



# SPEC® CINT2006 Result

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## Huawei

**SPECint®2006 = 56.7**

Huawei RH1288A V2 (Intel Xeon E5-2650 v2)

**SPECint\_base2006 = 52.4**

CPU2006 license: 3175

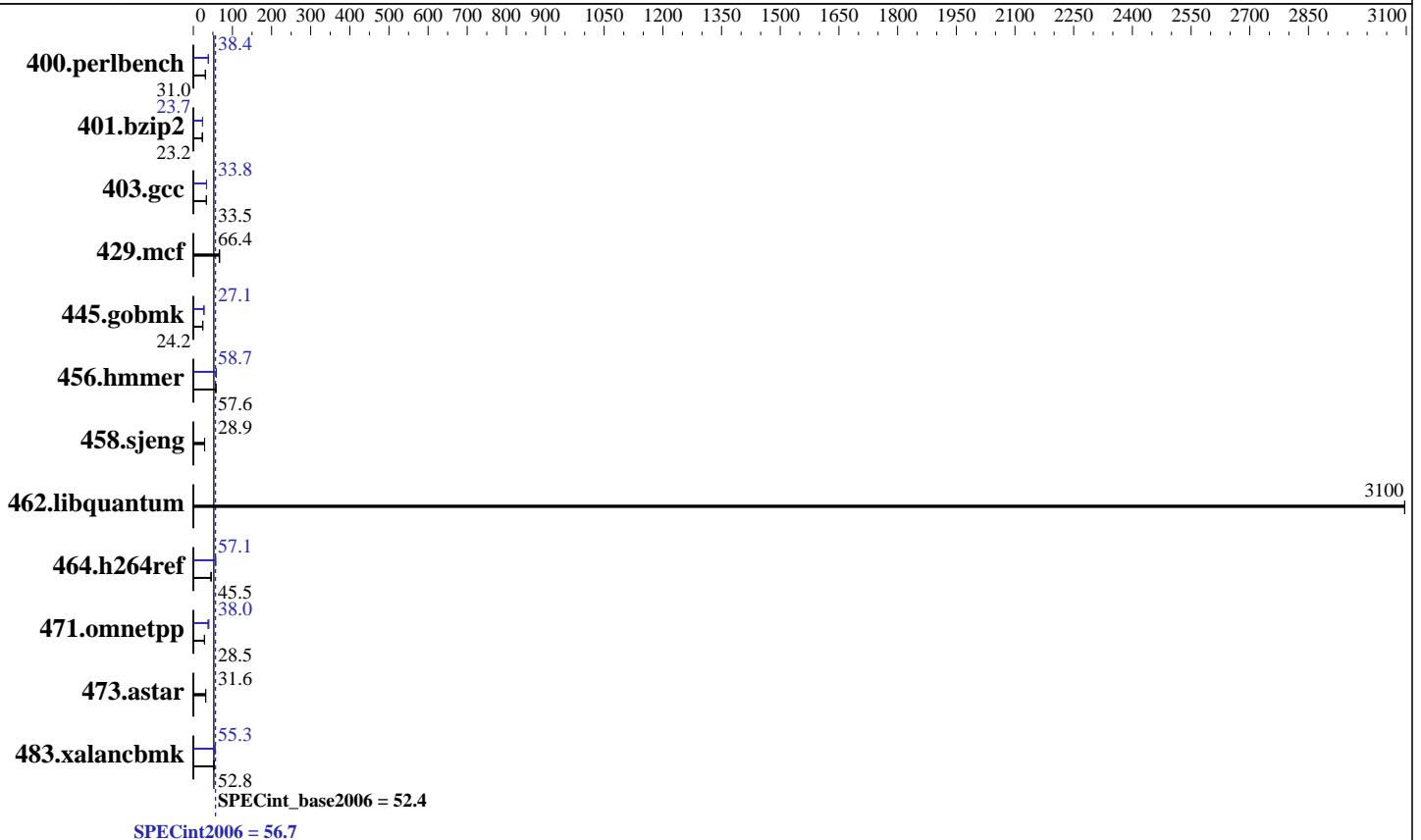
Test sponsor: Huawei

Tested by: Huawei

Test date: Aug-2014

Hardware Availability: Sep-2013

Software Availability: Nov-2013



### Hardware

CPU Name: Intel Xeon E5-2650 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip  
 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: 20 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-11, ECC)  
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)  
 2.6.32-431.el6.x86\_64  
 Compiler: C/C++: Version 12.1.0.225 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 V9.01



