## SPEC® CINT2006 Result

**Huawei**

**Huawei RH8100 V3 (Intel Xeon E7-8855 v4)**

<table>
<thead>
<tr>
<th>SPECint®_rate2006 = Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006 = 4000</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 3175  
**Test date:** Aug-2016  
**Test sponsor:** Huawei  
**Tested by:** Huawei  
**Hardware Availability:** Jun-2016  
**Software Availability:** Oct-2015

<table>
<thead>
<tr>
<th>Specint Benchmark</th>
<th>Copies</th>
<th>Rate</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>224</td>
<td>3010</td>
<td>41900</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>224</td>
<td>1910</td>
<td></td>
</tr>
<tr>
<td>403.gcc</td>
<td>224</td>
<td>2830</td>
<td></td>
</tr>
<tr>
<td>429.mcf</td>
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</tr>
<tr>
<td>473.astar</td>
<td>224</td>
<td>4750</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name:</td>
<td>Operating System:</td>
</tr>
<tr>
<td>CPU Characteristics:</td>
<td>Red Hat Enterprise Linux Server release 7.2 (Maipo)</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>Compiler:</td>
</tr>
<tr>
<td>FPU:</td>
<td>C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>Auto Parallel:</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>No</td>
</tr>
<tr>
<td>Primary Cache:</td>
<td>File System:</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>xfs</td>
</tr>
<tr>
<td>L3 Cache:</td>
<td>System State:</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Memory:</td>
<td>Base Pointers:</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>32-bit</td>
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<tr>
<td>Other Hardware:</td>
<td>Peak Pointers:</td>
</tr>
<tr>
<td></td>
<td>32/64-bit</td>
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<tr>
<td></td>
<td>Other Software:</td>
</tr>
<tr>
<td></td>
<td>Microquill SmartHeap V10.2</td>
</tr>
</tbody>
</table>
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SPECint_rate_base2006 = 4000

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Results Table

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<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds Base</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds Peak</th>
<th>Ratio</th>
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<td>404</td>
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<td>683</td>
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<td>483.xalancbmk</td>
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<td>4750</td>
<td>325</td>
<td>4760</td>
<td>326</td>
<td>4740</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"
Turbo mode set with:

cputpower -c all frequency-set -g performance

Platform Notes
BIOS configuration:
Set Power Efficiency Mode to Performance
Set Lock_step to disabled
Baseboard Management Controller used to adjust the fan speed to 100%
Set C-State to C0/C1
Sysinfo program /home/spec/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8667b5a285932ceab81e28219e1

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 E7-8855 v4 @ 2.10GHz
Continued on next page
Huawei
Huawei RH8100 V3 (Intel Xeon E7-8855 v4)

SPEC_CINT2006 Result

CPU2006 license: 3175
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Platform Notes (Continued)

8 "physical id"s (chips)
224 "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 : 14
siblings : 28
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 4: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 5: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 6: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 7: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14

cache size : 35840 KB

From /proc/meminfo
MemTotal: 1056501876 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release*/etc/*version*
NAME="Red Hat Enterprise Linux Server"
VERSION="7.2 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.2"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.2 (Maipo)"
ANSI_COLOR=0;31
CPE_NAME=cpe:/o:redhat:enterprise_linux:7.2:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)

uname -a:
Linux RH8100v3 3.10.0-327.e17.x86_64 #1 SMP Thu Oct 29 17:29:29 EDT 2015
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 10 10:19

SPEC is set to: /home/spec
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 978G 8.0G 970G 1% /home

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.

Continued on next page
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Platform Notes (Continued)

BIOS American Megatrends Inc. 5.11 02/05/2016
Memory:
64x Hynix HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz, configured at 1333 MHz
128x NO DIMM NO DIMM

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of memory is 1024 GB and the dmidecode description should have two lines reading as:
64x Hynix HMA42GR7MFR4N-TF 16 GB 2 rank 2133 MHz, configured at 1333 MHz
128x NO DIMM NO DIMM

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/spec/libs/32:/home/spec/libs/64:/home/spec/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
runspec command invoked through numactl i.e.:
nmactl --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

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### Base Portability Flags (Continued)

```
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

### Base 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

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-V1.2-BDW-RevG.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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