# SPEC® CINT2006 Result



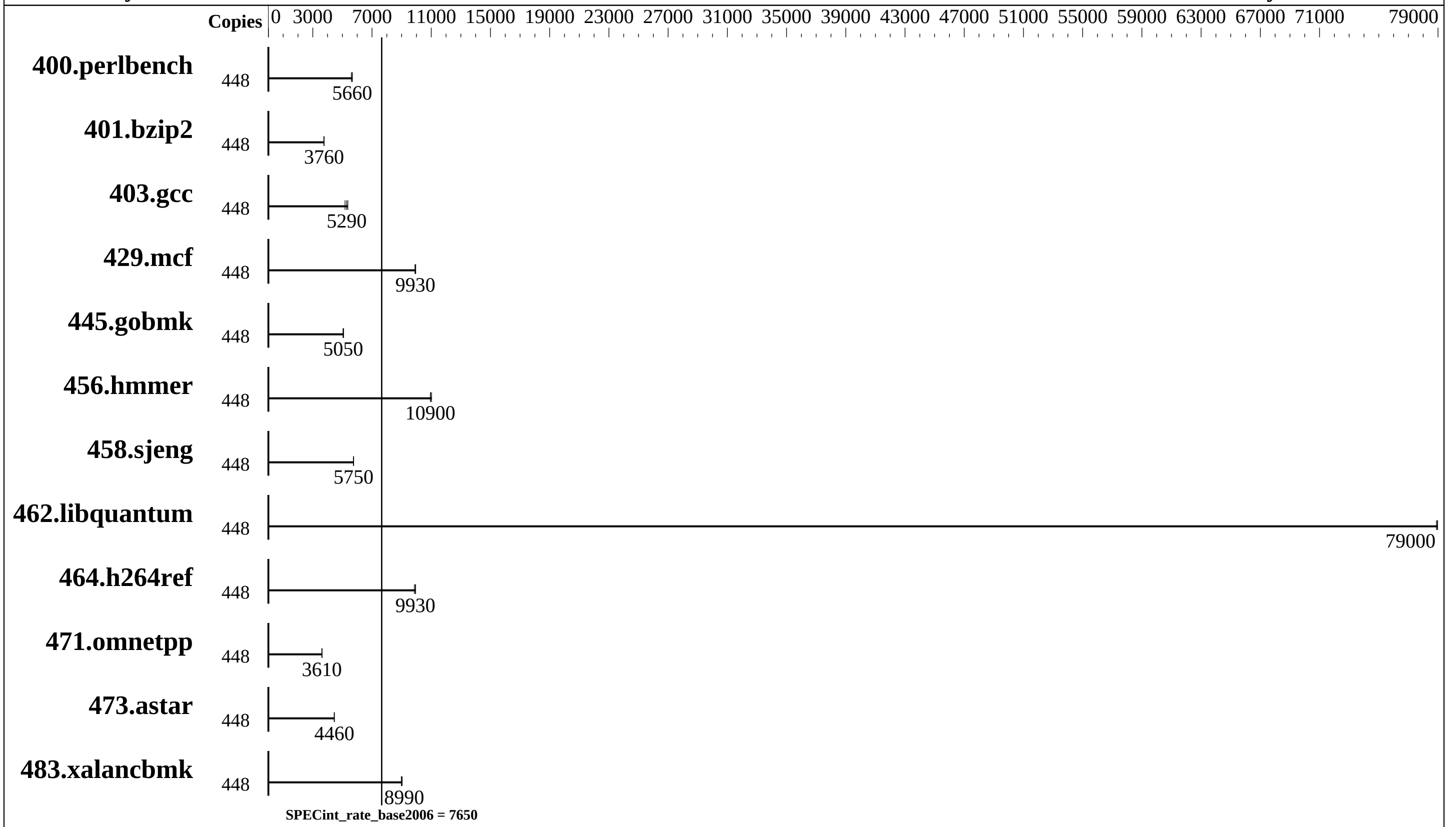
## Huawei

**Kunlun 9008 (Intel Xeon E7-4850 v3)**

SPECint®_rate2006 = Not Run

SPECint_rate_base2006 = 7650

| | | | |
|---|---|---|---|
| **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 E7-4850 v3 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.80 GHz |
| CPU MHz: | 2200 |
| FPU: | Integrated |
| CPU(s) enabled: | 224 cores, 16 chips, 14 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: | 35 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 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 | 448 | 781 | 5600 | **773** | **5660** | 772 | 5670 | | | | | | | |
| 401.bzip2 | 448 | 1149 | 3760 | **1150** | **3760** | 1152 | 3750 | | | | | | | |
| 403.gcc | 448 | **682** | **5290** | 697 | 5180 | 672 | 5370 | | | | | | | |
| 429.mcf | 448 | 413 | 9900 | **411** | **9930** | 411 | 9950 | | | | | | | |
| 445.gobmk | 448 | 932 | 5040 | **930** | **5050** | 925 | 5080 | | | | | | | |
| 456.hmmer | 448 | 382 | 10900 | 379 | 11000 | **382** | **10900** | | | | | | | |
| 458.sjeng | 448 | **943** | **5750** | 943 | 5750 | 941 | 5760 | | | | | | | |
| 462.libquantum | 448 | 118 | 78900 | **118** | **79000** | 118 | 79000 | | | | | | | |
| 464.h264ref | 448 | **998** | **9930** | 1006 | 9860 | 997 | 9940 | | | | | | | |
| 471.omnetpp | 448 | 776 | 3610 | **775** | **3610** | 773 | 3620 | | | | | | | |
| 473.astar | 448 | 708 | 4440 | 706 | 4460 | **706** | **4460** | | | | | | | |
| 483.xalancbmk | 448 | **344** | **8990** | 344 | 8980 | 342 | 9040 | | | | | | | |

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 Thu Apr 20 09:26:50 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 E7-4850 v3 @ 2.20GHz
      16 "physical id"s (chips)
      448 "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 : 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
         physical 8: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
         physical 9: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
         physical 10: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
         physical 11: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
         physical 12: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
         physical 13: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
         physical 14: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
         physical 15: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
      cache size : 35840 KB

   From /proc/meminfo
      MemTotal:       2117340076 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 20 09:15

    SPEC is set to: /home/spec
       Filesystem     Type  Size  Used Avail Use% Mounted on
       /dev/sda4      xfs   1.1T  351G  723G  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 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 = "/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

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