Huawei

Huawei XH628 V3 (Intel Xeon E5-2637 v3)

**SPECint\_rate2006** = 467  
**SPECint\_rate_base2006** = 458

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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>SPECint_rate2006</th>
<th>SPECint_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>16</td>
<td>318</td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>16</td>
<td>229</td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>16</td>
<td>359</td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
<td>16</td>
<td>608</td>
<td></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>16</td>
<td>298</td>
<td></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>16</td>
<td>766</td>
<td></td>
</tr>
<tr>
<td>458.sjeng</td>
<td>16</td>
<td>319</td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>16</td>
<td>4750</td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>16</td>
<td>538</td>
<td></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>16</td>
<td>528</td>
<td></td>
</tr>
<tr>
<td>473.astar</td>
<td>16</td>
<td>264</td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>16</td>
<td>528</td>
<td></td>
</tr>
</tbody>
</table>

**CPU Name:** Intel Xeon E5-2637 v3  
**Operating System:** Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64

**CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz

**Compiler:** CIC++: Version 15.0.0.090 of Intel C++ Studio XE for Linux

**CPU MHz:** 3500

**Auto Parallel:** No

**Memory:** 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)

**Operating System:** Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64

**CPU(s) enabled:** 8 cores, 2 chips, 4 cores/chip, 2 threads/core

**Compiler:** CIC++: Version 15.0.0.090 of Intel C++ Studio XE for Linux

**CPU(s) orderable:** 1,2 chip

**Auto Parallel:** No

**Primary Cache:** 32 KB I + 32 KB D on chip per core

**File System:** ext4

**Secondary Cache:** 256 KB I+D on chip per core

**System State:** Run level 3 (multi-user)

**Other Cache:** None

**Base Pointers:** 32-bit

**Memory:** None

**Peak Pointers:** 32/64-bit

**Disk Subsystem:** 1 x 500 GB SATA, 7200 RPM

**Other Software:** Microquill SmartHeap V10.0

**Other Hardware:** None
Huawei

Huawei XH628 V3 (Intel Xeon E5-2637 v3)

SPEC CINT2006 Result

Copyright 2006-2015 Standard Performance Evaluation Corporation

SPECint_rate2006 = 467
SPECint_rate_base2006 = 458

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

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>16</td>
<td>487</td>
<td>321</td>
<td>491</td>
<td>318</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>16</td>
<td>675</td>
<td>229</td>
<td>674</td>
<td>229</td>
</tr>
<tr>
<td>403.gcc</td>
<td>16</td>
<td>362</td>
<td>356</td>
<td>359</td>
<td>359</td>
</tr>
<tr>
<td>429.mcf</td>
<td>16</td>
<td>241</td>
<td>605</td>
<td>240</td>
<td>608</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>16</td>
<td>568</td>
<td>295</td>
<td>569</td>
<td>295</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>16</td>
<td>222</td>
<td>672</td>
<td>224</td>
<td>665</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>16</td>
<td>605</td>
<td>320</td>
<td>607</td>
<td>319</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>16</td>
<td>69.7</td>
<td>4750</td>
<td>69.8</td>
<td>4750</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>16</td>
<td>670</td>
<td>528</td>
<td>670</td>
<td>528</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>16</td>
<td>414</td>
<td>242</td>
<td>414</td>
<td>241</td>
</tr>
<tr>
<td>473.astar</td>
<td>16</td>
<td>421</td>
<td>267</td>
<td>426</td>
<td>264</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>16</td>
<td>210</td>
<td>526</td>
<td>209</td>
<td>528</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 ES
Sysinfo program /spec15/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Wed Mar 18 05:53:26 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 E5-2637 v3 @ 3.50GHz
2 "physical id"s (chips)
16 "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

Huawei XH628 V3 (Intel Xeon E5-2637 v3)

SPECint_rate2006 = 467
SPECint_rate_base2006 = 458

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

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

Platform Notes (Continued)

cpu cores : 4
siblings : 8
physical 0: cores 0 1 4 5
physical 1: cores 0 1 4 5
cache size : 15360 KB

From /proc/meminfo
MemTotal: 263579372 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 Mar 18 05:46

SPEC is set to: /spec15

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. 1.20 10/25/2014
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)
Huawei

Huawei XH628 V3 (Intel Xeon E5-2637 v3) SPECint_rate2006 = 467
SPECint_rate_base2006 = 458

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/spec15/libs/32:/spec15/libs/64:/spec15/sh"

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
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 XH622 V3 and Huawei XH628 V3 are electronically equivalent.
The results have been measured on a Huawei XH628 V3 model.

Base Compiler Invocation

C benchmarks:
  icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks:
  icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -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 -Wl,-z,muldefs -L/sh -lsmartheap

Base Other Flags

Continued on next page
Huawei

Huawei XH628 V3 (Intel Xeon E5-2637 v3)

SPECint\_rate2006 = 467
SPECint\_rate\_base2006 = 458

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

Base Other Flags (Continued)

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32
456.hmmer: -DSPEC\_CPU\_LP64
458.sjeng: -DSPEC\_CPU\_LP64
462.libquantum: -DSPEC\_CPU\_LINUX
483.xalancbmk: -DSPEC\_CPU\_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: basepeak = yes
401.bzip2: basepeak = yes
403.gcc: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
          -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) -prof-gen(pass 1) -ipo(pass 2)
          -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
          -unroll14 -auto-ilp32

Continued on next page
Huawei

Huawei XH628 V3 (Intel Xeon E5-2637 v3)

**SPEC CINT2006 Result**

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

**SPECint_rate2006 = 467**

**SPECint_rate_base2006 = 458**

---

**Peak Optimization Flags (Continued)**

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:

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

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/Intel-ic15.0-official-linux64.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/Intel-ic15.0-official-linux64.xml)
- [http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.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 21 April 2015.

---

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/