SPEC® CFP2006 Result

Huawei

Huawei 5288 V3(Intel Xeon E5-2609 v4)

<table>
<thead>
<tr>
<th>SPECfp®_rate2006</th>
<th>SPECfp_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC</td>
<td>NC</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>410.bwaves</td>
</tr>
<tr>
<td>416.gamess</td>
</tr>
<tr>
<td>433.milc</td>
</tr>
<tr>
<td>434.zeusmp</td>
</tr>
<tr>
<td>435.gromacs</td>
</tr>
<tr>
<td>436.cactusADM</td>
</tr>
<tr>
<td>437.leslie3d</td>
</tr>
<tr>
<td>444.namd</td>
</tr>
<tr>
<td>447.dealII</td>
</tr>
<tr>
<td>450.soplex</td>
</tr>
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<td>453.povray</td>
</tr>
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<td>454.calculix</td>
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<tr>
<td>459.GemsFDTD</td>
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<td>465.tonto</td>
</tr>
<tr>
<td>481.wrf</td>
</tr>
<tr>
<td>482.sphinx3</td>
</tr>
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</table>

Non-Compliant
## SPEC CFP2006 Result

**Huawei**

**Huawei 5288 V3 (Intel Xeon E5-2609 v4)**

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### Hardware

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2609 v4</td>
</tr>
<tr>
<td>CPU Characteristics</td>
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</tr>
<tr>
<td>CPU MHz</td>
<td>1700</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>16 cores, 2 chips, 8 cores/chip</td>
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<tr>
<td>CPU(s) orderable</td>
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<td>Primary Cache</td>
<td>32 KB I + 32 KB D on chip per core</td>
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<td>Secondary Cache</td>
<td>256 KB I+D on chip per core</td>
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<tr>
<td>L3 Cache</td>
<td>20 MB I+D on chip per chip</td>
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<tr>
<td>Other Cache</td>
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<tr>
<td>Memory</td>
<td>256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 1866 MHz)</td>
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<tr>
<td>Disk Subsystem</td>
<td>1 x 500 GB SATA, 7200 RPM</td>
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<tr>
<td>Other Hardware</td>
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</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Operating System</td>
<td>Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64</td>
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<tr>
<td>Compiler</td>
<td>C/C++ version 16.0.0.101 of Intel C++ Studio XE for Linux</td>
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<tr>
<td>Auto Parallel</td>
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<td>File System</td>
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<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
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<td>Base Pointers</td>
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<tr>
<td>Peak Pointers</td>
<td>32/64-bit</td>
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## SPEC CFP2006 Result

### Huawei

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### Results Table

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<td>16</td>
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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

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

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](https://www.spec.org/osg/policy.html#AppendixC).
Huawei

Huawei 5288 V3(Intel Xeon E5-2609 v4)

SPECfp_rate2006 = NC
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Platform Notes (Continued)

Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5e2859f3eeab81387e19e1
running on localhost.localdomain Sun Mar 27 17:58:27 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 E5-2609 v4 @ 1.70GHz
- 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.)
  - cpu cores : 8
  - siblings : 8
  - physical 0: cores 0 1 2 3 4 5 6 7
  - physical 1: cores 0 1 2 3 4 5 6 7
  - cache size : 20480 KB

From /proc/meminfo
- MemTotal: 263571176 kB
- HugePages_Total:       0
- Hugepagesize:       2048 kB

From /etc/*release*/etc/*version*
- 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
Huawei

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Platform Notes (Continued)

run-level 3 Mar 25 04:13

SPEC is set to: /spec16

Files system Type  Size  Used  Avail  Use% Mounted on
/dev/sda3      xfs   443G   39G  404G   9%  /

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 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

echo 1> /proc/sys/vm/unevaluated指令 invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:

icc  -m64

C++ benchmarks:

icpc  -m64
Huawei

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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
435.gromacs: -DSPEC_CPU_LP64 -nofor_main
436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
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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
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

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
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Base Optimization Flags (Continued)
Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -to-p3
-ansi-alias -opt-mem-layout-trans=3

Peak Compile 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

Non-compliant
SPEC CPU2006 Result

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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=3 -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

Continued on next page
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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/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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