898G      11G  888G   2% /

```

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 INSYDE Corp. 0.12 03/28/2017

Memory:

24x Micron 18ASF2G72PDZ-2G6D1 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:

KMP\_AFFINITY = "granularity=fine,compact"

LD\_LIBRARY\_PATH = "/spec17/libs/32:/spec17/libs/64:/spec17/sh10.2"

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 78.3

Huawei 1288H V5 (Intel Xeon Gold 6130)

SPECint\_base2006 = 74.8

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2017

Hardware Availability: Aug-2017

Software Availability: Nov-2016

## General Notes (Continued)

OMP\_NUM\_THREADS = "32"

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 with:

```
echo always > /sys/kernel/mm/transparent_hugepage/enabled
```

runspec command invoked through numactl i.e.:

```
numactl --interleave=all runspec <etc>
```

## Base Compiler Invocation

C benchmarks:

```
icc -m64
```

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:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch
-auto-p32
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh10.2 -lsmartheap64
```



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 78.3

Huawei 1288H V5 (Intel Xeon Gold 6130)

SPECint\_base2006 = 74.8

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

Test date: May-2017  
Hardware Availability: Aug-2017  
Software Availability: Nov-2016

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

445.gobmk: icc -m32 -L/opt/intel/compilers\_and\_libraries\_2017/linux/lib/ia32

C++ benchmarks (except as noted below):

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

473.astar: icpc -m64

## Peak Portability Flags

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

401.bzip2: -DSPEC\_CPU\_LP64

403.gcc: -DSPEC\_CPU\_LP64

429.mcf: -DSPEC\_CPU\_LP64

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

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: -D\_FILE\_OFFSET\_BITS=64

473.astar: -DSPEC\_CPU\_LP64

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-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div -auto-ilp32 -qopt-prefetch

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 78.3

Huawei 1288H V5 (Intel Xeon Gold 6130)

SPECint\_base2006 = 74.8

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2017

Hardware Availability: Aug-2017

Software Availability: Nov-2016

## Peak Optimization Flags (Continued)

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2)

456.hmmer: basepeak = yes

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)  
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -qopt-ra-region-strategy=block  
-Wl,-z,muldefs -L/sh10.2 -lsmarheap

473.astar: basepeak = yes

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-Wl,-z,muldefs -L/sh10.2 -lsmarheap

## 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.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.xml>

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



# SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint2006 = 78.3

Huawei 1288H V5 (Intel Xeon Gold 6130)

SPECint\_base2006 = 74.8

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: May-2017

Hardware Availability: Aug-2017

Software Availability: Nov-2016

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 Jul 25 15:52:53 2017 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 25 July 2017.