SPEC® CINT2006 Result

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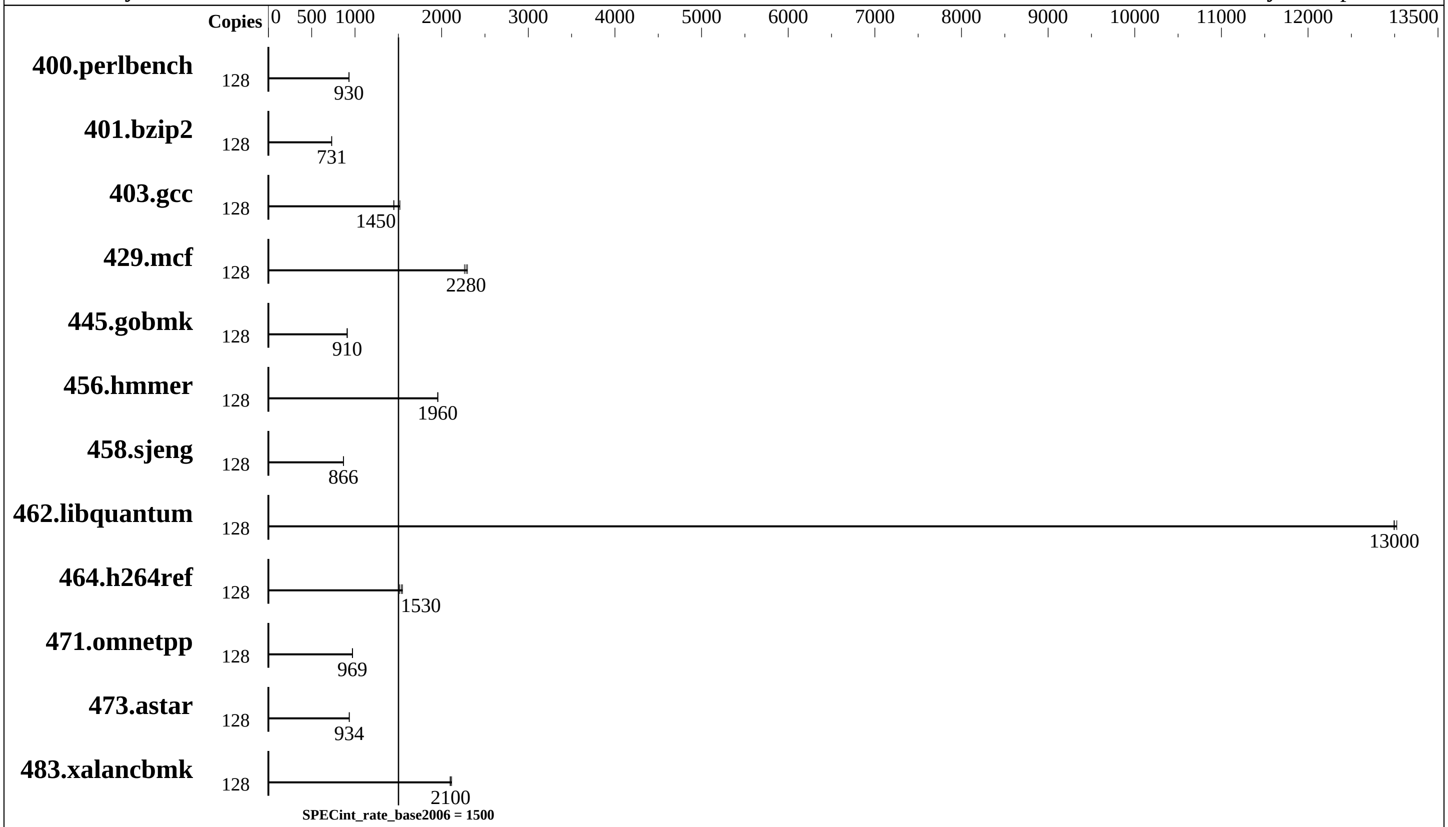
Huawei

Kunlun 9016(Intel Xeon E7-8893 v4)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 1500

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



Hardware

CPU Name:	Intel Xeon E7-8893 v4
CPU Characteristics:	Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz:	3200
FPU:	Integrated
CPU(s) enabled:	64 cores, 16 chips, 4 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:	60 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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	128	1342	932	1346	929	**1345**	**930**							
401.bzip2	128	1691	730	**1689**	**731**	1688	732							
403.gcc	128	**711**	**1450**	679	1520	712	1450							
429.mcf	128	516	2260	508	2300	**512**	**2280**							
445.gobmk	128	**1475**	**910**	1473	912	1480	907							
456.hmmer	128	611	1950	**611**	**1960**	610	1960							
458.sjeng	128	1788	866	1788	866	**1788**	**866**							
462.libquantum	128	204	13000	204	13000	**204**	**13000**							
464.h264ref	128	1869	1520	1830	1550	**1846**	**1530**							
471.omnetpp	128	**825**	**969**	823	972	826	969							
473.astar	128	961	935	964	932	**962**	**934**							
483.xalancbmk	128	**420**	**2100**	417	2120	421	2100							

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 Wed May 10 18:40:59 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 E7-8893 v4 @ 3.20GHz
      16 "physical id"s (chips)
      128 "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 : 4
       siblings  : 8
       physical 0: cores 12 13 25 26
       physical 1: cores 12 13 25 26
       physical 2: cores 12 13 25 26
       physical 3: cores 12 13 25 26
       physical 4: cores 12 13 25 26
       physical 5: cores 12 13 25 26
       physical 6: cores 12 13 25 26
       physical 7: cores 12 13 25 26
       physical 8: cores 12 13 25 26
       physical 9: cores 12 13 25 26
       physical 10: cores 12 13 25 26
       physical 11: cores 12 13 25 26
       physical 12: cores 12 13 25 26
       physical 13: cores 12 13 25 26
       physical 14: cores 12 13 25 26
       physical 15: cores 12 13 25 26
    cache size : 61440 KB

 From /proc/meminfo
    MemTotal:       2112838264 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 10 18:18
```

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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  343G  750G  32% /
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:
   128x Hynix HMA82GR7AFR8N-UH 16 GB 2 rank 2400 MHz, configured at 1600 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 = "/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

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

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Base Portability Flags (Continued)

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
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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