# SPEC® CINT2006 Result

## Huawei

### Kunlun 9016 (Intel Xeon E7-4830 v3)

<table>
<thead>
<tr>
<th>Test date:</th>
<th>Apr-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability:</td>
<td>Jan-2016</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Dec-2015</td>
</tr>
</tbody>
</table>

### SPECint® rate2006 = Not Run

### SPECint_rate_base2006 = 6670

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System:</td>
<td>SUSE Linux Enterprise Server 12 (x86_64) SP1 Kernel 3.12.49-11-default</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 5 (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>

### CPU2006 license: 3175

### Test sponsor: Huawei

### Tested by: Huawei

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon E7-4830 v3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 2.70 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>2100</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled:</td>
<td>192 cores, 16 chips, 12 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>4.8,16 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>2 TB (128 x 16 GB 2Rx4 PC4-2133P-R, running at 1333 MHz)</td>
</tr>
<tr>
<td>Disk Subsystem:</td>
<td>2 x 600 GB SAS, 10K RPM</td>
</tr>
<tr>
<td>Other Hardware:</td>
<td>None</td>
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</tbody>
</table>

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### Hardware

<table>
<thead>
<tr>
<th>Copies</th>
<th>SPECint_rate_base2006 = 6670</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>384</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>384</td>
</tr>
<tr>
<td>403.gcc</td>
<td>384</td>
</tr>
<tr>
<td>429.mcf</td>
<td>384</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>384</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>384</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>384</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>384</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>384</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>384</td>
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<tr>
<td>473.astar</td>
<td>384</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>384</td>
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Huawei
Kunlun 9016 (Intel Xeon E7-4830 v3)

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SPECint_rate_base2006 = 6670

CPU2006 license: 3175
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
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</tr>
<tr>
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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 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:
cpupower -c all frequency-set -g performance

Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Performance
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /home/spec/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on linux-v9m3 Mon Apr 10 19:59:10 2017

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 E7-4830 v3 @ 2.10GHz
   16 "physical id"'s (chips)
   384 "processors"
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Platform Notes (Continued)

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 : 12
siblings : 24
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
physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 4: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 5: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 6: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 7: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 8: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 9: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 10: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 11: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 12: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 13: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 14: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 15: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 30720 KB

From /proc/meminfo
MemTotal: 2117340848 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP1

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 1
# This file is deprecated and will be removed in a future service pack or release.
# Please check /etc/os-release for details about this release.
os-release:
NAME="SLES"
VERSION="12-SP1"
VERSION_ID="12.1"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp1"
sigl-accelerate-release: SGI Accelerate 1.12, Build
714r18.sles12sp1-1604041900

uname -a:
Linux linux-v9m3 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015

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SPEC CINT2006 Result

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Platform Notes (Continued)

(8d714a0) x86_64 x86_64 x86_64 GNU/Linux

run-level 5 Apr 10 19:43

SPEC is set to: /home/spec

Filesystem     Type Size  Used Avail Use% Mounted on
/dev/sda4      xfs   1.1T  350G  724G  33% /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.

BIOS American Megatrends Inc. 5.11 02/21/2017
Memory:
128x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1333 MHz
256x NO DIMM NO DIMM

(End of data from sysinfo program)

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.:
umactl --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

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Base Portability Flags (Continued)

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

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.20170404.xml
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For other inquiries, please contact webmaster@spec.org.

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