## SPECint® CINT2006 Result

**Huawei**

Huawei RH2288H V3 (Intel Xeon E5-2690 v3)

<table>
<thead>
<tr>
<th>CPU2006 license: 3175</th>
<th>TEST date:</th>
<th>Hardware Availability: Sep-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor: Huawei</td>
<td></td>
<td>Software Availability: Nov-2013</td>
</tr>
<tr>
<td>Tested by: Huawei</td>
<td></td>
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</tr>
</tbody>
</table>

**SPECint® rate2006 = 1130**

**SPECint_rate_base2006 = 1100**

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>48</td>
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<tr>
<td>1080</td>
<td>882</td>
<td>572</td>
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<td>SPECint_rate_base2006 = 1100</td>
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</tbody>
</table>

**Hardware**

<table>
<thead>
<tr>
<th><strong>Software</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU Name:</strong> Intel Xeon E5-2690 v3</td>
</tr>
<tr>
<td><strong>CPU Characteristics:</strong> Intel Turbo Boost Technology up to 3.50 GHz</td>
</tr>
<tr>
<td><strong>CPU MHZ:</strong> 2600</td>
</tr>
<tr>
<td><strong>FPU:</strong> Integrated</td>
</tr>
<tr>
<td><strong>CPU(s) enabled:</strong> 24 cores, 2 chips, 12 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td><strong>CPU(s) orderable:</strong> 1,2 chip</td>
</tr>
<tr>
<td><strong>Primary Cache:</strong> 32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td><strong>Secondary Cache:</strong> 256 KB I+D on chip per core</td>
</tr>
<tr>
<td><strong>L3 Cache:</strong> 30 MB I+D on chip per chip</td>
</tr>
<tr>
<td><strong>Other Cache:</strong> None</td>
</tr>
<tr>
<td><strong>Memory:</strong> 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)</td>
</tr>
<tr>
<td><strong>Disk Subsystem:</strong> 1 x 500 GB SATA, 7200 RPM</td>
</tr>
<tr>
<td><strong>Other Hardware:</strong> None</td>
</tr>
<tr>
<td><strong>Operating System:</strong> Red Hat Enterprise Linux Server release 6.5 (Santiago) 2.6.32-431.el6.x86_64</td>
</tr>
<tr>
<td><strong>Compiler:</strong> C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td><strong>Auto Parallel:</strong> No</td>
</tr>
<tr>
<td><strong>File System:</strong> ext4</td>
</tr>
<tr>
<td><strong>System State:</strong> Run level 3 (multi-user)</td>
</tr>
<tr>
<td><strong>Base Pointers:</strong> 32-bit</td>
</tr>
<tr>
<td><strong>Peak Pointers:</strong> 32/64-bit</td>
</tr>
<tr>
<td><strong>Other Software:</strong> Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>
## Huawei RH2288H V3 (Intel Xeon E5-2690 v3)

**SPECint_rate2006** = 1130  
**SPECint_rate_base2006** = 1100

**CPU2006 license:** 3175  
**Test date:** Dec-2014  
**Test sponsor:** Huawei  
**Hardware Availability:** Sep-2014  
**Tested by:** Huawei  
**Software Availability:** Nov-2013

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Seconds</th>
<th>Ratio</th>
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<tr>
<td>400.perlbench</td>
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<td>878</td>
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<td><strong>472</strong></td>
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<td>469</td>
<td>823</td>
<td>472</td>
<td>819</td>
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<td>469</td>
<td>823</td>
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<td>445.gobmk</td>
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<td>667</td>
<td>755</td>
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<td><strong>287</strong></td>
<td><strong>1560</strong></td>
<td>289</td>
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<td>462.libquantum</td>
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<td><strong>97.3</strong></td>
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<td>471.omnetpp</td>
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<td>515</td>
<td>583</td>
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<td>574</td>
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<td>596</td>
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<tr>
<td>473.astar</td>
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<td>571</td>
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<td><strong>591</strong></td>
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<tr>
<td>483.xalancbmk</td>
<td>48</td>
<td>288</td>
<td>1150</td>
<td>287</td>
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<td><strong>288</strong></td>
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<td>48</td>
<td>288</td>
<td>1150</td>
<td>287</td>
<td>1150</td>
</tr>
</tbody>
</table>

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 Dec 22 03:18:45 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 E5-2690 v3 @ 2.60GHz
2 "physical id"s (chips)
48 "processors"
```

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Huawei RH2288H V3 (Intel Xeon E5-2690 v3)

**SPECint_rate2006 = 1130**

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---

**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 : 12
- siblings : 24
- physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
- physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
- cache size : 15360 KB

From /proc/meminfo

- MemTotal: 264272692 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)

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 Dec 21 21:40

SPEC is set to: /spec

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sda1</td>
<td>ext4</td>
<td>268G</td>
<td>110G</td>
<td>144G</td>
<td>44%</td>
<td>/</td>
</tr>
</tbody>
</table>

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)
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General Notes (Continued)

    echo 1> /proc/sys/vm/drop_caches
    runspec command invoked through numacl i.e.:
    numacl --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

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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-ilkp32

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-ilkp32 -ansi-alias

403.gcc: basepeak = yes
429.mc: 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-ilkp32

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-ilkp32

462.libquantum: basepeak = yes
Huawei RH2288H V3 (Intel Xeon E5-2690 v3)

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

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.xalanchmk: 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-V1.1.20141216.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-V1.1.20141216.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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