Huawei

Huawei 5288 V3 (Intel Xeon E5-2660 v3)

SPECint®2006 = 59.2
SPECint_base2006 = 59.2

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

Test date: Jul-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

CPU Name: Intel Xeon E5-2660 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 20 cores, 2 chips, 10 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: 25 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
Other Hardware: None

Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64
Compiler: C/C++: Version 15.0.0.090 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 V10.0
## SPEC CINT2006 Result

**Huawei**  
**Huawei 5288 V3 (Intel Xeon E5-2660 v3)**

SPECint2006 = 59.2  
SPECint_base2006 = 59.2

<table>
<thead>
<tr>
<th><strong>CPU2006 license:</strong></th>
<th>3175</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test date:</strong></td>
<td>Jul-2015</td>
</tr>
<tr>
<td><strong>Hardware Availability:</strong></td>
<td>Sep-2014</td>
</tr>
<tr>
<td><strong>Test sponsor:</strong></td>
<td>Huawei</td>
</tr>
<tr>
<td><strong>Software Availability:</strong></td>
<td>Sep-2014</td>
</tr>
<tr>
<td><strong>Tested by:</strong></td>
<td>Huawei</td>
</tr>
</tbody>
</table>

---

### 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>256</td>
<td>38.2</td>
<td>256</td>
<td>38.2</td>
<td>254</td>
<td>38.4</td>
<td>256</td>
<td>38.2</td>
<td>254</td>
<td>38.4</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>409</td>
<td>23.6</td>
<td>408</td>
<td>23.6</td>
<td>412</td>
<td>23.4</td>
<td>409</td>
<td>23.6</td>
<td>408</td>
<td>23.6</td>
</tr>
<tr>
<td>403.mcf</td>
<td>236</td>
<td>34.1</td>
<td>238</td>
<td>33.9</td>
<td>237</td>
<td>33.9</td>
<td>236</td>
<td>34.1</td>
<td>238</td>
<td>33.9</td>
</tr>
<tr>
<td>429.mcf</td>
<td>150</td>
<td>60.6</td>
<td>151</td>
<td>60.6</td>
<td>147</td>
<td>61.8</td>
<td>150</td>
<td>60.6</td>
<td>151</td>
<td>61.8</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>385</td>
<td>27.2</td>
<td>384</td>
<td>27.3</td>
<td>385</td>
<td>27.3</td>
<td>385</td>
<td>27.2</td>
<td>384</td>
<td>27.3</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>143</td>
<td>65.4</td>
<td>143</td>
<td>65.2</td>
<td>143</td>
<td>65.3</td>
<td>143</td>
<td>65.4</td>
<td>143</td>
<td>65.2</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>371</td>
<td>32.6</td>
<td>371</td>
<td>32.6</td>
<td>371</td>
<td>32.6</td>
<td>371</td>
<td>32.6</td>
<td>371</td>
<td>32.6</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>3.57</td>
<td>5800</td>
<td>3.57</td>
<td>5810</td>
<td>3.56</td>
<td>5820</td>
<td>3.57</td>
<td>5800</td>
<td>3.57</td>
<td>5810</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>470</td>
<td>47.1</td>
<td>469</td>
<td>47.1</td>
<td>468</td>
<td>47.3</td>
<td>470</td>
<td>47.1</td>
<td>469</td>
<td>47.1</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>197</td>
<td>31.8</td>
<td>208</td>
<td>30.0</td>
<td>195</td>
<td>32.0</td>
<td>197</td>
<td>31.8</td>
<td>208</td>
<td>30.0</td>
</tr>
<tr>
<td>473.astar</td>
<td>222</td>
<td>31.6</td>
<td>221</td>
<td>31.7</td>
<td>222</td>
<td>31.6</td>
<td>222</td>
<td>31.6</td>
<td>221</td>
<td>31.7</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>110</td>
<td>62.8</td>
<td>108</td>
<td>63.8</td>
<td>109</td>
<td>63.0</td>
<td>110</td>
<td>62.8</td>
<td>108</td>
<td>63.8</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 /spec/config/sysinfo.rev6914  
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1  
running on localhost.localdomain Fri Jul 31 13:11:00 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 E5-2660 v3 @ 2.60GHz  
2 "physical id"s (chips)  
20 "processors"  
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

Continued on next page
Huawei 5288 V3 (Intel Xeon E5-2660 v3)

SPEC CINT2006 Result

Huawei

SPECint2006 = 59.2
SPECint_base2006 = 59.2

Copyright 2006-2015 Standard Performance Evaluation Corporation

Platform Notes (Continued)

caution.)

- cpu cores : 10
- siblings : 10
- physical 0: cores 0 1 2 3 4 8 9 10 11 12
- physical 1: cores 0 1 2 3 4 8 9 10 11 12
- cache size : 25600 KB

From /proc/meminfo
- MemTotal: 26357912 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: 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 Jul 31 13:10

SPEC is set to: /spec

- Filesystem Type Size Used Avail Use% Mounted on
- /dev/sda1 ext4 385G 9.9G 355G 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 SMIOS" standard.

BIOS Insyde Corp. 1.50 05/26/2015
Memory:
- 8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz
- 8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz

(End of data from sysinfo program)
SPEC CINT2006 Result

Huawei

Huawei 5288 V3 (Intel Xeon E5-2660 v3)

| SPECint2006 | 59.2 |
| SPECint_base2006 | 59.2 |

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

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 = "20"

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
runcspec command invoked through numactl i.e.:
numactl --interleave=all runcspec <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

Huawei 5288 V3 (Intel Xeon E5-2660 v3)

SPECint2006 = 59.2
SPECint_base2006 = 59.2

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

Test date: Jul-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

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/compiler_xe_2015/lib/ia32
445.gobmk: icc -m32 -L/opt/intel/compiler_xe_2015/lib/ia32

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32 -L/opt/intel/compiler_xe_2015/lib/ia32

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_LP64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: basepeak = yes
401.bzip2: basepeak = yes
403.gcc: basepeak = yes
429.mcf: basepeak = yes

Continued on next page
Huawei

Huawei 5288 V3 (Intel Xeon E5-2660 v3)

SPECint2006 = 59.2
SPECint_base2006 = 59.2

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

Test date: Jul-2015
Hardware Availability: Sep-2014
Software Availability: Sep-2014

Peak Optimization Flags (Continued)

- 445.gobmk: basepeak = yes
- 456.hmmer: basepeak = yes
- 458.sjeng: basepeak = yes
- 462.libquantum: basepeak = yes
- 464.h264ref: basepeak = yes

C++ benchmarks:

- 471.omnetpp: basepeak = yes
- 473.astar: basepeak = yes
- 483.xalancbmk: 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-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

SPEC and SPECint are registered trademarks of the Standard Performance
Evaluation Corporation. All other brand and product names appearing in
this result are trademarks or registered trademarks of their respective
holders.

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

Tested with SPEC CPU2006 v1.2.
Originally published on 25 August 2015.