



# SPEC® CINT2006 Result

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## Huawei

SPECint®\_rate2006 = Not Run

## Kunlun 9016(Intel Xeon E7-8867 v4)

SPECint\_rate\_base2006 = 10100

CPU2006 license: 3175

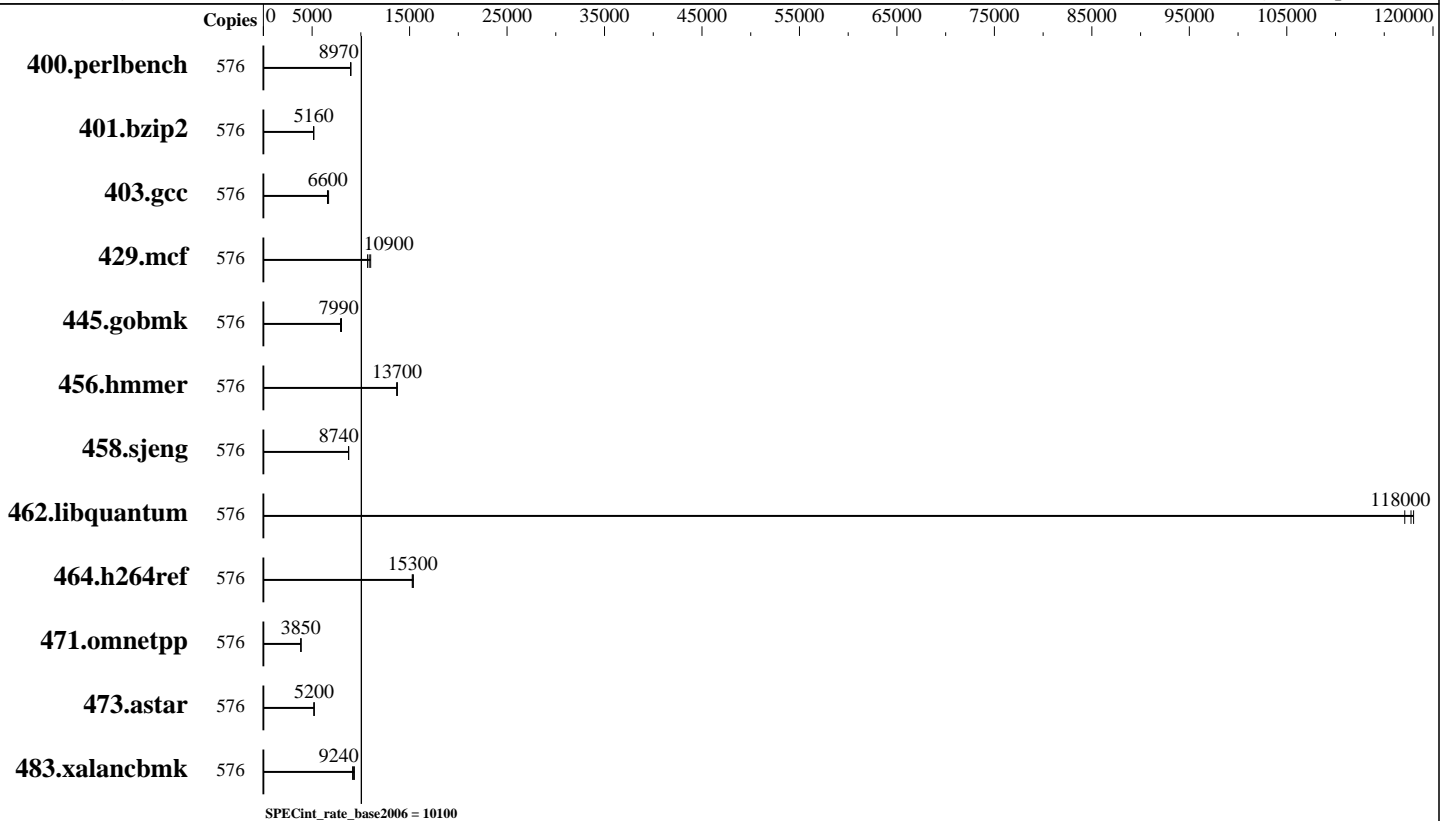
Test sponsor: Huawei

Tested by: Huawei

Test date: May-2017

Hardware Availability: Jan-2016

Software Availability: Sep-2016



### Hardware

CPU Name: Intel Xeon E7-8867 v4  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 288 cores, 16 chips, 18 cores/chip, 2 threads/core  
 CPU(s) orderable: 4,8,16 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: 45 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 2 TB (128 x 16 GB 2Rx4 PC4-2400T-R, running at 1600 MHz)  
 Disk Subsystem: 2 x 600 GB SAS, 10K RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 12 (x86\_64) SP2 4.4.21-69-default  
 Compiler: C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux  
 Auto Parallel: No  
 File System: btrfs  
 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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## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
400.perlbench	576	629	8940	627	8970	<b>628</b>	<b>8970</b>									
401.bzip2	576	1079	5150	<b>1077</b>	<b>5160</b>	1076	5170									
403.gcc	576	705	6580	693	6690	<b>702</b>	<b>6600</b>									
429.mcf	576	477	11000	491	10700	<b>484</b>	<b>10900</b>									
445.gobmk	576	<b>756</b>	<b>7990</b>	754	8010	763	7920									
456.hammer	576	391	13700	393	13700	<b>391</b>	<b>13700</b>									
458.sjeng	576	798	8730	<b>797</b>	<b>8740</b>	796	8750									
462.libquantum	576	<b>101</b>	<b>118000</b>	101	118000	102	117000									
464.h264ref	576	835	15300	<b>832</b>	<b>15300</b>	828	15400									
471.omnetpp	576	934	3850	<b>934</b>	<b>3850</b>	936	3850									
473.astar	576	777	5210	778	5190	<b>777</b>	<b>5200</b>									
483.xalancbmk	576	426	9340	434	9150	<b>430</b>	<b>9240</b>									

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  
Sysinfo program /root/speccpu/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)  
running on linux-ailn Sun May 21 02:11:32 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 E7-8867 v4 @ 2.40GHz  
16 "physical id"s (chips)  
576 "processors"  
cores, siblings (Caution: counting these is hw and system dependent. The  
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## Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

```

cpu cores : 18
siblings  : 36
