# SPEC® CINT2006 Result

## Huawei

Huawei RH1288 V3(Intel Xeon E5-2630 v4)

**SPECint** \_rate2006 = NC  
**SPECint_rate_base2006 = NC**

<table>
<thead>
<tr>
<th>CPU2006 license: 3175</th>
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<td>Hardware Availability: Mar-2016</td>
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<table>
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<tr>
<td>400.perlbench</td>
</tr>
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</tbody>
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## Hardware

<table>
<thead>
<tr>
<th>CPU Name: Intel Xeon E5-2630 v4</th>
</tr>
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<tbody>
<tr>
<td>CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz</td>
</tr>
<tr>
<td>CPU MHz: 2200</td>
</tr>
<tr>
<td>FPU: Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable: 1,2 chip</td>
</tr>
<tr>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache: 256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache: 25 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache: None</td>
</tr>
<tr>
<td>Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)</td>
</tr>
<tr>
<td>Disk Subsystem: 1 x 500 GB SATA,7200 RPM</td>
</tr>
</tbody>
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## Software

<table>
<thead>
<tr>
<th>Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel: No</td>
</tr>
<tr>
<td>File System: xfs</td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers: 32/64-bit</td>
</tr>
<tr>
<td>Peak Pointers: 32/64-bit</td>
</tr>
<tr>
<td>Other Software: Microquill SmartHeap V10.2</td>
</tr>
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Non-Compliant
### SPEC CINT2006 Result

**Huawei**

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**Tested by:** Huawei

**Test date:** Feb-2016

**Hardware Availability:** Mar-2016

**Software Availability:** Mar-2016

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### Results Table

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

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**Submit Notes**

The config file option 'submit' was used.

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**Operating System Notes**

Stack size set to unlimited using "ulimit -s unlimited"

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**Platform Notes**

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Snoop Mode to ES mode
Set Patrol Scrub to Disable

Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 # e3fbb8667b5a285932ceab81e28219e1

This section contains SUT (System Under Test) info as seen by

---

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Platform Notes (Continued)

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 E5-2630 v4 @ 2.20GHz
- 2 "physical id"s (chips)
- 40 "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: 10
  - siblings: 20
  - physical 0: cores 0 2 3 4 8 9 10 11 12
  - physical 1: cores 0 2 3 4 8 9 10 11 12
- cache size: 25600 KB

From /proc/meminfo
- MemTotal: 263568392 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"
- 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 Feb 17 06:23

SPEC is set to: /spec16

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 xfs 443G 45G 399G 10% /

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**Platform Notes (Continued):**

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. 7.11 02/14/2016**
- **Memory:** 8x Samsung M393A2G40EB1-CRC 16 GB 1 rank 2400 MHz, configured at 2133 MHz 8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 2133 MHz

(End of data from sysinfo program)

**General Notes**

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

- `LD_LIBRARY_PATH = "/spec16/16/32:/spec16/64:/spec16/sh"`

- **Binaries compiled on system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7.1**
- **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>`

**Base Compiler Invocation**

- **C benchmarks:**
  - `icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`
- **C++ benchmarks:**
  - `icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`
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Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -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:
-Dgprof=alloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
400.perlbench: icc -m64
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Peak Compiler Invocation (Continued)

401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
458.sjeng: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE OFFSET BITS=64
473.astar: -D_FILE OFFSET BITS=64
483.xalancbmk: -D_FILE OFFSET BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafepass 1
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen:threadsafepass 1
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch
-auto-ilp32 -ansi-alias

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

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### Peak Optimization Flags (Continued)

- **429.mcf**: basepeak = yes
- **445.gobmk**:  
  - xCORE-AVX2(pass 2)  
  - prof-gen:threadsafe(pass 2)  
  - prof-use(pass 2)  
  - par-num-threads=1(pass 2)  
  - ansi-alias  
  - opt-mem-layout-trans=3
- **456.hmmer**:  
  - xCORE-AVX2  
  - ipo -O3 -no-prec-div -unroll2 -auto-ilp32
- **458.sjeng**:  
  - ipo(pass 2)  
  - prof-gen:threadsafe(pass 1)  
  - par-num-threads=1(pass 1)  
  - prof-use(pass 2)  
  - unroll14  
  - auto-ilp32
- **462.libquantum**:  
  - basepeak = yes
- **464.h264ref**:  
  - ipo(post)  
  - prof-gen:threadsafe(pass 1)  
  - par-num-threads=1(pass 1)  
  - prof-use(pass 2)  
  - unroll12  
  - ansi-alias

### Peak Other Flags

#### C++ benchmarks:

- **471.omnetpp**:  
  - xCORE-AVX2(pass 2)  
  - prof-gen:threadsafe(pass 1)  
  - ipo(post)  
  - prof-gen:threadsafe(pass 2)  
  - no-prec-div(pass 2)  
  - par-num-threads=1(pass 2)  
  - prof-use(pass 2)  
  - ansi-alias  
  - opt-mem-layout-strategy=block -Wl,-z,muldefs  
  - L/sh1smartheap
- **472.astar**: basepeak = yes
- **493.zellers**: basepeak = yes

#### C benchmarks:

- **403.gcc**: -Dalloca=_alloca
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The flags files that were used to format this result can be browsed at:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.xml