



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Huawei

**SPECint®\_rate2006 = 1310**

Huawei RH2288H V3 (Intel Xeon E5-2698 v3)

**SPECint\_rate\_base2006 = 1270**

CPU2006 license: 3175

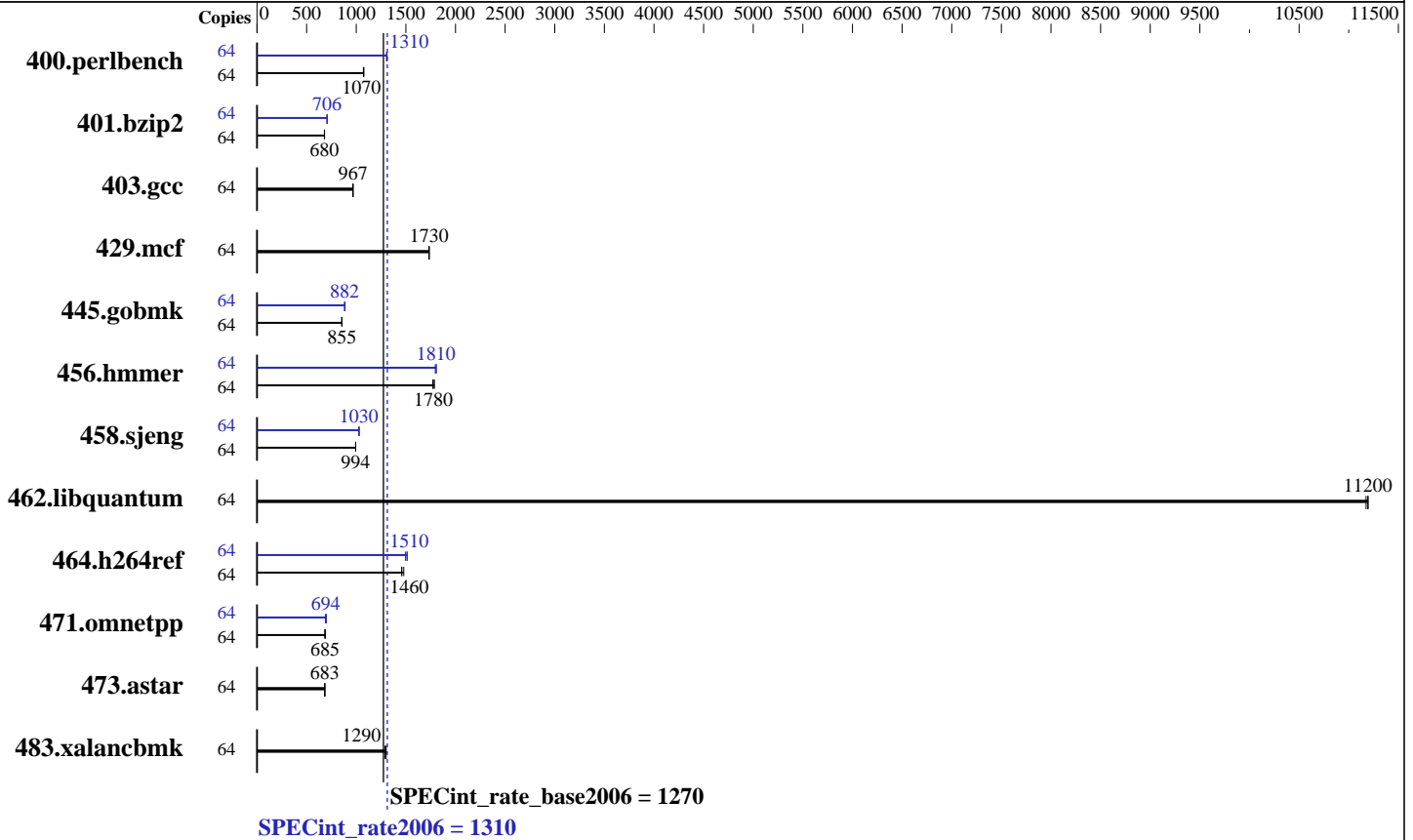
Test date: Mar-2015

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Sep-2013



### Hardware

CPU Name: Intel Xeon E5-2698 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz  
 CPU MHz: 2300  
 FPU: Integrated  
 CPU(s) enabled: 32 cores, 2 chips, 16 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: 40 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 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 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 2006-2015 Standard Performance Evaluation Corporation