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	316	30.9	315	31.0	<b><u>315</u></b>	<b><u>31.0</u></b>	254	38.4	255	38.4	<b><u>254</u></b>	<b><u>38.4</u></b>
401.bzip2	416	23.2	415	23.2	<b><u>416</u></b>	<b><u>23.2</u></b>	<b><u>408</u></b>	<b><u>23.7</u></b>	408	23.7	408	23.6
403.gcc	<b><u>240</u></b>	<b><u>33.5</u></b>	240	33.5	240	33.5	237	33.9	238	33.8	<b><u>238</u></b>	<b><u>33.8</u></b>
429.mcf	135	67.5	138	66.3	<b><u>137</u></b>	<b><u>66.4</u></b>	135	67.5	138	66.3	<b><u>137</u></b>	<b><u>66.4</u></b>
445.gobmk	435	24.1	<b><u>434</u></b>	<b><u>24.2</u></b>	434	24.2	<b><u>387</u></b>	<b><u>27.1</u></b>	387	27.1	387	27.1
456.hammer	162	57.5	162	57.7	<b><u>162</u></b>	<b><u>57.6</u></b>	158	59.0	160	58.2	<b><u>159</u></b>	<b><u>58.7</u></b>
458.sjeng	<b><u>419</u></b>	<b><u>28.9</u></b>	419	28.9	419	28.9	<b><u>419</u></b>	<b><u>28.9</u></b>	419	28.9	419	28.9
462.libquantum	<b><u>6.69</u></b>	<b><u>3100</u></b>	6.69	3100	6.69	3100	<b><u>6.69</u></b>	<b><u>3100</u></b>	6.69	3100	6.69	3100
464.h264ref	489	45.2	486	45.6	<b><u>486</u></b>	<b><u>45.5</u></b>	391	56.6	388	57.1	<b><u>388</u></b>	<b><u>57.1</u></b>
471.omnetpp	219	28.5	218	28.6	<b><u>219</u></b>	<b><u>28.5</u></b>	157	39.9	165	37.8	<b><u>165</u></b>	<b><u>38.0</u></b>
473.astar	<b><u>222</u></b>	<b><u>31.6</u></b>	222	31.6	222	31.7	<b><u>222</u></b>	<b><u>31.6</u></b>	222	31.6	222	31.7
483.xalancbmk	131	52.8	133	51.7	<b><u>131</u></b>	<b><u>52.8</u></b>	125	55.3	<b><u>125</u></b>	<b><u>55.3</u></b>	125	55.1

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:  
Set Power Efficiency Mode to Custom  
Set Hyper-Threading to Disabled  
Baseboard Management Controller used to adjust the fan speed to 100%  
Sysinfo program /spec/config/sysinfo.rev6800  
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on localhost Thu Aug 21 03:37:23 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 v2 @ 2.60GHz
 2 "physical id"s (chips)
 16 "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 : 8
siblings : 8
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
```

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## Platform Notes (Continued)

cache size : 20480 KB

From /proc/meminfo

MemTotal: 132103760 kB

HugePages\_Total: 0

Hugepagesize: 2048 kB

/usr/bin/lsb\_release -d

Red Hat Enterprise Linux Server release 6.5 (Santiago)

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

redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

system-release-cpe: cpe:/o:redhat:enterprise\_linux:6server:ga:server

uname -a:

Linux localhost 2.6.32-431.el6.x86\_64 #1 SMP Sun Nov 10 22:19:54 EST 2013

x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Aug 21 00:49

SPEC is set to: /spec

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sdal	ext4	439G	59G	358G	15%	/

Additional information from dmidecode:

Memory:

8x Samsung M393B2G70QH0-CMA 16 GB 1867 MHz 2 rank

(End of data from sysinfo program)

## General Notes

Environment variables set by runspec before the start of the run:

KMP\_AFFINITY = "granularity=fine,compact,0,1"

LD\_LIBRARY\_PATH = "/spec/libs/32:/spec/libs/64"

OMP\_NUM\_THREADS = "16"

Binaries compiled on a system with 2 x Xeon X5645 CPU + 16GB memory using RHEL 6.1

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

The Huawei RH2288A V2 and Huawei RH1288A V2

are electronically equivalent.

The results have been measured on a Huawei RH2288A V2 model

This benchmark result is intended to provide perspective on

past performance using the historical software described on this result page

The system as described on this result page was formerly

generally available. At the time of this publication, it may

not be shipping, and/or may not be supported, and/or may fail

to meet other tests of General Availability described in the

Continued on next page



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## General Notes (Continued)

SPEC OSG Policy document, <http://www.spec.org/osg/policy.html>  
This measured result may not be representative of the result that would be measured were this benchmark run with hardware and software available as of the publication date.

## 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:

-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/smartheap -lsmartheap64

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca



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## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64  
  
400.perlbench: icc -m32  
  
445.gobmk: icc -m32  
  
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.hmmmer: -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: -xAVX -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

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## Peak Optimization Flags (Continued)

456.hmmcr: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32  
-ansi-alias

458.sjeng: basepeak = yes

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/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias  
-Wl,-z,muldefs -L/smartheap -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-ic12.1-official-linux64.20111122.html>  
<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>  
<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.xml>



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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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