SPEC® CFP2006 Result

Huawei

Huawei 5288 V3 (Intel Xeon E5-2603 v4)

SPECfp®_rate2006 = NC
SPECfp_rate_base2006 = NC

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<td>Software Availability: Mar-2016</td>
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Non-Compliant
**SPEC CFP2006 Result**

**Huawei**

**Huawei 5288 V3 (Intel Xeon E5-2603 v4)**

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

**Hardware**

- **CPU Name:** Intel Xeon E5-2603 v4  
- **CPU Characteristics:**  
  - CPU MHz: 1700  
  - 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: 15 MB I+D on chip per chip  
  - Other Cache: None  
- **Memory:** 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 1866 MHz)  
- **Disk Subsystem:** 1 x 500 GB SATA, 7200 RPM  
- **Other Hardware:** None

**Software**

- **Operating System:** Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64  
- **Compiler:** C/C++: Version 16.0.0.101 of Intel C++ 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

*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 <a href="http://spec.org/cpu2006/Docs/runrules.html#rule_1.3.2">SPEC CPU rule 1.3.2</a> and the SPEC Open Systems Group policy on <a href="https://www.spec.org/osg/policy.html#AppendixC">general availability</a>.*

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Non-Compliant
**SPEC CFP2006 Result**

**Huawei**

Huawei 5288 V3(Intel Xeon E5-2603 v4)  

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

**Submit Notes**

A submit 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 Performance
- Set Snoop Mode to ES mode
- Set Patrol Scrub to Disable

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Huawei

Huawei 5288 V3 (Intel Xeon E5-2603 v4)

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 (Continued)

Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8667b5a285932ceab88119e1
running on localhost.localdomain Mon Mar 21 02:30:58 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 E5-2603 v4 @ 1.70GHz
- 2 "physical id"s (chips)
- 12 "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: 6
- siblings: 6
- physical 0: cores 0 1 2 3 4 5
- physical 1: cores 0 1 2 3 4 5
- cache size: 15360 KB

From /proc/meminfo

- MemTotal: 263571640 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

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

cp
- NAME="Red Hat Enterprise Linux Server"
- VERSION="7.0 (Maipo)"
- ID="rhel"
- ID_LIKE="fedora"
- VERSION_ID="7.0"
- PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
- ANSI_COLOR="0;31"
- CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server

uname -a:
Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57
EDT 2014 x86_64 x86_64 x86_64 GNU/Linux

Continued on next page

Non-compliant
Huawei

Huawei 5288 V3(Intel Xeon E5-2603 v4)

SPECfp_rate2006 = \textcolor{red}{NC}
SPECfp_rate_base2006 = \textcolor{red}{NC}

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

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Platform Notes (Continued)

run-level 3 Mar 18 14:14
SPEC is set to: /spec16
 Filesystem Type Size Used Avail Use% Mounted on
 /dev/sda3 xfs 443G 34G 409G 8% /

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 SMSBIOS" standard.

BIOS Insyde Corp. 3.09 02/22/2016
Memory:
8x Samsung M393A2G40EB1-CRC 16 GB 1 rank 2400 MHz, configured at 1867 MHz
8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 1867 MHz

(End of data from sysinfo program)

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 memory using 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
numactl --interleave=all runspec <etc>

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Base Compiler Invocation

Continued on next page
SPEC CFP2006 Result

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Base Compiler Invocation (Continued)

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 -nofor_main
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
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 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
483.sphinx: -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

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

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

Continued on next page
**SPEC CFP2006 Result**

**Huawei**

**Huawei 5288 V3 (Intel Xeon E5-2603 v4)**

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### Base Optimization Flags (Continued)

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

### Peak Compiler Invocation

- **C benchmarks:**  
  - `icc` `-m64`
- **C++ benchmarks:**  
  - `icpc` `-m64`
- **Fortran benchmarks:**  
  - `ifort` `-m64`

Benchmarks using both Fortran and C:
- `icc` `-m64`  
- `ifort` `-m64`  

### Peak Portability Flags

Same as Base Portability Flags

### Peak Optimization Flags

**C benchmarks:**

- `433.milc`: basepeak = yes
- `701.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-ilp32`  

Continued on next page
SPEC CFP2006 Result

Huawei

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SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3175
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Peak Optimization Flags (Continued)

447.dealII: basepeak = yes
450.soplex: basepeak = yes
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) -ansi-alias

Fortran benchmarks:

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= -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-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

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# SPEC CFP2006 Result

## Huawei

Huawei 5288 V3(Intel Xeon E5-2603 v4)

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## Peak Optimization Flags (Continued)

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)

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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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