## SPEC® CINT2006 Result

### Huawei

Kunlun 9008 (Intel Xeon E7-8890 v4)

<table>
<thead>
<tr>
<th>SPECint Rate Base2006 = 6910</th>
</tr>
</thead>
</table>

**CPU2006 license:** 3175  
**Test date:** Jun-2017  
**Test sponsor:** Huawei  
**Hardware Availability:** Jan-2016  
**Tested by:** Huawei  
**Software Availability:** Sep-2016

### Copied SPECint = 37700

<table>
<thead>
<tr>
<th>SPECint Rate Base2006 = 6910</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SPECint Rate Base2006 = 6910</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon E7-8890 v4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 3.40 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>192 cores, 8 chips, 24 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable:</td>
<td>4.8 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>60 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>1 TB (64 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 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>
</tr>
</tbody>
</table>

### Software

**Operating System:** SUSE Linux Enterprise Server 12 (x86_64) SP1 3.12.49-11-default  
**Compiler:** C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux  
**Auto Parallel:** No  
**File System:** xfs  
**System State:** Run level 5 (multi-user)  
**Base Pointers:** 32-bit  
**Peak Pointers:** 32/64-bit  
**Other Software:** Microquill SmartHeap V10.2
Huawei
Kunlun 9008 (Intel Xeon E7-8890 v4)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 6910

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

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>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>384</td>
<td>662</td>
<td>5670</td>
<td>662</td>
<td>5660</td>
<td><strong>662</strong></td>
<td><strong>5660</strong></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>384</td>
<td>1090</td>
<td>3400</td>
<td><strong>1086</strong></td>
<td><strong>3410</strong></td>
<td>1079</td>
<td>3430</td>
</tr>
<tr>
<td>403.gcc</td>
<td>384</td>
<td><strong>668</strong></td>
<td><strong>4620</strong></td>
<td>670</td>
<td>4610</td>
<td>668</td>
<td>4630</td>
</tr>
<tr>
<td>429.mcf</td>
<td>384</td>
<td>429</td>
<td>8160</td>
<td>426</td>
<td>8220</td>
<td><strong>427</strong></td>
<td><strong>8190</strong></td>
</tr>
<tr>
<td>445.gobmk</td>
<td>384</td>
<td>787</td>
<td>5120</td>
<td>791</td>
<td>5090</td>
<td><strong>788</strong></td>
<td><strong>5110</strong></td>
</tr>
<tr>
<td>456.hmmer</td>
<td>384</td>
<td>357</td>
<td>10000</td>
<td><strong>355</strong></td>
<td><strong>10100</strong></td>
<td>353</td>
<td>10100</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>384</td>
<td>850</td>
<td>5460</td>
<td><strong>851</strong></td>
<td><strong>5460</strong></td>
<td>851</td>
<td>5460</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>384</td>
<td><strong>104</strong></td>
<td><strong>76400</strong></td>
<td>104</td>
<td>76300</td>
<td>104</td>
<td>76400</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>384</td>
<td>867</td>
<td>9800</td>
<td>870</td>
<td>9770</td>
<td><strong>868</strong></td>
<td><strong>9790</strong></td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>384</td>
<td>833</td>
<td>2880</td>
<td>835</td>
<td>2870</td>
<td><strong>834</strong></td>
<td><strong>2880</strong></td>
</tr>
<tr>
<td>473.astar</td>
<td>384</td>
<td>705</td>
<td>3820</td>
<td>704</td>
<td>3830</td>
<td><strong>704</strong></td>
<td><strong>3830</strong></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>384</td>
<td>382</td>
<td>6940</td>
<td><strong>381</strong></td>
<td><strong>6950</strong></td>
<td>377</td>
<td>7020</td>
</tr>
</tbody>
</table>

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:
cputower -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.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-v9m3 Tue Jun 20 13:46:22 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 E7-8890 v4 @ 2.20GHz
@ "physical id"s (chips)
384 "processors"

Continued on next page
## Huawei

### Kunlun 9008 (Intel Xeon E7-8890 v4)

**SPECint_rate2006** = **Not Run**

**SPECint_rate_base2006** = **6910**

### 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**: 24
- **siblings**: 48
- physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
- physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
- physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
- physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
- physical 4: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
- physical 5: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
- physical 6: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29
- physical 7: cores 0 1 2 3 4 5 8 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29

**cache size**: 61440 KB

From /proc/meminfo
- MemTotal: 1058276180 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"
sgi-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

Continued on next page
Huawei Kunlun 9008 (Intel Xeon E7-8890 v4) SPEC CINT2006 Result

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 6910

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

Platform Notes (Continued)
(8d714a0) x86_64 x86_64 x86_64 GNU/Linux
run-level 5 Jun 20 12:01
SPEC is set to: /home/spec
Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda4      xfs   1.1T  779G  295G  73% /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. BLXSV207 04/17/2017
Memory:
  64x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1600 MHz
  128x 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/sh10.2"
Binaries compiled on a system with 1x Intel Core i7-4790K CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2
Transparent Huge Pages enabled by default
Filesystem page cache cleared with:
  echo 1>/proc/sys/vm/drop_caches
runcspec command invoked through numactl i.e.:
  numactl --interleave=all runspec <etc>

Base Compiler Invocation
C benchmarks:
  icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
C++ benchmarks:
  icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Base Portability Flags
400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64

Continued on next page
Huawei
Kunlun 9008 (Intel Xeon E7-8890 v4)

SPECint_rate2006 = Not Run
SPECint_rate_base2006 = 6910

CPU2006 license: 3175
Test date: Jun-2017
Test sponsor: Huawei
Hardware Availability: Jan-2016
Tested by: Huawei
Software Availability: Sep-2016

Base Portability Flags (Continued)

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 -qopt-prefetch
-qopt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -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-ic17.0-official-linux64.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.2-BDW-RevG.20170404.xml
<table>
<thead>
<tr>
<th>Huawei</th>
<th>SPECint_rate2006 = Not Run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kunlun 9008 (Intel Xeon E7-8890 v4)</td>
<td>SPECint_rate_base2006 = 6910</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU2006 license:</td>
<td>3175</td>
</tr>
<tr>
<td>Test sponsor:</td>
<td>Huawei</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Huawei</td>
</tr>
<tr>
<td>Test date:</td>
<td>Jun-2017</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>Jan-2016</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Sep-2016</td>
</tr>
</tbody>
</table>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Originally published on 9 October 2017.