Huawei

Huawei RH1288 V3 (Intel Xeon E5-2650L v4)

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>NC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>NC</td>
</tr>
</tbody>
</table>

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei
Test date: Mar-2016
Hardware Availability: Mar-2016
Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not available as required by SPEC CPU rule 1.3.2.

## Hardware

<table>
<thead>
<tr>
<th>Spec</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2650L v4</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 2.50 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>1700</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>28 cores, 2 chips, 14 cores/chip</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1,2 chip</td>
</tr>
<tr>
<td>Primary Cache</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache</td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache</td>
<td>35 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>256 GB (16 x 16 GB 2Rx4 PC4-2400T-R)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 1000 GB SATA, 7200rpm</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

## Software

<table>
<thead>
<tr>
<th>Spec</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64</td>
</tr>
<tr>
<td>Compiler</td>
<td>C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel</td>
<td>Yes</td>
</tr>
<tr>
<td>File System</td>
<td>ext4</td>
</tr>
<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software</td>
<td>Microquill SmartHeap V10.2</td>
</tr>
</tbody>
</table>
SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not available as required by SPEC CPU rule 1.3.2 and the SPEC Open Systems Group policy on general availability.

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<tbody>
<tr>
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<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
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<td>NC</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
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<td>NC</td>
</tr>
<tr>
<td>403.gcc</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
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<tr>
<td>429.mcf</td>
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<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
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<td>NC</td>
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<td>NC</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>NC</td>
<td>NC</td>
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<td>NC</td>
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<tr>
<td>458.sjeng</td>
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</tr>
<tr>
<td>462.libquantum</td>
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</tr>
<tr>
<td>473.astar</td>
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</tr>
<tr>
<td>483.xalancbmk</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
<td>NC</td>
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<td>NC</td>
</tr>
</tbody>
</table>

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

Submit Notes

The config file option 'submit' was used.

Operating System Notes

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

Platform Notes

BIO configuration:
Set Power Efficiency Mode to Custom
Set Snooze Mode to ES mode
Set Patrol Scrub to Disable
Set Hyper-Threading to Disable
Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Mon Feb 24 10:57:30 2014

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

Continued on next page
Huawei RH1288 V3 (Intel Xeon E5-2650L v4) SPECint2006 = NC
SPECint_base2006 = NC

<table>
<thead>
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<tr>
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**SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules.** Specifically, the memory was not available as required by [SPEC CPU rule 1.3.2](http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2) and the SPEC Open Systems Group policy on [general availability](https://www.spec.org/osg/policy.html#AppendixC).

---

**Platform Notes (Continued)**

http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From `/proc/cpuinfo`

- model name: Intel(R) Xeon(R) CPU E5-2650L v4 @ 1.70GHz
- 2 "physical id"s (chips)
- 28 "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: 14
- siblings: 14
- physical 0: cores 0 2 3 4 5 6 8 9 10 11 12 13 14
- physical 1: cores 0 2 3 4 5 6 8 9 10 11 12 13 14
- cache size: 35840 KB

From `/proc/meminfo`

- MemTotal: 263569784 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-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 23 22:21

SPEC is set to: /spec16

```
Filesystem  Type             Size  Used Avail Use% Mounted on
/dev/sda2    ext4             913G  108G   759G  13% /
```

Additional information from dmidecode:

Continued on next page
**SPEC CPU2006 Result**

**Huawei**

Huawei RH1288 V3 (Intel Xeon E5-2650L v4)

**SPECint2006:** NC

**SPECint_base2006:** NC

**CPU2006 license:** 3175

**Test sponsor:** Huawei

**Tested by:** Huawei

**Test date:** Mar-2016

**Hardware Availability:** Mar-2016

**Software Availability:** Mar-2016

---

**Platform Notes (Continued)**

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. 3.12 03/03/2016

Memory:
8x Samsung M393A2G40EB1-CRC 16 GB 1 rank 2400 MHz
8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz

(End of data from sysinfo program)

---

**General Notes**

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

- `KMP_AFFINITY = "granularity=fine,compact,1,0"
- `LD_LIBRARY_PATH = "/spec16/libs/32:/spec16/libs/64:/spec16/sh"
- `OMP_NUM_THREADS = "28"

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using RedHat EL 7

Transparent Huge Pages enabled with:
- `echo always > /sys/kernel/mm/transparent_hugepage/enabled`
- `runspect command --interleave=all runspec <etc>`

---

**Base Compiler Invocation**

- icc  -m64

C++ benchmarks:
- icpc  -m64

---

**Base Portability Flags**

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

---

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SPEC CINT2006 Result

Huawei

Huawei RH1288 V3 (Intel Xeon E5-2650L v4)

| SPECint2006 = | NC |
| SPECInt_base2006 | NC |

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

Test date: Mar-2016
Hardware Availability: Mar-2016
Software Availability: Mar-2016

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Base Portability Flags (Continued)

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<th>Benchmark</th>
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<td>473.astar</td>
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</tr>
<tr>
<td>483.xalancbmk</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX</td>
</tr>
</tbody>
</table>

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-<Wl,-z,muldefs,L/sh,-L/opt/ia32_lin/smarterheap64

Base Other Flags

C benchmarks:
403.gcc -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

400.perlbench: icc -m32 -L/opt/intel compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

C++ benchmarks (except as noted below):
icpc -m32 -L/opt/intel compilers_and_libraries_2016/linux/compiler/lib/ia32_lin

Continued on next page
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SPEC CINT2006 Result

Huawei
Huawei RH1288 V3 (Intel Xeon E5-2650L v4)

SPECint2006 = NC
SPECint_base2006 = NC

CPU2006 license: 3175
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Peak Optimization Flags (Continued)

456.hmmer: basepeak = yes
458.sjeng:
-xCORE-AVX2 (pass 2)
-ipo (pass 2)
-03 (pass 2)
-no-prec-div (pass 2)
-par-num-threads=1 (pass 1)
-prof-use (pass 2)
-unroll4

462.libquantum: basepeak = yes
464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp:
-xCORE-AVX2 (pass 2)
-ipo (pass 2)
-03 (pass 2)
-no-prec-div (pass 2)
-par-num-threads=1 (pass 1)
-prof-use (pass 2)
-opt-ra-region-strategy=block
-ansi-alias
-Wl,-z,muldefs -lsmartheap

473.astar:
-xCORE-AVX2
-ipo
-03
-no-prec-div
-opt-prefetch
-auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk:
-xCORE-AVX2
-ipo
-03
-no-prec-div
-opt-prefetch
-ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

C benchmarks:

403.gcc:
-Dalloca=_alloca

Peak Other Flags

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

Tested with SPEC CPU2006 v1.2.
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