### SPEC® CINT2006 Result

**Huawei**  
**Huawei XH622 V3 (Intel Xeon E5-2630 v4)**

<table>
<thead>
<tr>
<th>SPECint®2006</th>
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<tbody>
<tr>
<td>SPECint_base2006</td>
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**CPU2006 license:** 3175  
**Test sponsor:** Huawei  
**Tested by:** Huawei  
**Test date:** Feb-2016  
**Hardware Availability:** Mar-2016  
**Software Availability:** Mar-2016

**SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not available as required by SPEC CPU rule 1.3.2 and the SPEC Open Systems Group policy on general availability.**

### Hardware

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2630 v4</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>2200</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>20 cores, 2 chips, 10 cores/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>25 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 PC4-2400T-R, running at 2133 MHz)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 500 GB SATA,7200 RPM</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
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<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++: Version 16.0.0.101 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>Auto Parallel</td>
<td>Yes</td>
</tr>
<tr>
<td>File System</td>
<td>xfs</td>
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<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>
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<tr>
<td>Other Software</td>
<td>Microquill SmartHeap V10.2</td>
</tr>
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</table>

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**continued on next page**
Huawei

Huawei XH622 V3(Intel Xeon E5-2630 v4)

**SPECint2006** = NC
**SPECint_base2006** = NC

CPU2006 license: 3175
Test date: Feb-2016
Test sponsor: Huawei
Hardware Availability: Mar-2016
Tested by: Huawei
Software Availability: Mar-2016

**Other Hardware:** None

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**Results Table**

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<tr>
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<td>400.perlbench</td>
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<td>462.libquantum</td>
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</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 /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Wed Feb 17 00:28:31 2016

---

Non-Compliant

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Continued on next page
SPEC CINT2006 Result

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Huawei XH622 V3(Intel Xeon E5-2630 v4)

SPECint2006 = NC
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CPU2006 license: 3175
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Platform Notes (Continued)

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 E5-2630 v4 @ 2.20GHz
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.)
cpu cores : 10
siblings : 10
physical 0: cores 0 2 3 4 8 9 10 11 12
physical 1: cores 0 2 3 4 8 9 10 11 12
cache size : 25600 KB

From /proc/meminfo
MemTotal: 263570712 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
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:/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 16 08:54

SPEC is set to: /spec16

Filesystem Type Size Used Avail Use% Mounted on
Continued on next page
SPEC CINT2006 Result

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Huawei XH622 V3(Intel Xeon E5-2630 v4)

SPECint2006 = NC
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CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Platform Notes (Continued)
/dev/sda3      xfs   443G   12G  431G   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 Insyde Corp. 7.11 02/14/2016
Memory:
8x Samsung M393A2G40EB1-CRC 16 GB 1 rank 2400 MHz, configured at 2133 MHz
8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 2133 MHz

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/spec16/libs/32:/spec16/libs/64:/spec16/sh"
OMP_NUM_THREADS = "10"

Binaries compiled to 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
runspec command invoked through numactl i.e.:
   numactl --interleave=all runspec <etc>
The Huawei XH622 V3 and Huawei XH628 V3 and Huawei XH620 V3
are electronically equivalent.

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## 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 -m64 -prec-div -parallel -opt-prefetch -auto-p32`

### C++ benchmarks:
- `-xCORE-AVX2 -ipo -O3 -m64 -prec-div -opt-prefetch -auto-p32`
- `-Wl,-z,muldefs -L/sh -Lsmartheap64`

## Base Other Flags

### C benchmarks:
- `-Dalloca=_alloca`

## Peak Compiler Invocation

### C benchmarks (except as noted below):

```
icc -m64
```

- **400.perlbench:** `icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

### C++ benchmarks (except as noted below):

```
icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
```

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

Huawei XH622 V3 (Intel Xeon E5-2630 v4)

---

**SPEC CINT2006 Result**

<table>
<thead>
<tr>
<th>Component</th>
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<tr>
<td>CPU2006 license</td>
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**SPECint2006 = NC**

**SPECint_base2006 = NC**

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**Huawei XH622 V3 (Intel Xeon E5-2630 v4)**

**CPU2006 license:** 3175

**Test date:** Feb-2016

**Test sponsor:** Huawei

**Tested by:** Huawei

**Hardware Availability:** Mar-2016

**Software Availability:** Mar-2016

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**Peak Compiler Invocation (Continued)**

473.astar: icpc -m64

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**Peak Portability Flags**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlb</td>
<td>(-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64)</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>(-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64)</td>
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<td>483.xalancbmk</td>
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**Peak Optimization Flags**

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<tr>
<td>400.perlb</td>
<td>(-xCORE_AVX2) (pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2) -03(pass 2) -no-prec-div(pass 2) -par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch-alias</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>(-xCORE_AVX2) (pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2) -03(pass 2) -no-prec-div -par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32 -opt-prefetch-ansi-alias</td>
</tr>
<tr>
<td>429.mcf</td>
<td>(-xCORE_AVX2) -ipo -03 -no-prec-div -inline-calloc -opt-malloc-options=3 -auto-ilp32</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>basepeak = yes</td>
</tr>
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SPEC CINT2006 Result

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Huawei XH622 V3(Intel Xeon E5-2630 v4)

**SPECint2006 = NC**

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CPU2006 license: 3175
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Peak Optimization Flags (Continued)

456.hmmer: basepeak = yes
458.sjeng: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4
462.libquantum: basepeak = yes
464.h264ref: basepeak = yes

C++ benchmarks:
471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -par-num-threads=1(pass 1) -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-ic16.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.xml
Huawei

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