Huawei

Huawei CH121 V3 (Intel Xeon E5-2650L v4)

<table>
<thead>
<tr>
<th>Copied</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>Compiler: C++: Version 16.0.0.101 of Intel C++ StudioXE for Linux</td>
</tr>
<tr>
<td>403.gcc</td>
<td>Auto Parallel: No</td>
</tr>
<tr>
<td>429.mcf</td>
<td>File System: ext4</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>Base Pointers: 32-bit</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>Peak Pointers: 32/64-bit</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>Other Software: Microquill SmartHeap V10.2</td>
</tr>
<tr>
<td>464.h264ref</td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td></td>
</tr>
</tbody>
</table>

### Hardware

- CPU Name: Intel Xeon E5-2650L v4
- CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz
- CPU MHz: 1700
- FPU: Integrated
- CPU(s) enabled: 28 cores, 2 chips, 14 cores/chip, 2 threads/core
- CPU(s) orderable: 1,2 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: 35 MB I+D on chip per chip
- Other Cache: None
- Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R)
- Disk Subsystem: 1 x 1 T SATA, 7200 RPM
- Other Hardware: None

### SPEC CINT2006 Result

**SPEClnt_rate2006 = NC**

**SPEClnt_rate_base2006 = NC**

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. The result is marked as non-compliant.
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

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<td>403.gcc</td>
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<td>462.libquantum</td>
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<tr>
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<td>56</td>
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<td>56</td>
<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 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 Snoop Mode to COD mode
Set Patrol Scrub to Disable
Sysinfo program /speccpu/spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8667b5a285932ceab81e28219el

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

Continued on next page
Huawei CH121 V3 (Intel Xeon E5-2650L v4)  

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.

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 E5-2650L v4@ 1.70GHz
2 "physical id"s (chips)
56 "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 : 7
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

From /proc/meminfo
MemTotal:       263566032 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
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: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

uname --
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 24 06:25

Non-compliant
Huawei
Huawei CH121 V3 (Intel Xeon E5-2650L v4)

SPECint_rate2006 = NC
SPECint_rate_base2006 = NC

CPU2006 license: 3175
Test date: Feb-2016
Test sponsor: Huawei
Tested by: Huawei
Software Availability: Mar-2016
Hardware 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 and the SPEC Open Systems Group policy on general availability.

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 NO DIMM NO DIMM 3 rank
8x Samsung M393A2G40EB1-CRC 16 GB 1 rank 2400 MHz
8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/speccpu/spec16/lib32:/speccpu/spec16/lib64:/speccpu/spec16/sh"

Binaries compiled on a 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>
The Huawei CH121 V3 and Huawei CH222 V3 are electronically equivalent.
Results have been measured on a Huawei CH121 V3 model

Base Compiler Invocation

C benchmarks:
```bash
icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

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

Base Portability Flags

```
400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX -D_FILE_OFFSET_BITS=64
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -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 -W1,-z,muldefs -L/sh -lsmartheap
```

Base Other Flags

```
403.gcc: -Dalloca=_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
```
**SPEC CINT2006 Result**

Huawei

Huawei CH121 V3 (Intel Xeon E5-2650L v4)

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<thead>
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CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

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.

### 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:threadsafe(pass 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:threadsafe(pass 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`
SPEC CINT2006 Result

Huawei

Huawei CH121 V3 (Intel Xeon E5-2650L v4)

SPECint_rate2006 = NC
SPECint_rate_base2006 = NC

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

Test date: Feb-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 <a href="http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2">SPEC CPU rule 1.3.2</a> and the SPEC Open Systems Group policy on <a href="https://www.spec.org/osg/policy.html#AppendixC">generality</a>.

Peak Optimization Flags (Continued)

429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias
-opt-mem-layout-trans=3
456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll12 -auto-ilp32
458.sjeng: -xCORE-AVX2(pass 2) -ipo(pass 1) -prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias
-auto-ilp32
462.libquantum: basepeak = yes
464.h264ref: -xCORE-AVX2(pass 2) -ipo(pass 2) -prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias
-unroll12
C++ benchmarks:
471.omnetpp: -xCORE-AVX2(pass 2) -prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias
-opt=--region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap
473.astar: basepeak = yes
483.xalancbmk: basepeak = yes

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Other Flags

Non-compliant
# SPEC CINT2006 Result

**Huawei**

**Huawei CH121 V3 (Intel Xeon E5-2650L v4)**

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

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The flags files that were used to format this result can be browse at:
- [Intel-ic16.0-official-linux64.html](http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html)
- [Huawei-Platform-Settings-BDW-V1.0.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:
- [Intel-ic16.0-official-linux64.xml](http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml)
- [Huawei-Platform-Settings-BDW-V1.0.xml](http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.xml)

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For other inquiries, please contact webmaster@spec.org.

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