SPEC® CINT2006 Result

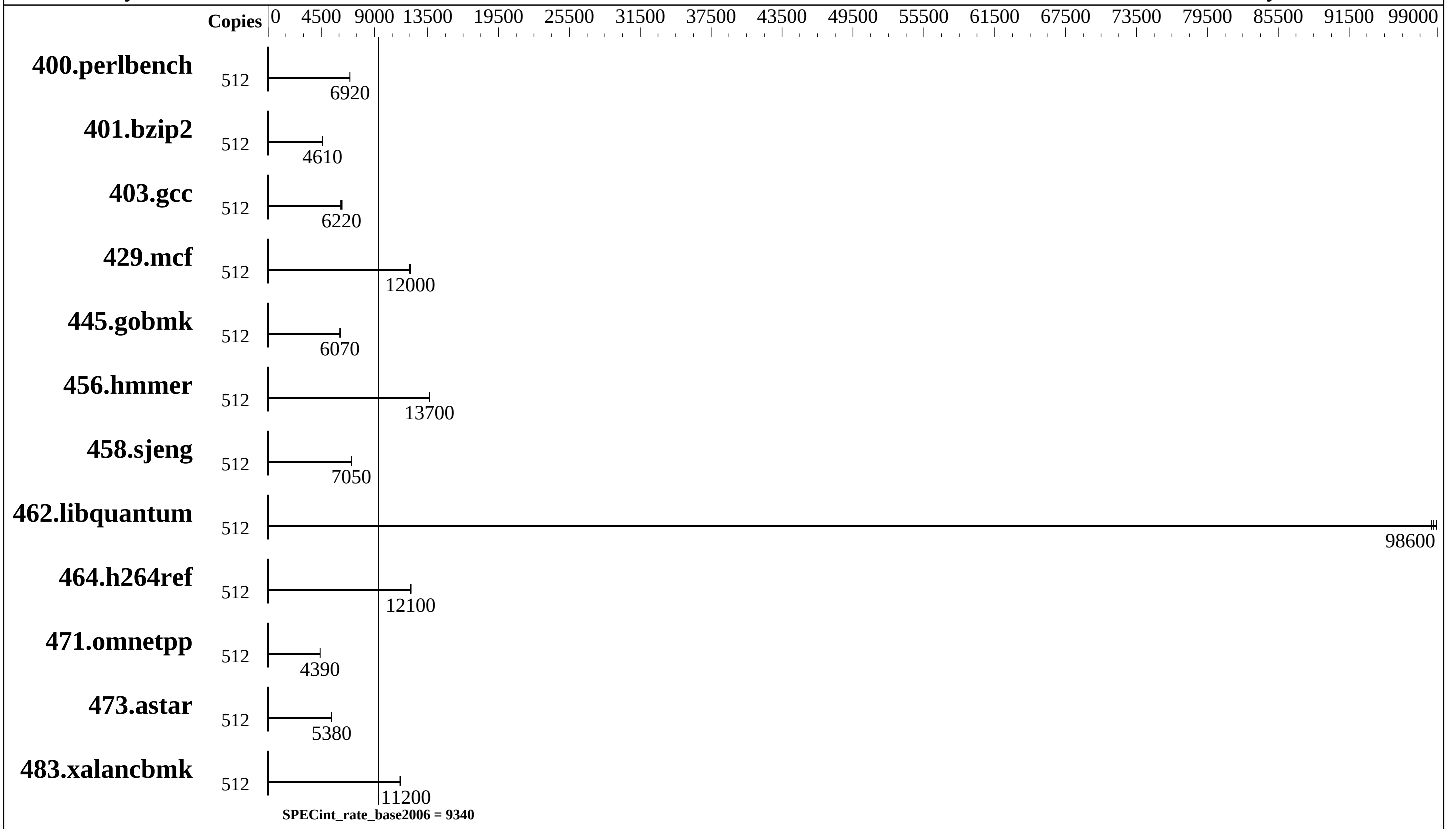
Huawei

Kunlun 9016 (Intel Xeon E7-8860 v3)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 9340

CPU2006 license:	3175	**Test date:**	Apr-2017
Test sponsor:	Huawei	**Hardware Availability:**	Jan-2016
Tested by:	Huawei	**Software Availability:**	Dec-2015



Hardware

CPU Name:	Intel Xeon E7-8860 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.20 GHz
CPU MHz:	2200
FPU:	Integrated
CPU(s) enabled:	256 cores, 16 chips, 16 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:	40 MB I+D on chip per chip
Other Cache:	None
Memory:	2 TB (128 x 16 GB 2Rx4 PC4-2133P-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) SP1 Kernel 3.12.49-11-default
Compiler:	C/C++: Version 16.0.0.101 of Intel C++ Studio XE 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

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Results Table

	Base							Peak						
Benchmark	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	512	723	6920	722	6930	**722**	**6920**							
401.bzip2	512	**1072**	**4610**	1074	4600	1072	4610							
403.gcc	512	658	6270	672	6140	**663**	**6220**							
429.mcf	512	390	12000	**388**	**12000**	388	12000							
445.gobmk	512	878	6120	892	6020	**885**	**6070**							
456.hmmer	512	**350**	**13700**	349	13700	351	13600							
458.sjeng	512	**879**	**7050**	882	7030	879	7050							
462.libquantum	512	**108**	**98600**	108	98500	107	98900							
464.h264ref	512	940	12000	**940**	**12100**	936	12100							
471.omnetpp	512	727	4400	728	4390	**728**	**4390**							
473.astar	512	**668**	**5380**	669	5370	667	5390							
483.xalancbmk	512	317	11200	**315**	**11200**	314	11200							

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 Tue Apr 11 20:08:53 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 E7-8860 v3 @ 2.20GHz
      16 "physical id"s (chips)
      512 "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 : 16
         siblings  : 32
         physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 4: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 5: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 6: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 7: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 8: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 9: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 10: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 11: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 12: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 13: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 14: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
         physical 15: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
      cache size : 40960 KB

   From /proc/meminfo
      MemTotal:       2117339308 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
```

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Platform Notes (Continued)

```
      (8d714a0) x86_64 x86_64 x86_64 GNU/Linux

   run-level 5 Apr 11 20:08

   SPEC is set to: /home/spec
      Filesystem     Type  Size  Used Avail Use% Mounted on
      /dev/sda4      xfs   1.1T  351G  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 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 = "/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.:
   numactl --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
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-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.2-BDW-RevG.20170404.xml

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

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