



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## Huawei

**SPECint®\_rate2006 = 3730**

Huawei RH8100 V3 (Intel Xeon E7-8891 v2)

**SPECint\_rate\_base2006 = 3600**

CPU2006 license: 3175

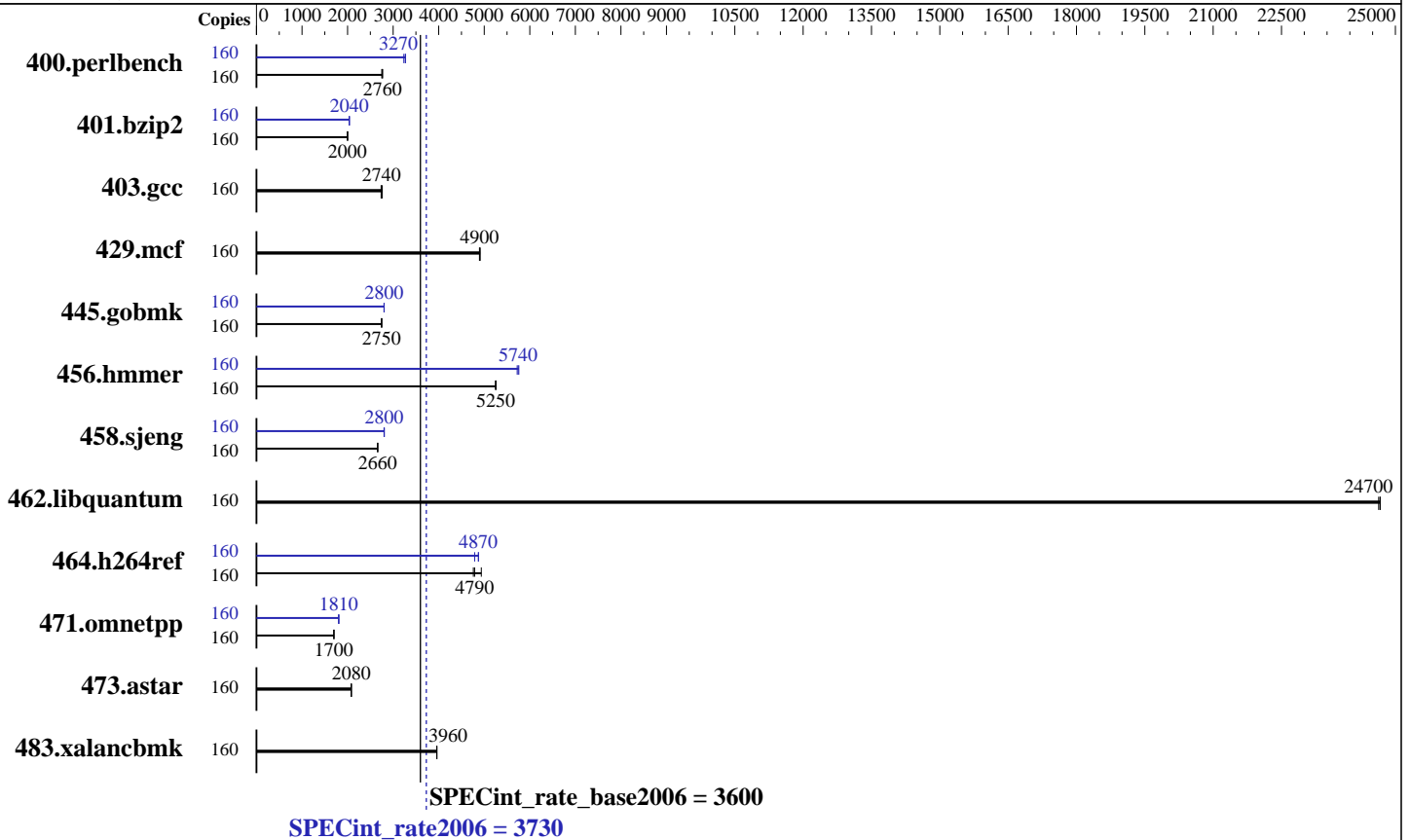
Test date: Oct-2014

Test sponsor: Huawei

Hardware Availability: Feb-2014

Tested by: Huawei

Software Availability: Nov-2013



### Hardware

CPU Name: Intel Xeon E7-8891 v2  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz  
 CPU MHz: 3200  
 FPU: Integrated  
 CPU(s) enabled: 80 cores, 8 chips, 10 cores/chip, 2 threads/core  
 CPU(s) orderable: 4,8 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 37.5 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 1 TB (128 x 8 GB 2Rx8 PC3-12800R-11, ECC, running at 1333 MHz and CL9)  
 Disk Subsystem: 2 x 300 GB SAS, 10K 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 2006-2014 Standard Performance Evaluation Corporation

## Huawei

SPECint\_rate2006 = 3730

Huawei RH8100 V3 (Intel Xeon E7-8891 v2)

