**Huawei**

Huawei RH2288H V3 (Intel Xeon E5-2630L v4)

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

Test date: May-2016  
Hardware Availability: Mar-2016  
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](http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2) and the SPEC Open Systems Group policy on general availability [Appendix C](https://www.spec.org/osg/policy.html#AppendixC).

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Huawei RH2288H V3 (Intel Xeon E5-2630L 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: Mar-2016

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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, 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:** 25 MB I+D on chip per chip  
- **Memory:** 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)  
- **Disk Subsystem:** 1 x 1 TB SATA, 7200 RPM  
- **Other Hardware:** None

### Software

- **Operating System:** Red Hat Enterprise Linux Server release 7.2 (Maipo)  
- **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  
- **File System:** ext4  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 32/64-bit  
- **Peak Pointers:** 32/64-bit  
- **Other Software:** None
Huawei RH2288H V3 (Intel Xeon E5-2630L v4)

**SPEC CFP2006 Result**

SPECfp\_rate2006 = NC
SPECfp\_rate\_base2006 = NC

**CPU2006 license:** 3175
**Test date:** May-2016
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### Results Table

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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"

---

**Non-Compliant**
Huawei

Huawei RH2288H V3 (Intel Xeon E5-2630L 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: 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.

Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Snoop Mode to ES mode
Set Patrol Scrub to Disable
Sysinfo program /speccpu/spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #e e3fbb66 b2a285b2ceab81e28219e1
running on localhost.localdomain Sat May 21 03:51:46 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 E5-2630L v4 @ 1.80GHz
  2 "physical id"s (chips)
  40 "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 : 20
physical 0: cores 1 2 3 4 8 9 10 11 12
physical 1: cores 1 2 3 4 8 9 10 11 12
cache size : 25600 KB

From /proc/meminfo
MemTotal: 63567004 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
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Non-Compliant
Huawei RH2288H V3 (Intel Xeon E5-2630L v4)

SPEC CFP2006 Result

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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
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
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
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
SPEC CFP2006 Result

Huawei

Huawei RH2288H V3 (Intel Xeon E5-2630L v4)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3175
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Base Optimization Flags (Continued)

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

Fortran benchmarks:
- -xCORE-AVX2
- -ipo
- -O3
- -no-prec-div
- -opt-prefetch

Benchmarks using both Fortran and C:
- -xCORE-AVX2
- -ipo
- -O3
- -no-prec-div
- -opt-prefetch
- -auto-p32
- -ansi-alias
- -opt-mem-layout-trans=3

Peak Compiler Invocation

C benchmarks:
- icc -m64

C++ benchmarks (except as noted below):
- icpc -m64

Fortran benchmarks:
- ifort -m64

Benchmarks using both Fortran and C:
- icce -m64
- ifort -m64

Peak 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
447.dealII: -DSPEC_CPU_LP64
Huawei

Huawei RH2288H V3 (Intel Xeon E5-2630L v4)

**SPEC CFP2006 Result**

**SPECfp_rate2006 = NC**

**SPECfp_rate_base2006 = NC**

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**Test sponsor:** Huawei  
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**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
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)  
-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)  -fno-alias  
-auto-llp32
447.dealII: basepeak = yes
450.soplex: -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-malloc-options=3
453.povray: -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)  -unroll4  
-ansi-alias

**Fortran benchmarks:**

Continued on next page
Huawei RH2288H V3 (Intel Xeon E5-2630L v4)

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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) -unroll12
             -inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

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) -unroll14 -auto
             -inline-call-c -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/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
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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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