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 2: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 3: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 4: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 5: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 6: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 7: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 8: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 9: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 10: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 11: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 12: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 13: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 14: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 15: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
cache size : 46080 KB

```

From /proc/meminfo

```

MemTotal:      2046772088 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

/usr/bin/lsb\_release -d

SUSE Linux Enterprise Server 12 SP2

From /etc/\*release\* /etc/\*version\*

```

SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 2
# 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-SP2"
VERSION_ID="12.2"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp2"

```

uname -a:

```

Linux linux-ailn 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
(9464f67) x86_64 x86_64 x86_64 GNU/Linux

```

run-level 5 May 21 02:07

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## Platform Notes (Continued)

SPEC is set to: /root/speccpu

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	btrfs	1.1T	664G	424G	62%	/

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:

124x Hynix HMA82GR7AFR8N-UH 16 GB 2 rank 2400 MHz, configured at 1600 MHz

256x NO DIMM NO DIMM

4x NO DIMM NO DIMM 2400 MHz

(End of data from sysinfo program)

Because there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard, The 'dmidecode' read system data with a DIMM count mismatch, the accurate data is :

Memory:

128x Hynix HMA82GR7AFR8N-UH 16 GB 2 rank 2400 MHz, configured at 1600 MHz

256x NO DIMM NO DIMM

## General Notes

Environment variables set by runspec before the start of the run:

LD\_LIBRARY\_PATH = "/root/speccpu/libs/32:/root/speccpu/libs/64:/root/speccpu/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

runspec 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



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## 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.hmmmer: -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>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.2-BDW-RevG.20170404.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>



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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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