SPECint\_rate\_base2006 = 3600

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Oct-2014

Hardware Availability: Feb-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	160	568	2750	<u>565</u>	<u>2760</u>	565	2770	160	483	3230	<u>479</u>	<u>3270</u>	478	3270
401.bzip2	160	<u>772</u>	<u>2000</u>	773	2000	772	2000	160	<u>758</u>	<u>2040</u>	759	2040	757	2040
403.gcc	160	<u>469</u>	<u>2740</u>	471	2740	466	2760	160	<u>469</u>	<u>2740</u>	471	2740	466	2760
429.mcf	160	297	4910	<u>298</u>	<u>4900</u>	298	4890	160	297	4910	<u>298</u>	<u>4900</u>	298	4890
445.gobmk	160	<u>611</u>	<u>2750</u>	611	2750	610	2750	160	600	2800	599	2800	<u>599</u>	<u>2800</u>
456.hammer	160	284	5260	<u>284</u>	<u>5250</u>	284	5250	160	<u>260</u>	<u>5740</u>	261	5720	259	5760
458.sjeng	160	<u>728</u>	<u>2660</u>	727	2660	728	2660	160	691	2800	<u>691</u>	<u>2800</u>	690	2810
462.libquantum	160	135	24600	<u>134</u>	<u>24700</u>	134	24700	160	135	24600	<u>134</u>	<u>24700</u>	134	24700
464.h264ref	160	744	4760	717	4940	<u>739</u>	<u>4790</u>	160	739	4790	727	4870	<u>727</u>	<u>4870</u>
471.omnetpp	160	<u>588</u>	<u>1700</u>	588	1700	588	1700	160	554	1800	<u>554</u>	<u>1810</u>	553	1810
473.astar	160	<u>540</u>	<u>2080</u>	540	2080	539	2080	160	<u>540</u>	<u>2080</u>	540	2080	539	2080
483.xalancbmk	160	<u>279</u>	<u>3960</u>	279	3960	279	3960	160	<u>279</u>	<u>3960</u>	279	3960	279	3960

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 Performance
Set Lock_step to disabled
Baseboard Management Controller used to adjust the fan speed to 100%
C-State disabled
Sysinfo program /spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on RH8100V3 Mon Oct 20 12:38:02 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 E7-8891 v2 @ 3.20GHz
8 "physical id"s (chips)
160 "processors"

```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3730

Huawei RH8100 V3 (Intel Xeon E7-8891 v2)

SPECint\_rate\_base2006 = 3600

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Oct-2014

Hardware Availability: Feb-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 : 10
siblings  : 20
physical 0: cores 2 3 4 5 6 7 8 10 11 12
physical 1: cores 2 3 4 5 6 7 8 10 11 12
physical 2: cores 2 3 4 5 6 7 8 10 11 12
physical 3: cores 2 3 4 5 6 7 8 10 11 12
physical 4: cores 2 3 4 5 6 7 8 10 11 12
physical 5: cores 2 3 4 5 6 7 8 10 11 12
physical 6: cores 2 3 4 5 6 7 8 10 11 12
physical 7: cores 2 3 4 5 6 7 8 10 11 12
cache size : 38400 KB

```

From /proc/meminfo

```

MemTotal:      1058588860 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 RH8100V3 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 Oct 20 12:36

SPEC is set to: /spec

```

Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3        ext4  533G  28G  478G   6% /

```

Additional information from dmidecode:

```

BIOS American Megatrends Inc. BLHSV325 09/30/2014
Memory:
128x      8 GB
128x Hynix HMT41GR7AFR8C-PB 8 GB 1333 MHz 2 rank
64x NO DIMM NO DIMM

```

(End of data from sysinfo program)

Regarding the sysinfo display about the memory installed, the correct amount of memory is 1 TB and the dmidecode description should have one line reading as:

```

128x Hynix HMT41GR7AFR8C-PB 8 GB 1333 MHz 2 rank

```



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3730

Huawei RH8100 V3 (Intel Xeon E7-8891 v2)

SPECint\_rate\_base2006 = 3600

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

Test date: Oct-2014  
Hardware Availability: Feb-2014  
Software Availability: Nov-2013

## 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:  
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:  
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3  
  
C++ benchmarks:  
-xSSE4.2 -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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3730

Huawei RH8100 V3 (Intel Xeon E7-8891 v2)

SPECint\_rate\_base2006 = 3600

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

Test date: Oct-2014  
Hardware Availability: Feb-2014  
Software Availability: Nov-2013

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m32

400.perlbench: icc -m64
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: -xSSE4.2(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: -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 -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
            -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
            -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
            -unroll4 -auto-ilp32
```

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Huawei

SPECint\_rate2006 = 3730

Huawei RH8100 V3 (Intel Xeon E7-8891 v2)

SPECint\_rate\_base2006 = 3600

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Oct-2014

Hardware Availability: Feb-2014

Software Availability: Nov-2013

## Peak Optimization Flags (Continued)

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)  
-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-revC.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-ic14.0-official-linux64-revC.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.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 Tue Nov 18 16:30:34 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 18 November 2014.