Huawei CH220 V3 (Intel Xeon E5-2667 v4)

SPECint®2006 = 72.6
SPECint_base2006 = 69.1

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

CPU Name: Intel Xeon E5-2667 v4
CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz: 3200
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 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 2Rx8 PC4-2400T-R)
Disk Subsystem: 1 x 800 GB SATA SSD
Other Hardware: None

Operating System: SUSE Linux Enterprise Server 12 SP1 3.12.49-11-default
Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux
Auto Parallel: Yes
File System: xfs
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 E5-2667 v4)

**SPEC CINT2006 Result**

**Copyright 2006-2016 Standard Performance Evaluation Corporation**

**SPECint2006** = 72.6

**SPECint_base2006** = 69.1

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**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>471.omnetpp</td>
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<td>79.1</td>
<td>87.3</td>
<td>79.0</td>
<td>87.4</td>
</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 /spec/spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1

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

```plaintext
  model name : Intel(R) Xeon(R) CPU E5-2667 v4@ 3.20GHz
  2 "physical id"s (chips)
  16 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
```

Continued on next page
Huawei CH220 V3 (Intel Xeon E5-2667 v4)  

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**CPU2006 license:** 3175  
**Test sponsor:** Huawei  
**Tested by:** Huawei  
**Test date:** Nov-2016  
**Hardware Availability:** Mar-2016  
**Software Availability:** Dec-2015

---

**Platform Notes (Continued)**

```plaintext
cautions)
cpu cores : 8
siblings : 8
physical 0: cores 0 2 3 4 8 10 11 12
physical 1: cores 0 2 3 4 8 10 11 12

cache size : 25600 KB
```

From `/proc/meminfo`

```plaintext
MemTotal:       264062240 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:

```plaintext
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:

```plaintext
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:

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

run-level 3 Nov 23 11:26

SPEC is set to: /spec/spec16

```plaintext
Filesystem  Type Size Used Avail Use% Mounted on
/dev/sda3  xfs 641G 7.6G 634G 2% /spec
```

Additional information from dmidecode:

```plaintext
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. 3.31 08/22/2016
Memory:
16x Samsung M393A2K43BB1-CRC 16 GB 2 rank 2400 MHz
```

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SPEC CINT2006 Result

Huawei

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Platform Notes (Continued)

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/spec/spec16/libs/32:/spec/spec16/libs/64:/spec/spec16/sh"
OMP_NUM_THREADS = "16"

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

Base Compiler Invocation

C benchmarks:
  icc -m64

C++ benchmarks:
  icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
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
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

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Huawei

Huawei CH220 V3 (Intel Xeon E5-2667 v4)

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Software Availability: Dec-2015

Base Optimization Flags (Continued)

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

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: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

Continued on next page
Huawei

Huawei CH220 V3 (Intel Xeon E5-2667 v4)

**SPEC CINT2006 Result**

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CPU2006 license: 3175  
Test sponsor: Huawei  
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Hardware Availability: Mar-2016  
Software Availability: Dec-2015

**Peak Optimization Flags (Continued)**

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

445.gobmk: basepeak = yes

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 2)  
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll14

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-p32 -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**

C benchmarks:

403.gcc: -Dalloca=_alloca
# SPEC CINT2006 Result

**Huawei**

**Huawei CH220 V3 (Intel Xeon E5-2667 v4)**

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**CPU2006 license:** 3175  
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The flags files that were used to format this result can be browsed at:

- [Intel-ic16.0-official-linux64.html](http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.html)
- [Huawei-Platform-Settings-BDW-V1.0.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:

- [Intel-ic16.0-official-linux64.xml](http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml)
- [Huawei-Platform-Settings-BDW-V1.0.xml](http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.xml)

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.


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