## Huawei

SPECint\_rate2006 = 1310

Huawei RH2288H V3 (Intel Xeon E5-2698 v3)

SPECint\_rate\_base2006 = 1270

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2015

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	64	583	1070	<u>582</u>	<u>1070</u>	581	1080	64	477	1310	479	1310	<u>479</u>	<u>1310</u>
401.bzip2	64	<u>909</u>	<u>680</u>	910	679	908	680	64	<u>875</u>	<u>706</u>	876	705	873	707
403.gcc	64	<u>533</u>	<u>967</u>	534	966	532	968	64	<u>533</u>	<u>967</u>	534	966	532	968
429.mcf	64	336	1740	<u>337</u>	<u>1730</u>	337	1730	64	336	1740	<u>337</u>	<u>1730</u>	337	1730
445.gobmk	64	<u>785</u>	<u>855</u>	786	854	785	856	64	757	887	<u>761</u>	<u>882</u>	761	882
456.hammer	64	334	1790	337	1770	<u>336</u>	<u>1780</u>	64	331	1810	<u>331</u>	<u>1810</u>	332	1800
458.sjeng	64	779	994	<u>779</u>	<u>994</u>	779	994	64	754	1030	753	1030	<u>753</u>	<u>1030</u>
462.libquantum	64	118	11200	119	11200	<u>118</u>	<u>11200</u>	64	118	11200	119	11200	<u>118</u>	<u>11200</u>
464.h264ref	64	<u>971</u>	<u>1460</u>	972	1460	958	1480	64	<u>938</u>	<u>1510</u>	936	1510	948	1490
471.omnetpp	64	582	687	<u>584</u>	<u>685</u>	585	684	64	<u>577</u>	<u>694</u>	581	689	573	699
473.astar	64	658	683	658	683	<u>658</u>	<u>683</u>	64	658	683	658	683	<u>658</u>	<u>683</u>
483.xalancbmk	64	342	1290	<u>342</u>	<u>1290</u>	339	1300	64	342	1290	<u>342</u>	<u>1290</u>	339	1300

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

BIOS configuration:  
Set Power Efficiency Mode to Custom  
Set Snoop Mode to COD  
Set Patrol Scrub to Disable  
Baseboard Management Controller used to adjust the fan speed to 100%  
Sysinfo program /spec/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on localhost.localdomain Mon Mar 2 20:22:13 2015

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 E5-2698 v3 @ 2.30GHz  
2 "physical id"s (chips)  
64 "processors"

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1310

Huawei RH2288H V3 (Intel Xeon E5-2698 v3)

SPECint\_rate\_base2006 = 1270

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2015

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 : 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
cache size : 20480 KB
```

From /proc/meminfo

```
MemTotal:      264270708 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.localdomain 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 Feb 25 21:46

SPEC is set to: /spec

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal        ext4  268G  164G   91G  65% /
```

Additional information from dmidecode:

```
BIOS Insyde Corp. 1.13 08/12/2014
Memory:
8x NO DIMM NO DIMM      3 rank
8x Samsung M393A2G40DB0-CPB 16 GB 2133 MHz 1 rank
8x Samsung M393A2G40DB0-CPB 16 GB 2133 MHz 2 rank
```

(End of data from sysinfo program)

## General Notes

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

```
LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64:/spec/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:

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1310

Huawei RH2288H V3 (Intel Xeon E5-2698 v3)

SPECint\_rate\_base2006 = 1270

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2013

## General Notes (Continued)

```
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:  
-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

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m32  
400.perlbench: icc -m64

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1310

Huawei RH2288H V3 (Intel Xeon E5-2698 v3)

SPECint\_rate\_base2006 = 1270

CPU2006 license: 3175

Test date: Mar-2015

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Sep-2013

## Peak Compiler Invocation (Continued)

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: `basepeak = yes`

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`

462.libquantum: `basepeak = yes`

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1310

Huawei RH2288H V3 (Intel Xeon E5-2698 v3)

SPECint\_rate\_base2006 = 1270

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Mar-2015

Hardware Availability: Sep-2014

Software Availability: Sep-2013

## Peak Optimization Flags (Continued)

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-linux64.20140128.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.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/Huawei-Platform-Settings-HASWELL-V1.4.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 Apr 8 11:02:08 2015 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 7 April 2015.