SPEC® CINT2006 Result

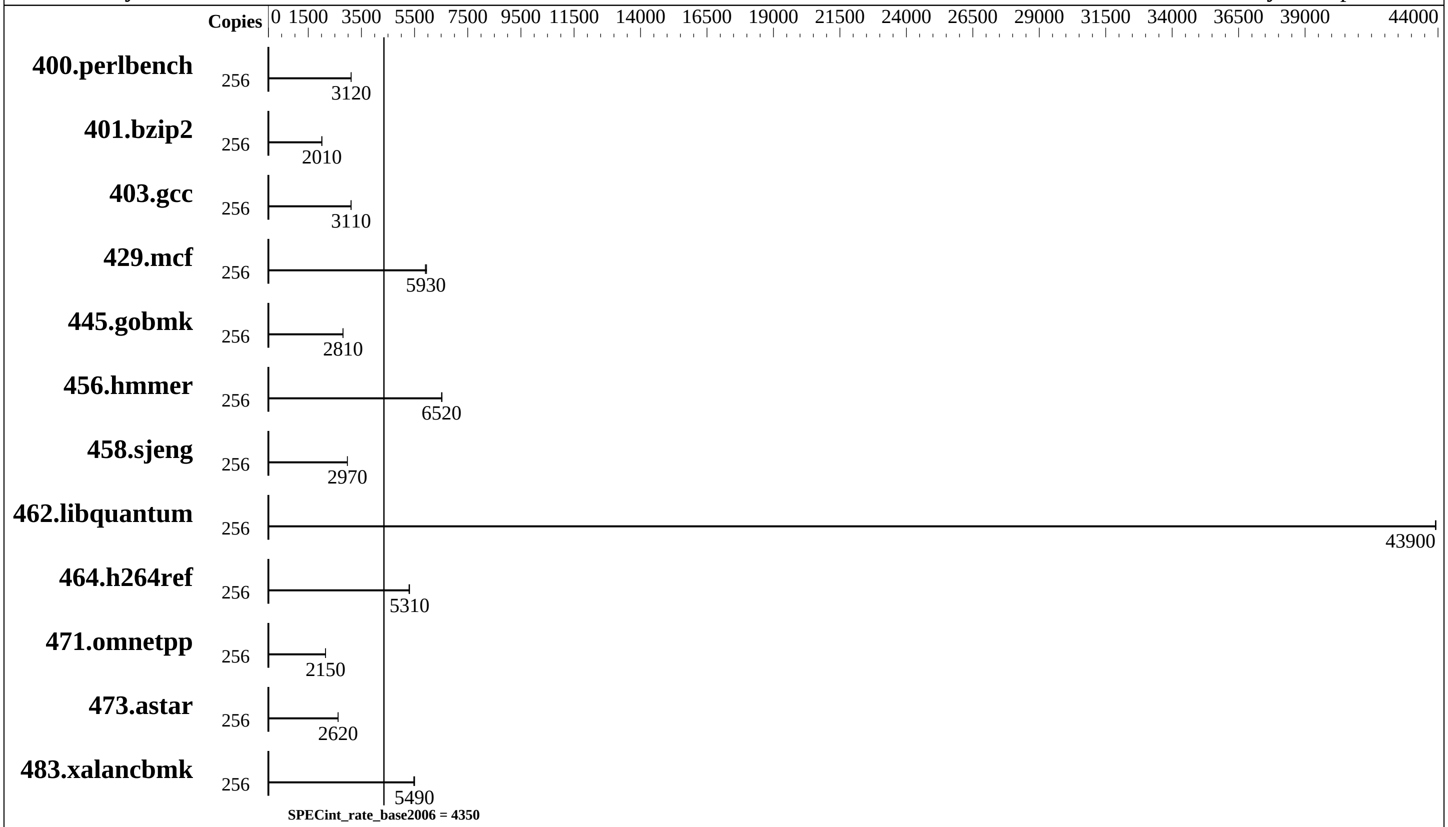
Huawei

Kunlun 9016(Intel Xeon E7-4809 v4)

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 4350

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 E7-4809 v4
CPU Characteristics:	
CPU MHz:	2100
FPU:	Integrated
CPU(s) enabled:	128 cores, 16 chips, 8 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:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	2 TB (128 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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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	256	804	3110	802	3120	**803**	**3120**							
401.bzip2	256	**1227**	**2010**	1225	2020	1233	2000							
403.gcc	256	663	3110	**662**	**3110**	661	3120							
429.mcf	256	**394**	**5930**	392	5950	396	5900							
445.gobmk	256	**956**	**2810**	956	2810	955	2810							
456.hmmer	256	367	6510	366	6530	**367**	**6520**							
458.sjeng	256	1044	2970	**1043**	**2970**	1043	2970							
462.libquantum	256	121	43900	**121**	**43900**	121	43900							
464.h264ref	256	1066	5310	**1067**	**5310**	1071	5290							
471.omnetpp	256	742	2160	744	2150	**743**	**2150**							
473.astar	256	685	2620	**685**	**2620**	684	2630							
483.xalancbmk	256	**321**	**5490**	321	5500	323	5470							

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 /spec/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on linux-ew80 Thu May 18 08:08:14 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 E7-4809 v4 @ 2.10GHz
      16 "physical id"s (chips)
      256 "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 : 8
         siblings  : 16
         physical 0: cores 0 1 2 3 4 5 6 7
         physical 1: cores 0 1 2 3 4 5 6 7
         physical 2: cores 0 1 2 3 4 5 6 7
         physical 3: cores 0 1 2 3 4 5 6 7
         physical 4: cores 0 1 2 3 4 5 6 7
         physical 5: cores 0 1 2 3 4 5 6 7
         physical 6: cores 0 1 2 3 4 5 6 7
         physical 7: cores 0 1 2 3 4 5 6 7
         physical 8: cores 0 1 2 3 4 5 6 7
         physical 9: cores 0 1 2 3 4 5 6 7
         physical 10: cores 0 1 2 3 4 5 6 7
         physical 11: cores 0 1 2 3 4 5 6 7
         physical 12: cores 0 1 2 3 4 5 6 7
         physical 13: cores 0 1 2 3 4 5 6 7
         physical 14: cores 0 1 2 3 4 5 6 7
         physical 15: cores 0 1 2 3 4 5 6 7
      cache size : 20480 KB

   From /proc/meminfo
      MemTotal:       2117107908 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:
      Linux linux-ew80 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015
      (8d714a0) x86_64 x86_64 x86_64 GNU/Linux
```

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Platform Notes (Continued)

```
run-level 5 May 18 08:06

SPEC is set to: /spec
   Filesystem     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.

  BIOS American Megatrends Inc. BLXSV207 04/17/2017
  Memory:
   128x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1333 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 = "/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
 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

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Base Portability Flags (Continued)

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
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

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

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