# SPEC® CINT2006 Result

## Huawei

Huawei XH620 V3 (Intel Xeon E5-2623 v3)

### SPECint®2006 = **59.5**

### SPECint_base2006 = **57.1**

**CPU2006 license:** 3175  
**Test date:** May-2015  
**Test sponsor:** Huawei  
**Hardware Availability:** Sep-2014  
**Tested by:** Huawei  
**Software Availability:** Sep-2014

### SPECint2006 = 59.5  
SPECint_base2006 = 57.1

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>59.5</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>57.1</td>
</tr>
<tr>
<td>403.gcc</td>
<td>59.5</td>
</tr>
<tr>
<td>429.mcf</td>
<td>57.1</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>59.5</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>57.1</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>59.5</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>57.1</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>59.5</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>57.1</td>
</tr>
<tr>
<td>473.astar</td>
<td>59.5</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>59.5</td>
</tr>
</tbody>
</table>

### Hardware

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2623 v3</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.50 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>3000</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>8 cores, 2 chips, 4 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>10 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 PC4-2133P-R, running at 1866 MHz)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 500 GB SATA, 7200 RPM</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</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 15.0.0.0.090 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 V10.0</td>
</tr>
</tbody>
</table>
Huawei

Huawei XH620 V3 (Intel Xeon E5-2623 v3)

SPECint2006 = 59.5
SPECint_base2006 = 57.1

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

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>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>243</td>
<td>40.2</td>
<td>243</td>
<td>40.3</td>
<td>244</td>
<td>40.0</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>381</td>
<td>25.3</td>
<td>381</td>
<td>25.3</td>
<td>380</td>
<td>25.4</td>
</tr>
<tr>
<td>403.gcc</td>
<td>243</td>
<td>33.1</td>
<td>244</td>
<td>33.0</td>
<td>244</td>
<td>33.0</td>
</tr>
<tr>
<td>429.mcf</td>
<td>367</td>
<td>28.6</td>
<td>367</td>
<td>28.6</td>
<td>367</td>
<td>28.6</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>135</td>
<td>69.3</td>
<td>135</td>
<td>69.2</td>
<td>135</td>
<td>69.4</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>355</td>
<td>34.0</td>
<td>355</td>
<td>34.1</td>
<td>355</td>
<td>34.1</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>5.92</td>
<td>3500</td>
<td>6.16</td>
<td>3360</td>
<td>5.92</td>
<td>3460</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>409</td>
<td>54.0</td>
<td>410</td>
<td>54.0</td>
<td>409</td>
<td>54.0</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>285</td>
<td>22.0</td>
<td>285</td>
<td>21.9</td>
<td>286</td>
<td>21.8</td>
</tr>
<tr>
<td>473.astar</td>
<td>219</td>
<td>32.1</td>
<td>220</td>
<td>31.9</td>
<td>218</td>
<td>32.3</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>111</td>
<td>62.3</td>
<td>111</td>
<td>62.4</td>
<td>111</td>
<td>62.4</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 Intel HT Technology to Disable
Sysinfo program /spec/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Thu May  7 05:04:11 2015

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 v3 @ 3.00GHz
  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 XH620 V3 (Intel Xeon E5-2623 v3)

**SPEC CINT2006 Result**

Huawei

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

**CPU2006 license:** 3175  
**Test date:** May-2015  
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**Platform Notes (Continued)**

- 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: 263580304 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*  
os-release:  
NAME='Red Hat Enterprise Linux Server'  
VERSION='7.0 (Maipo)'

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 May 7 05:03

SPEC is set to: /spec  
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. 1.36 04/09/2015  
Memory:
- 8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz, configured at 1867 MHz
- 8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1867 MHz

(End of data from sysinfo program)
Huawei

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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 = "/spec/libs/32:/spec/libs/64:/spec/sh"
OMP_NUM_THREADS = "8"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB memory using RedHat EL 7.0
Transparent Huge Pages enabled with:
  echo always > /sys/kernel/mm/transparent_hugepage/enabled
  runspec command invoked through numactl i.e.:
  numactl --interleave=all runspec <etc>

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
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Hardware Availability: Sep-2014
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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/composer_xe_2015/lib/ia32
        445.gobmk: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
C++ benchmarks (except as noted below):
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
        473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
        401.bzip2: -DSPEC_CPU_LP64
        403.gcc: -DSPEC_CPU_LP64
        429.mcf: -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
        473.astar: -DSPEC_CPU_LP64
        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)
                -opt-prefetch -ansi-alias
        401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
                -opt-prefetch -ansi-alias

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Peak Optimization Flags (Continued)

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
          -opt-malloc-options=3 -auto-ilk32

429.mcf: basepeak = yes

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
            -ansi-alias

456.hmmer: basepeak = yes

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

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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)
          -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-ic15.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.xml
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Tested with SPEC CPU2006 v1.2.