Huawei
Huawei CH225 V3 (Intel Xeon E5-2697 v4)

SPECfp®_rate2006 = NC
SPECfp_rate_base2006 = NC

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

Test date: May-2016
Hardware Availability: Mar-2016
Software Availability: Aug-2015

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.
Huawei CH225 V3 (Intel Xeon E5-2697 v4)

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<th>3175</th>
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**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.**

### Hardware
- **CPU Name:** Intel Xeon E5-2697 v4
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.60 GHz
- **CPU MHz:** 2300 MHz
- **FPU:** Integrated
- **CPU(s) enabled:** 36 cores, 2 chips, 18 cores/chip, 2 threads/core
- **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:** 45 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 500 GB SATA, 7200 RPM
- **Other Hardware:** None

### Software
- **Operating System:** Red Hat Enterprise Linux Server release 7.2 (Maipo) 3.10.0-327.16.1.el7.x86_64
- **Compiler:**
  - C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux
  - Fortran: Version 16.0.0.101 of Intel Fortran Studio XE for Linux
- **Auto Parallel:** No
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 32/64-bit
- **Peak Pointers:** 32/64-bit
- **Other Software:** None
### Huawei

**Huawei CH225 V3 (Intel Xeon E5-2697 v4)**

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</table>

**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"

---

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.

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.
Huawei CH225 V3 (Intel Xeon E5-2697 v4) SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

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

Test date: May-2016
Hardware Availability: Mar-2016
Software Availability: Aug-2015

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.

Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Snoop Mode to COD mode
Set Patrol Scrub to Disable
Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8664a285f2ceab81e28219e1 running on localhost.localdomain Sat May 14 02:52:31 2016

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 E5-2697 v4 @ 2.30GHz
  2 "physical id"s (chips)
  72 "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 : 18
siblings : 36
physical 0: cores : 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 1: cores : 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
cache size : 23040 KB

From /proc/meminfo
MemTotal: 63562532 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

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

Continued on next page

Non-compliant
Huawei

Huawei CH225 V3 (Intel Xeon E5-2697 v4)

CPU2006 license: 3175
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Platform Notes (Continued)

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 13 07:15

SPEC is set to: /spec16
    Filesystem Type  Size  Used Avail Use% Mounted on
    /dev/sda2      xfs   535G  152G  383G  29% /

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

(End of data from dmidecode)

General Notes

Environment variables set by runspec before the start of the run:
    LD_LIBRARY_PATH = "/spec16/libs/32:/spec16/libs/64:/spec16/sh"

    Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB
    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>
SPEC CFP2006 Result

Huawei
Huawei CH225 V3 (Intel Xeon E5-2697 v4)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3175
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Base Compiler Invocation

C benchmarks:
icc  -m64
C++ benchmarks:
icpc  -m64
Fortran benchmarks:
ifort  -m64
Benchmarks using both Fortran and C:
icc  -m64 ifort  -m64

Base Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.gamess: -DSPEC_CPU_LP64
433.milc: -DSPEC_CPU_LP64
434.zeusmp: -DSPEC_CPU_LP64
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
437.leslie3d: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64 -nofor_main
447.dealII: -DSPEC_CPU_LP64
450.soplex: -DSPEC_CPU_LP64
455.povray: -DSPEC_CPU_LP64
456.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xCORE-AVX2  -ipo  -O3  -no-prec-div  -opt-prefetch  -auto-p32
-ansi-alias  -opt-mem-layout-trans=3

Continued on next page
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.

Base Optimization Flags (Continued)

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<tr>
<th>Benchmark</th>
<th>C++ benchmarks</th>
<th>Fortran benchmarks</th>
</tr>
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<tbody>
<tr>
<td>410.soplex</td>
<td>-XCORE-AVX2</td>
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</tr>
<tr>
<td></td>
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<td>-opt-mem-layout-trans=3</td>
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Non-Compliant
Huawei
Huawei CH225 V3 (Intel Xeon E5-2697 v4)

CPU2006 license: 3175
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.

Peak Portability Flags (Continued)

450.soplex: -D_FILE_OFFSET_BITS=64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
482.sphinx3: -DSPEC_CPU_LP64

Peak Optimization Flags

C benchmarks:
433.milc: basepeak = yes
470.lbm: basepeak = yes
482.sphinx3: basepeak = yes

C++ benchmarks:
444.namd: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)

447.dealII: basepeak = yes

459.cpc: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)

453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)

Fortran benchmarks:

Continued on next page
### SPEC CFP2006 Result

**Huawei**

**Huawei CH225 V3 (Intel Xeon E5-2697 v4)**

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**SPECfp_rate2006 = NC**

**SPECfp_rate_base2006 = NC**

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#### Peak Optimization Flags (Continued)

- **410.bwaves**: basepeak = yes
- **416.gamess**: -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) -unroll2 -inline-level=0 -scalar-rep-
- **434.zeusmp**: basepeak = yes
- **437.leslie3d**: basepeak = yes
- **459.GemsFDTD**: basepeak = yes
  -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) -unroll4 -auto -inline-calloc -opt-malloc-options=3
- **465.tonto**: -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) -unroll4 -auto -inline-calloc -opt-malloc-options=3

**Benchmarks using both Fortran and C:**

- **435.gromacs**: -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) -opt-mem-layout-trans=3(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32
- **436.cactusADM**: basepeak = yes
- **454.calculix**: basepeak = yes
- **481.wrf**: basepeak = yes

The flags files that were used to format this result can be browsed at

- [http://www.spec.org/cpu2006/Flags/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:

- [http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.xml](http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.xml)
Huawei CH225 V3 (Intel Xeon E5-2697 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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