# SPEC® CINT2006 Result

## Huawei

**Kunlun 9008 (Intel Xeon E7-4830 v4)**

<table>
<thead>
<tr>
<th>SPECint®_rate2006 = Not Run</th>
<th>SPECint_rate_base2006 = 3790</th>
</tr>
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**CPU2006 license:** 3175  
**Test date:** Jun-2017  
**Test sponsor:** Huawei  
**Hardware Availability:** Jan-2016  
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### Hardware

| CPU Name: | Intel Xeon E7-4830 v4  
|-----------|------------------------|
| CPU MHZ: | 2000  
| FPU: | Integrated  
| CPU(s) enabled: | 112 cores, 8 chips, 14 cores/chip, 2 threads/core  
| CPU(s) orderable: | 4.8 chip  
| Primary Cache: | 32 KB I + 32 KB D on chip per core  
| Secondary Cache: | 256 KB I+D on chip per core  
| L3 Cache: | 35 MB I+D on chip per chip  
| Other Cache: | None  
| Memory: | 1 TB (64 x 16 GB 2Rx4 PC4-2133P-R, running at 1333 MHz)  
| Disk Subsystem: | 2 x 600 GB SAS, 10K RPM  
| Other Hardware: | None  

### 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: | ext4  
| System State: | Run level 5 (multi-user)  
| Base Pointers: | 32-bit  
| Peak Pointers: | 32/64-bit  
| Other Software: | Microquill SmartHeap V10.2  

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Standard Performance Evaluation Corporation  
info@spec.org  
http://www.spec.org/
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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>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>224</td>
<td>767</td>
<td>2850</td>
<td>2860</td>
<td>765</td>
<td>2860</td>
<td>765</td>
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<tr>
<td>401.bzip2</td>
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<td>1208</td>
<td>1790</td>
<td>1790</td>
<td>1209</td>
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<td>403.gcc</td>
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<td>2690</td>
<td>665</td>
<td>2710</td>
<td>668</td>
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<td>429.mcf</td>
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<td>462.libquantum</td>
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<td>464.h264ref</td>
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<td>473.astar</td>
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<td>483.xalancbmk</td>
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<td>344</td>
<td>4490</td>
<td>343</td>
<td>4500</td>
</tr>
</tbody>
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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

Sysinfo program /spec/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-ew80 Mon Jun 19 08:01:56 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 v4 @ 2.00GHz
  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.)

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Platform Notes (Continued)

- 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: 2117107060 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"

uname -a:
(8d714a0) x86_64 x86_64 x86_64 GNU/Linux

run-level 5 Jun 19 07:40

SPEC is set to: /spec
Filesysterm Type Size Used Avail Use% Mounted on
/dev/sda3 ext4 1.1T 95G 961G 9% /

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.

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### Platform Notes (Continued)

- BIOS American Megatrends Inc. BLXSV207 04/17/2017
- Memory:
  - 128x NO DIMM NO DIMM
  - 64x Samsung M393A4K40BB0-CPB 32 GB 2 rank 2133 MHz, configured at 1333 MHz
- (End of data from sysinfo program)

### General Notes

- Environment variables set by runspec before the start of the run:
  - `LD_LIBRARY_PATH = "\spec\libs\32:\spec\libs\64:\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`
  - `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`
- 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`
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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

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

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

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