



# SPEC® CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

## Huawei

### SPECint®\_rate2006 = 1180

### Huawei CH222 V3 (Intel Xeon E5-2695 v3)

### SPECint\_rate\_base2006 = 1140

CPU2006 license: 3175

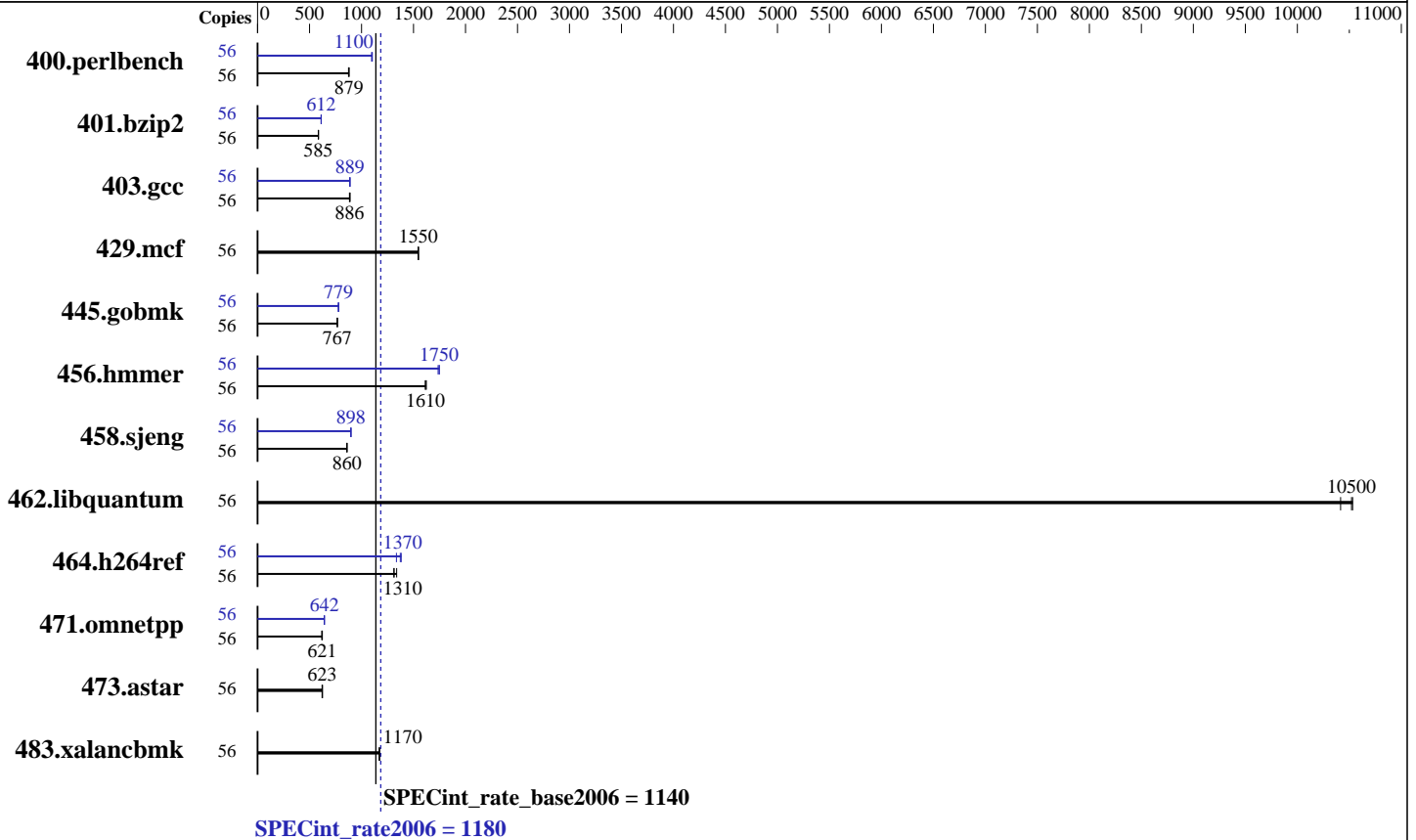
Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013



### Hardware

CPU Name: Intel Xeon E5-2695 v3  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
 CPU MHz: 2300  
 FPU: Integrated  
 CPU(s) enabled: 28 cores, 2 chips, 14 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: 35 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 7.0 (Maipo)  
 3.10.0-123.el7.x86\_64  
 Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux  
 Auto Parallel: No  
 File System: xfs  
 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 = 1180

Huawei CH222 V3 (Intel Xeon E5-2695 v3)

SPECint\_rate\_base2006 = 1140

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

Test date: Dec-2014  
Hardware Availability: Sep-2014  
Software Availability: Nov-2013

