SPEC® CINT2006 Result

Huawei
Huawei CH226 V3 (Intel Xeon E5-2630L v4)

SPECint®2006 = NC
SPECint_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
Test date: May-2016
Tested by: Huawei
Software Availability: Mar-2016

SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the memory was not available as required by SPEC CPU rule 1.3.2 and the SPEC Open Systems Group policy on general availability.

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Hardware
- CPU Name: Intel Xeon E5-2630L v4
- CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz
- CPU MHz: 1800
- FPU: Integrated
- CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip
- CPU(s) orderable: 1,2 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: 25 MB I+D on chip per chip
- Other Cache: None
- Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)
- Disk Subsystem: 1 x 1 TB SATA, 7200 RPM

Software
- Operating System: Red Hat Enterprise Linux Server release 7.2 (Maipo) 3.10.0-327.el7.x86_64
- Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux
- Auto Parallel: Yes
- File System: ext4
- System State: Run level 3 (multi-user)
- Base Pointers: 32/64-bit
- Peak Pointers: 32/64-bit
- Other Software: Microquill SmartHeap V10.2

Continued on next page
**SPEC CINT2006 Result**

**Huawei**

Huawei CH226 V3 (Intel Xeon E5-2630L v4)

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

**Submit Notes**
The config file option 'submit' was used.

**Operating System Notes**

Stack size set to unlimited using "ulimit -s unlimited"

**Platform Notes**

BIOS configuration:
- Set Power Efficiency Mode to Custom
- Set Snoop Mode to ES mode
- Set Patrol Scrub to Disable
- Set Hyper-Threading to Disable

Sysinfo program /speccpu/spec16/config/sysinfo.rev6914

$Rev: 6914 $ $Date:: 2014-06-25 $e3fbb8667b5a285932ceab81e28219e1

Non-Compliant
Huawei CH226 V3 (Intel Xeon E5-2630L v4)

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CPU2006 license: 3175
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Hardware Availability: Mar-2016
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Software Availability: Mar-2016

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Platform Notes (Continued)

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, visit:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo

- model name : Intel(R) Xeon(R) CPU E5-2630L v4 @ 1.80GHz
- 2 "physical id"s (chips)
- 20 "processors"
- 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 : 10
- siblings : 10
- physical 0: cores 0 2 3 4 8 9 10 11 12
- physical 1: cores 0 2 3 4 8 9 10 11 12
- cache size : 25600 KB

From /proc/meminfo

- MemTotal: 263569484 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

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

- os-release:
  - NAME="Red Hat Enterprise Linux Server"
  - VERSION="7.2 (Maipo)"
  - ID="rhel"
  - ID_LIKE="fedora"
  - VERSION_ID="7.2"
  - PRETTY_NAME="Red Hat Enterprise Linux Server 7.2 (Maipo)"
  - ANSI_COLOR="0;31"
  - CPE_NAME="cpe:/o:redhat:enterprise_linux:7.2:GA:server"
  - redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
  - system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)

uname -a:

Linux localhost.localdomain 3.10.0-327.el7.x86_64 #1 SMP Thu Oct 29 17:29:29 EDT 2015 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 May 30 05:58

SPEC is set to: /speccpu/spec16

Filesystem Type Size Used Avail Use% Mounted on

Continued on next page
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Platform Notes (Continued)

/dev/sda2     ext4  591G   12G  549G   3% /
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 Insyde Corp. 3.09 02/22/2016
Memory:
8x NO DIMM NO DIMM 3 rank
8x Samsung M393A2G40EB1-CRC 16 GB 1 rank 2400 MHz, configured at 2133 MHz
8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 2133 MHz

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/speccpu/spec16/libs/32:/speccpu/spec16/libs/64:/speccpu/spec16/sh"
OMP_NUM_THREADS = "20"

Binaries compiled on 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
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64
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---

**Base Portability Flags**

400.perlbench: `-DSPEC_CPU_LP64` `-DSPEC_CPU_LINUX_X64`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
445.gobmk: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64` `-DSPEC_CPU_LINUX_X64`
464.h264ref: `-DSPEC_CPU_LP64`
471.omnetpp: `-DSPEC_CPU_LP64`
473.astar: `-DSPEC_CPU_LP64`
483.xalancbmk: `-DSPEC_CPU_LP64` `-DSPEC_CPU_LINUX`

**Base Optimization Flags**

C benchmarks:
- `xCORE-AVX2` `-ipo` `-O3` `-no-prec-div` `-parallel` `-opt-prefetch` `-auto-p32`

C++ benchmarks:
- `xCORE-AVX2` `-libunwind` `-ipo` `-O3` `-no-prec-div` `-opt-prefetch` `-auto-p32`
- `-Wl,-z,muldefs` `-Wl,-L/sh -lsmartheap64`

**Base Other Flags**

C benchmarks:
- `403.gcc` `-Dalloca=_alloca`

**Peak Compiler Invocation**

C benchmarks (except as noted below):
- `icc` `-m64`
- `400.perlbench: icc` `-m32` `-L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

Continued on next page
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Peak Compiler Invocation (Continued)
C++ benchmarks (except as noted below):
  icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
    473.astar: icpc -m64

Peak Portability Flags
400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: icpc -m64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags
C benchmarks:
400.perlbench: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch -ansi-alias
401.bzip2: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div -par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32 -opt-prefetch -ansi-alias
403.gcc: basepeak = yes
429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

Continued on next page
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Peak Optimization Flags (Continued)

445.gobmk: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) -prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias

456.hmmer: basepeak = yes

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 1) -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -par-num-threads=1(pass 1) -prof-use(pass 2) -opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-32 -Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

Peak Other Flags

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-BDW-V1.0.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-BDW-V1.0.xml
### SPEC CINT2006 Result

**Huawei**

**Huawei CH226 V3 (Intel Xeon E5-2630L v4)**

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

Tested with SPEC CPU2006 v1.2.
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