



# SPEC® CINT2006 Result

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Huawei  
Huawei CH242 v3

SPECint®\_rate2006 = **NC**  
SPECint\_rate\_base2006 = **NC**

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

Test date: May-2014  
Hardware Availability: Jan-2014  
Software Availability: Nov-2013

**SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Huawei or Intel.**

- |                | Copies |
|----------------|--------|
| 400.perlbench  |        |
| 401.bzip2      |        |
| 403.gcc        |        |
| 429.mcf        |        |
| 445.gobmk      |        |
| 456.hmmer      |        |
| 458.sjeng      |        |
| 462.libquantum |        |
| 464.h264ref    |        |
| 471.omnetpp    |        |
| 473.astar      |        |
| 483.xalancbmk  |        |

**Non-Compliant**

### Hardware

CPU Name: Intel Xeon E7-4830 v2  
CPU Characteristics: Intel Turbo Boost Technology up to 2.70 GHz  
CPU MHz: 2200  
FPU: Integrated  
CPU(s) enabled: 40 cores, 4 chips, 10 cores/chip, 2 threads/core  
CPU(s) orderable: 2,4 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

Continued on next page

### 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

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Memory: 256 GB (32 x 8 GB 2Rx4 PC3-10600R-09, ECC)  
Disk Subsystem: 1 X 300 GB SAS 10000RPM  
Other Hardware: None

Other Software: Mellanox SmartHeap V10.0

## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
400.perlbench	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
401.bzip2	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
403.gcc	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
429.mcf	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
445.gobmk	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
456.hmmer	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
458.sjeng	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
462.libquantum	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
464.h264ref	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
471.omnetpp	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
473.astar	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		
483.xalanbmk	80	NC	NC	NC	NC	NC	NC	80	NC	NC	NC	NC	NC	NC		

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

## Submit Notes

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"



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## Platform Notes

BIOS configuration:  
Set VMSE LockStep mode disable  
Sysinfo program /spec/config/sysinfo.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 # \$ e86d102572c0a6e4d596a3cee98f191  
running on localhost.localdomain Sun May 11 12:19:21 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 E7-4830 v2 @ 2.20GHz
 4 "physical id"s (chips):
 80 "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      : 1
siblings      : 20
physical 0:    cores 0 1 2 3 4 8 9 10 11 12
physical 1:    cores 0 1 2 3 4 8 9 10 11 12
physical 2:    cores 0 1 2 3 4 8 9 10 11 12
physical 3:    cores 0 1 2 3 4 8 9 10 11 12
cache size     : 20480 KB
```

```
From /proc/meminfo
MemTotal:      264354328 kB
HugePages_Total: 0
HugePages_Size: 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
```

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## Platform Notes (Continued)

run-level 3 May 4 11:22

SPEC is set to: /spec

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	ext4	265G	126G	26G	51%	/

Additional information from umidecode

BIOS American Megatrends Inc. BLISV033 12/27/2014

Memory:

32x 8 GB

8x Samsung M393B1K70CH0 8 GB 1333 MHz 2 rank

24x Samsung M393B1K70DH0 8 GB 1333 MHz 2 rank

(End of data from sysinfo program)

## General Notes

Environment variables set at 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

and invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

## Base Compiler Invocation

C benchmarks:

icc -m32

C++ benchmarks:

icpc -m32



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## 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 -lsmal

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=alloca

## Peak Compiler Invocation

C benchmarks (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



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## 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  
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

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## Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-gen(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -prof-gen(pass 2)  
 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
 -L/sh -lsmartheap

473.astar: basepeak = yes

483.xalanbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=alloca

The 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-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-linux64.20140128.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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