Huawei XH628 V3 (Intel Xeon E5-2623 v3)  

| SPECint_rate2006 | 429 |
| SPECint_rate_base2006 | 411 |

CPU2006 license: 3175  
Test date: Mar-2015  
Hardware Availability: Sep-2014

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name:</td>
<td>Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo)</td>
</tr>
<tr>
<td>CPU Characteristics: Intel Xeon E5-2623 v3</td>
<td></td>
</tr>
<tr>
<td>CPU MHz: 3000</td>
<td></td>
</tr>
<tr>
<td>FPU: Integrated</td>
<td></td>
</tr>
<tr>
<td>CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core</td>
<td></td>
</tr>
<tr>
<td>CPU(s) orderable: 1.2 chip</td>
<td></td>
</tr>
<tr>
<td>Primary Cache: 32 KB I + 32 KB D on chip per core</td>
<td></td>
</tr>
<tr>
<td>Secondary Cache: 256 KB I+D on chip per core</td>
<td></td>
</tr>
<tr>
<td>L3 Cache: 10 MB I+D on chip per chip</td>
<td></td>
</tr>
<tr>
<td>Other Cache: None</td>
<td></td>
</tr>
<tr>
<td>Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)</td>
<td></td>
</tr>
<tr>
<td>Disk Subsystem: 1 x 500 GB SATA, 7200 RPM</td>
<td></td>
</tr>
<tr>
<td>Other Hardware: None</td>
<td></td>
</tr>
</tbody>
</table>

Software

| Compiler: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux |
| Auto Parallel: No |
| File System: ext4 |
| System State: Run level 3 (multi-user) |
| Base Pointers: 32-bit |
| Peak Pointers: 32/64-bit |
| Other Software: Microquill SmartHeap V10.0 |  |
Huawei

Huawei XH628 V3 (Intel Xeon E5-2623 v3)

**SPEC CINT2006 Result**

SPECint_rate2006 = 429

SPECint_rate_base2006 = 411

---

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds Base</th>
<th>Ratio Base</th>
<th>Seconds Peak</th>
<th>Ratio Peak</th>
<th>Seconds Base</th>
<th>Ratio Base</th>
<th>Seconds Peak</th>
<th>Ratio Peak</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>16</td>
<td>533</td>
<td>293</td>
<td>532</td>
<td>294</td>
<td>535</td>
<td>292</td>
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<tr>
<td>401.bzip2</td>
<td>16</td>
<td>794</td>
<td>194</td>
<td>795</td>
<td>194</td>
<td>797</td>
<td>194</td>
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<td>403.mcf</td>
<td>16</td>
<td>416</td>
<td>310</td>
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<td>310</td>
<td>411</td>
<td>313</td>
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<td>313</td>
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<tr>
<td>429.gcc</td>
<td>16</td>
<td>267</td>
<td>546</td>
<td>267</td>
<td>546</td>
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<td>546</td>
<td>267</td>
<td>546</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>16</td>
<td>610</td>
<td>275</td>
<td>610</td>
<td>275</td>
<td>611</td>
<td>275</td>
<td>611</td>
<td>275</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>16</td>
<td>242</td>
<td>616</td>
<td>246</td>
<td>606</td>
<td>248</td>
<td>603</td>
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<td>603</td>
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<td>458.sjeng</td>
<td>16</td>
<td>658</td>
<td>294</td>
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<tr>
<td>462.libquantum</td>
<td>16</td>
<td>76.7</td>
<td>4320</td>
<td>76.7</td>
<td>4320</td>
<td>76.7</td>
<td>4320</td>
<td>76.7</td>
<td>4320</td>
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<td>464.h264ref</td>
<td>16</td>
<td>727</td>
<td>487</td>
<td>728</td>
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<td>730</td>
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<tr>
<td>471.omnetpp</td>
<td>16</td>
<td>467</td>
<td>214</td>
<td>466</td>
<td>215</td>
<td>469</td>
<td>213</td>
<td>469</td>
<td>213</td>
</tr>
<tr>
<td>473.astar</td>
<td>16</td>
<td>474</td>
<td>237</td>
<td>469</td>
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<td>472</td>
<td>238</td>
<td>472</td>
<td>238</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>16</td>
<td>242</td>
<td>456</td>
<td>242</td>
<td>456</td>
<td>241</td>
<td>457</td>
<td>241</td>
<td>457</td>
</tr>
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</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 Custom
Set Snoop Mode to ES mode
Sysinfo program /spec15/config/sysinfo.rev6914

$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab8e28219e1
running on localhost.localdomain Fri Mar 27 05:41:16 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)
- 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 E5-2623 v3)

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

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

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SPECint_rate_base2006 = 411

Platform Notes (Continued)

caution.)
cpu cores : 4
siblings : 8
physical 0: cores 0 1 2 3
physical 1: cores 0 1 2 3
cache size : 10240 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 27 05:35

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, 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

Huawei XH628 V3 (Intel Xeon E5-2623 v3)

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<td>Huawei</td>
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**General Notes**

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.:
umactl --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**

C benchmarks:

Continued on next page
Huawei
Huawei XH628 V3 (Intel Xeon E5-2623 v3)

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Peak Compiler Invocation

C benchmarks (except as noted below):
   icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

   400.perlbench: icc -m64
   401.bzip2: icc -m64
   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_LP64 -DSPEC_CPU_LINUX_X64
   401.bzip2: -DSPEC_CPU_LP64
   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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                  -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                  -auto-ilp32

   401.bzip2: -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 -auto-ilp32 -ansi-alias

   403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div

   429.mcf: basepeak = yes

Base Other Flags (Continued)

   403.gcc: -Dalloca=_alloca

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**Software Availability:** Sep-2014

### Peak Optimization Flags (Continued)

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 -unroll2 -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)
-unroll4 -auto-ilp32`

462.libquantum: `basepeak = yes`

464.h264ref: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(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)
-O3(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/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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For questions about this result, please contact the tester. For other inquiries, please contact webmaster@spec.org.

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