## SPEC® CINT2006 Result

### Huawei

**Huawei CH121 V3 (Intel Xeon E5-2623 v4)**

| Specint®2006 = | 58.4 |
| Specint_base2006 = | 56.3 |

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

**Test date:** Nov-2016  
**Hardware Availability:** Mar-2016  
**Software Availability:** Dec-2015

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>58.4</td>
<td>56.3</td>
</tr>
</tbody>
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### Hardware

| CPU Name: | Intel Xeon E5-2623 v4 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.20 GHz |
| CPU MHz: | 2600 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 cores/chip |
| 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: | 10 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 512 GB (16 x 32 GB 2Rx4 PC4-2400T-R, running at 2133 MHz) |
| Disk Subsystem: | 1 x 480 GB SATA SSD |
| Other Hardware: | None |

### Software

| Operating System: | SUSE Linux Enterprise Server 12 SP1 (x86_64) 3.12.49-11-default |
| Compiler: | C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux |
| Auto Parallel: | Yes |
| File System: | ext4 |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32/64-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V10.2 |
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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>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>261</td>
<td>37.4</td>
<td>261</td>
<td>37.4</td>
<td>261</td>
<td>37.5</td>
<td>239</td>
<td>40.9</td>
<td>238</td>
<td>41.0</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>410</td>
<td>23.5</td>
<td>411</td>
<td>23.5</td>
<td>411</td>
<td>23.5</td>
<td>404</td>
<td>23.9</td>
<td>404</td>
<td>23.9</td>
</tr>
<tr>
<td>403.gcc</td>
<td>243</td>
<td>33.1</td>
<td>243</td>
<td>33.1</td>
<td>243</td>
<td>33.1</td>
<td>243</td>
<td>33.1</td>
<td>243</td>
<td>33.1</td>
</tr>
<tr>
<td>429.mcf</td>
<td>144</td>
<td>63.1</td>
<td>146</td>
<td>62.5</td>
<td>146</td>
<td>62.3</td>
<td>143</td>
<td>63.7</td>
<td>144</td>
<td>63.3</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>387</td>
<td>27.1</td>
<td>387</td>
<td>27.1</td>
<td>388</td>
<td>27.0</td>
<td>387</td>
<td>27.1</td>
<td>387</td>
<td>27.1</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>118</td>
<td>78.9</td>
<td>118</td>
<td>79.0</td>
<td>118</td>
<td>79.0</td>
<td>118</td>
<td>78.9</td>
<td>118</td>
<td>79.0</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>384</td>
<td>31.5</td>
<td>384</td>
<td>31.5</td>
<td>384</td>
<td>31.5</td>
<td>380</td>
<td>31.9</td>
<td>380</td>
<td>31.8</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>6.68</td>
<td>3100</td>
<td>6.64</td>
<td>3120</td>
<td>7.09</td>
<td>2920</td>
<td>6.68</td>
<td>3100</td>
<td>6.64</td>
<td>3120</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>408</td>
<td>54.2</td>
<td>410</td>
<td>54.0</td>
<td>409</td>
<td>54.2</td>
<td>408</td>
<td>54.2</td>
<td>410</td>
<td>54.0</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>273</td>
<td>22.9</td>
<td>273</td>
<td>22.9</td>
<td>273</td>
<td>22.9</td>
<td>223</td>
<td>28.0</td>
<td>224</td>
<td>27.9</td>
</tr>
<tr>
<td>473.astar</td>
<td>217</td>
<td>32.4</td>
<td>219</td>
<td>32.0</td>
<td>216</td>
<td>32.5</td>
<td>216</td>
<td>32.5</td>
<td>216</td>
<td>32.5</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>104</td>
<td>66.3</td>
<td>105</td>
<td>65.9</td>
<td>104</td>
<td>66.3</td>
<td>94.2</td>
<td>73.3</td>
<td>95.0</td>
<td>72.6</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

BIOS configuration:
Set Power Efficiency Mode to Custom
Set Snoop 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 linux-1jfn Sat Nov 26 14:59:51 2016

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 E5-2623 v4 @ 2.60GHz
2 "physical id"s (chips)
8 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with Continued on next page
## Huawei CH121 V3 (Intel Xeon E5-2623 v4)

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

### Platform Notes (Continued)

- **caution.**
  - cpu cores : 4
  - siblings : 4
  - physical 0: cores 0 1 2 3
  - physical 1: cores 0 1 2 3
  - cache size : 10240 KB

From `/proc/meminfo`
- MemTotal: 529039308 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

From `/etc/*release* /etc/*version*`
- **SuSE-release:**
  - NAME="SLES"
  - VERSION="12-SP1"
  - VERSION_ID="12.1"
  - PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
  - ID="sles"
  - ANSI_COLOR="0;32"
  - CPE_NAME="cpe:/o:suse:sles:12:sp1"

- **uname -a:**
  - (8d714a0) x86_64 x86_64 x86_64 GNU/Linux

- **run-level 3** Nov 26 14:58

- **SPEC is set to:** /spec16

- **Filesystem**
  - Type    Size  Used  Avail Use% Mounted on
  - /dev/sda1  ext4  394G  11G  383G  3% /

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. 3.32 09/14/2016**

- **Memory:**
  - 16x Hynix HMA84GR7MFR4N-UH 32 GB 2 rank 2400 MHz, configured at 2133 MHz
  - 8x NO DIMM NO DIMM

(End of data from sysinfo program)
Huawei CH121 V3 (Intel Xeon E5-2623 v4) SPECint2006 = 58.4
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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 = "8"

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
runspec command invoked through numactl i.e.:
umactl --interleave=all runspec <etc>
The Huawei CH121 V3 and Huawei CH222 V3 are electronically equivalent.
The results have been measured on a Huawei CH121 V3 model.

Base Compiler Invocation

C benchmarks:
icc -m64
C++ benchmarks:
icpc -m64

Base Portability Flags

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

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 -lsmartheap64
Huawei

Huawei CH121 V3 (Intel Xeon E5-2623 v4)

SPECint2006 = 58.4
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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

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -DSPEC_CPU_LP64

429.mcf: -DSPEC_CPU_LP64

445.gobmk: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

464.h264ref: -DSPEC_CPU_LP64

471.omnetpp: -D_FILE_OFFSET_BITS=64

473.astar: -DSPEC_CPU_LP64

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) -opt-prefetch

-ansi-alias

401.bzip2: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)

-ipo(pass 2) -O3(pass 2) -no-prec-div

-par-num-threads=1(pass 1) -prof-use(pass 2) -auto-iip32

-opt-prefetch -ansi-alias
Huawei CH121 V3 (Intel Xeon E5-2623 v4)

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Peak Optimization Flags (Continued)

403.gcc: basepeak = yes

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
        -opt-prefetch -auto-p32

445.gobmk: basepeak = yes
456.hmmer: basepeak = yes

458.sjeng: -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) -unroll4

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

C++ benchmarks:

471.omnetpp: -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-ra-region-strategy=block -ansi-alias
        -Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
        -auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
                  -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

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

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