Huawei CH220 V3 (Intel Xeon E5-2643 v4)

**SPECint®2006 = NC**
**SPECint_base2006 = NC**

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

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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</tbody>
</table>

**Hardware**
- **CPU Name:** Intel Xeon E5-2643 v4
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz
- **CPU MHz:** 3400
- **FPU:** Integrated
- **CPU(s) enabled:** 12 cores, 2 chips, 6 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:** 20 MB I+D on chip per chip
- **Other Cache:** None
- **Memory:** 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R)
- **Disk Subsystem:** 1 x 1000 GB SATA, 7200 RPM
- **Other Hardware:** None

**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
Huawei
Huawei CH220 V3 (Intel Xeon E5-2643 v4)

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: May-2016
Hardware Availability: Mar-2016
Software Availability: Mar-2016

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### Results Table

<table>
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<tr>
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</tr>
</tbody>
</table>

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 /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Wed May 4 19:04:03 2016

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see:

Continued on next page
Huawei CH220 V3 (Intel Xeon E5-2643 v4)

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CPU2006 license: 3175
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Platform Notes (Continued)

http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2643 v4 @ 3.40GHz
  2 "physical id"s (chips)
  12 "processors"
cores, siblings (Caution: counting these is hard and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
cpu cores : 6
siblings : 6
physical 0: cores 0 2 3 6 7
physical 1: cores 0 2 3 6 7
cache size : 20480 KB

From /proc/meminfo
MemTotal:       263570480 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"
  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 4 19:02

SPEC is set to: /spec16

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda2      ext4  850G  51G  756G   7% /

Additional information from dmidecode:

Continued on next page

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Huawei CH220 V3 (Intel Xeon E5-2643 v4)

CPU2006 license: 3175
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Platform Notes (Continued)

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 Samsung M393A2G40EB1-CRC 16 GB 1 rank 2400 MHz
8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz

Base Compiler Invocation

C benchmarks:
icc  -m64

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
Huawei CH220 V3 (Intel Xeon E5-2643 v4)  

**SPEC CINT2006 Result**

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<td>Huawei</td>
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### Base Portability Flags (Continued)

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<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX</td>
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</table>

### Base Optimization Flags

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

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

445.gobmk:
- `icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

Continued on next page
Spec CINT2006 Result

Huawei
Huawei CH220 V3 (Intel Xeon E5-2643 v4)

SPECint2006 = NC
SPECint_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Software Availability: Mar-2016
Hardware Availability: Mar-2016
Test date: May-2016

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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.crayep: -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_OFFSETBITS=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.crayep: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-call -opt-malloc-options=3 -auto-ilp32

429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

Continued on next page
Huawei CH220 V3 (Intel Xeon E5-2643 v4)

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- CPU2006 license: 3175
- Test date: May-2016
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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)
462.libquantum: basepeak = yes
464.h264ref: basepeak = yes
471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
473.astar: -xCORE-AVX2, -ipo -O3 -no-prec-div -opt-prefetch -auto-32 -Wl,-z,muldefs -L/sh -lsmartheap
483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap64

Peak 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-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
Huawei CH220 V3 (Intel Xeon E5-2643 v4)

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SPECint_base2006 = NC

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

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

SPECint results are generated with SPEC CPU2006 v1.2.
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