### Huawei

**Huawei CH225 V3 (Intel Xeon E5-2670 v3)**

<table>
<thead>
<tr>
<th>SPECint®_rate2006</th>
<th>Not Run</th>
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<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>977</td>
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**CPU2006 license:** 3175  
**Test date:** Feb-2016

**Test sponsor:** Huawei  
**Hardware Availability:** Dec-2015

**Tested by:** Huawei  
**Software Availability:** Sep-2014

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```
| Copy | 0   | 300 | 600 | 900 | 1200 | 1500 | 1800 | 2100 | 2400 | 2700 | 3000 | 3300 | 3600 | 3900 | 4200 | 4500 | 4800 | 5100 | 5400 | 5700 | 6000 | 6300 | 6600 | 6900 | 7200 | 7500 | 7800 | 8100 | 8400 | 8700 | 9000 | 9300 | 9600 |
|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 400.perlbench | 48  | 697 |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 401.bzip2     | 48  | 484 |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 403.gcc       | 48  | 756 |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 429.mcf       | 48  | 1380|     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 445.gobmk     | 48  | 647 |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 456.hmmer     | 48  | 1330|     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 458.sjeng     | 48  | 674 |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 462.libquantum| 48  | 9550|     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 464.h264ref   | 48  | 1130|     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 471.omnetpp   | 48  | 546 |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 473.astar     | 48  | 551 |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 483.xalancbmk | 48  | 1150|     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
```

### Hardware

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2670 v3</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.10 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>2300</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>24 cores, 2 chips, 12 cores/chip, 2 threads/core</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>30 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)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 500 GB SATA, 7200 RPM</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Red Hat Enterprise Linux Server release 7.0 (Maipo)</td>
</tr>
<tr>
<td>Compiler</td>
<td>C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel</td>
<td>No</td>
</tr>
<tr>
<td>File System</td>
<td>xfs</td>
</tr>
<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers</td>
<td>32-bit</td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other Software</td>
<td>Microquill SmartHeap V10.2</td>
</tr>
</tbody>
</table>
Huawei CH225 V3 (Intel Xeon E5-2670 v3)

SPEC CINT2006 Result

**Huawei**

**SPECint_rate2006 = Not Run**

**SPECint_rate_base2006 = 977**

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

**Test date:** Feb-2016
**Hardware Availability:** Dec-2015
**Software Availability:** Sep-2014

---

**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</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>
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</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>48</td>
<td>673</td>
<td>697</td>
<td>670</td>
<td>700</td>
<td>673</td>
<td>697</td>
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<td></td>
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<tr>
<td>401.bzip2</td>
<td>48</td>
<td>511</td>
<td>756</td>
<td>515</td>
<td>750</td>
<td>509</td>
<td>758</td>
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<td>403.gcc</td>
<td>48</td>
<td>317</td>
<td>1380</td>
<td>318</td>
<td>1380</td>
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</tr>
<tr>
<td>429.mcf</td>
<td>48</td>
<td>778</td>
<td>647</td>
<td>779</td>
<td>646</td>
<td>779</td>
<td>647</td>
<td></td>
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<tr>
<td>445.gobmk</td>
<td>48</td>
<td>337</td>
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<td>334</td>
<td>1340</td>
<td>336</td>
<td>1330</td>
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<tr>
<td>456.hmmer</td>
<td>48</td>
<td>861</td>
<td>674</td>
<td>861</td>
<td>674</td>
<td>862</td>
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</tr>
<tr>
<td>458.sjeng</td>
<td>48</td>
<td>104</td>
<td>9550</td>
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<td>9550</td>
<td>104</td>
<td>9560</td>
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<tr>
<td>462.libquantum</td>
<td>48</td>
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<td>1130</td>
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<td>1120</td>
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<tr>
<td>464.h264ref</td>
<td>48</td>
<td>549</td>
<td>547</td>
<td>549</td>
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<td>550</td>
<td>546</td>
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<td>471.omnetpp</td>
<td>48</td>
<td>549</td>
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<tr>
<td>473.astar</td>
<td>48</td>
<td>613</td>
<td>550</td>
<td>610</td>
<td>552</td>
<td>611</td>
<td>551</td>
<td></td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>48</td>
<td>288</td>
<td>1150</td>
<td>288</td>
<td>1150</td>
<td>288</td>
<td>1150</td>
<td></td>
<td></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.

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**Operating System Notes**

Stack size set to unlimited using "ulimit -s unlimited"

---

**Platform Notes**

Set Power Efficiency Mode to Performance
Set Snoop Mode to COD
Set Hyper-Threading to enabled
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 ## e3fbb8667b5a285932ceab81e28219e1 running on localhost.localdomain Tue Feb 2 01:09:35 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 E5-2670 v3 @ 2.30GHz
   2 "physical id"s (chips)
   48 "processors"
   cores, siblings (Caution: counting these is hw and system dependent. The Continued on next page
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Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
  cpu cores : 6
  siblings : 12
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
  cache size : 15360 KB

From /proc/meminfo
  MemTotal: 263575152 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
o-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 Feb 2 01:08

SPEC is set to: /spec16
  Filesystem Type Size Used Avail Use% Mounted on
  /dev/sda2 xfs 449G 13G 437G 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 Insyte Corp. 1.69 10/31/2015
Memory:
  8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz
  8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz
  8x NO DIMM NO DIMM 3 rank

(End of data from sysinfo program)
Huawei CH225 V3 (Intel Xeon E5-2670 v3)

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---

**General Notes**

Environment variables set by runspec before the start of the run:

```
LD_LIBRARY_PATH = "/spec16/libs/32:/spec16/libs/64:/spec16/sh"
```

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
```

Filesystem page cache cleared with:
```
  echo 1>       /proc/sys/vm/drop_caches
```

runcpec command invoked through numactl i.e.:
```
numactl --interleave=all runspec <etc>
```

---

**Base Compiler Invocation**

C benchmarks:
```
  icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

C++ benchmarks:
```
  icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

---

**Base Portability Flags**

- 400.perlbench: `-D_FILE_OFFSET_BITS=64` `-DSPEC_CPU_LINUX_IA32`
- 401.bzip2: `-D_FILE_OFFSET_BITS=64`
- 403.gcc: `-D_FILE_OFFSET_BITS=64`
- 429.mcf: `-D_FILE_OFFSET_BITS=64`
- 445.gobmk: `-D_FILE_OFFSET_BITS=64`
- 456.hmmer: `-D_FILE_OFFSET_BITS=64`
- 458.sjeng: `-D_FILE_OFFSET_BITS=64`
- 462.libquantum: `-D_FILE_OFFSET_BITS=64` `-DSPEC_CPU_LINUX`
- 464.h264ref: `-D_FILE_OFFSET_BITS=64`
- 471.omnetpp: `-D_FILE_OFFSET_BITS=64`
- 473.astar: `-D_FILE_OFFSET_BITS=64`
- 483.xalancbmk: `-D_FILE_OFFSET_BITS=64` `-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
```
<table>
<thead>
<tr>
<th>SPEC CINT2006 Result</th>
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Huawei CH225 V3 (Intel Xeon E5-2670 v3)

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| SPECint_rate_base2006 = 977 |

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

**Base Other Flags**

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at:


You can also download the XML flags sources by saving the following links:

- [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)

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For questions about this result, please contact the tester.

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

Tested with SPEC CPU2006 v1.2.