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	56	626	875	<b><u>623</u></b>	<b><u>879</u></b>	622	880	56	<b><u>497</u></b>	<b><u>1100</u></b>	496	1100	499	1100
401.bzip2	56	922	586	925	584	<b><u>923</u></b>	<b><u>585</u></b>	56	884	611	883	612	<b><u>883</u></b>	<b><u>612</u></b>
403.gcc	56	510	884	<b><u>509</u></b>	<b><u>886</u></b>	506	890	56	509	886	507	889	<b><u>507</u></b>	<b><u>889</u></b>
429.mcf	56	331	1540	330	1550	<b><u>330</u></b>	<b><u>1550</u></b>	56	331	1540	330	1550	<b><u>330</u></b>	<b><u>1550</u></b>
445.gobmk	56	<b><u>766</u></b>	<b><u>767</u></b>	765	768	766	767	56	<b><u>754</u></b>	<b><u>779</u></b>	756	777	754	779
456.hammer	56	324	1610	322	1620	<b><u>324</u></b>	<b><u>1610</u></b>	56	299	1750	301	1740	<b><u>299</u></b>	<b><u>1750</u></b>
458.sjeng	56	789	859	<b><u>788</u></b>	<b><u>860</u></b>	788	860	56	<b><u>755</u></b>	<b><u>898</u></b>	754	898	755	898
462.libquantum	56	111	10400	<b><u>110</u></b>	<b><u>10500</u></b>	110	10500	56	111	10400	<b><u>110</u></b>	<b><u>10500</u></b>	110	10500
464.h264ref	56	945	1310	<b><u>944</u></b>	<b><u>1310</u></b>	926	1340	56	897	1380	<b><u>903</u></b>	<b><u>1370</u></b>	928	1340
471.omnetpp	56	567	617	562	623	<b><u>563</u></b>	<b><u>621</u></b>	56	545	642	<b><u>545</u></b>	<b><u>642</u></b>	544	643
473.astar	56	630	624	<b><u>631</u></b>	<b><u>623</u></b>	634	620	56	630	624	<b><u>631</u></b>	<b><u>623</u></b>	634	620
483.xalancbmk	56	<b><u>330</u></b>	<b><u>1170</u></b>	329	1170	330	1170	56	<b><u>330</u></b>	<b><u>1170</u></b>	329	1170	330	1170

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 /spec15/config/sysinfo.rev6914  
\$Rev: 6914 \$ \$Date:: 2014-06-25 #\$ e3fbb8667b5a285932ceab81e28219e1  
running on localhost.localdomain Wed Dec 17 13:19:53 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 E5-2695 v3 @ 2.30GHz  
2 "physical id"s (chips)  
56 "processors"

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1180

Huawei CH222 V3 (Intel Xeon E5-2695 v3)

SPECint\_rate\_base2006 = 1140

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Nov-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 : 7
siblings  : 14
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
cache size : 17920 KB
```

From /proc/meminfo

```
MemTotal:      263716344 kB
HugePages_Total: 0
Hugepagesize:   2048 kB
```

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

```
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.0 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.0"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server
```

uname -a:

```
Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
EDT 2014 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Dec 17 13:16

SPEC is set to: /spec15

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2        xfs   510G  129G  382G  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 Insyde Corp. 1.19 10/10/2014

Memory:

```
8x NO DIMM NO DIMM 3 rank
8x Samsung M393A2G40DB0-CPB 16 GB 1 rank 2133 MHz
8x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz
```

(End of data from sysinfo program)



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1180

Huawei CH222 V3 (Intel Xeon E5-2695 v3)

SPECint\_rate\_base2006 = 1140

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/spec15/libs/32:/spec15/libs/64:/spec15/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:

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

The Huawei CH121 V3 and Huawei CH222 V3

are electronically equivalent.

The results have been measured on a Huawei CH121 V3 model

## Base Compiler Invocation

C benchmarks:

```
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

C++ benchmarks:

```
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

## 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:

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1180

Huawei CH222 V3 (Intel Xeon E5-2695 v3)

SPECint\_rate\_base2006 = 1140

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

## Base Other Flags (Continued)

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/composer\_xe\_2015/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/composer\_xe\_2015/lib/ia32

## 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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1180

Huawei CH222 V3 (Intel Xeon E5-2695 v3)

SPECint\_rate\_base2006 = 1140

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

## Peak Optimization Flags (Continued)

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3

456.hmmcr: -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

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-ic15.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.1.20141216.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.1.20141216.xml>



# SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 1180

Huawei CH222 V3 (Intel Xeon E5-2695 v3)

SPECint\_rate\_base2006 = 1140

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Dec-2014

Hardware Availability: Sep-2014

Software Availability: Nov-2013

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 Jan 14 10:27:45 2015 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 13 January 2015.