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).

<table>
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<tr>
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<td>416.gamess</td>
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<tr>
<td>436.cactusADM</td>
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<td>444.namd</td>
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Huawei

Huawei XH620 V3 (Intel Xeon E5-2683 v4)
# SPEC CFP2006 Result

**Huawei**

**Huawei XH620 V3 (Intel Xeon E5-2683 v4)**

<table>
<thead>
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<tr>
<td>Tested by</td>
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<td>Mar-2016</td>
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<tr>
<td>Software Availability</td>
<td>Aug-2015</td>
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**Hardware**

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<td>CPU Name</td>
<td>Intel Xeon E5-2683 v4</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.00 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
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</tr>
<tr>
<td>FPU</td>
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</tr>
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<td>CPU(s) enabled</td>
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<tr>
<td>CPU(s) orderable</td>
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<td>Primary Cache</td>
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<tr>
<td>Secondary Cache</td>
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<tr>
<td>L3 Cache</td>
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<tr>
<td>Other Cache</td>
<td>None</td>
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<tr>
<td>Memory</td>
<td>256 GB (16 x 16 GB 2Rx4 PC4-2400T-R)</td>
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**Software**

<table>
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<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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<td>Compiler</td>
<td>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</td>
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**Non-Compliant**

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

Huawei XH620 V3 (Intel Xeon E5-2683 v4)

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

SPECfp2006 = NC
SPECfp_base2006 = NC

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

Results Table

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</table>

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

Non-Compliant
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 Custom
Set Snoop Mode to HS mode
Set Patrol Scrub to Disable
Set Hyper-Threading to Disable
Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Wed Apr 6 06:09:08 2016
Continued on next page
Huawei

Huawei XH620 V3 (Intel Xeon E5-2683 v4)

**SPEC CFP2006 Result**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>SPECfp_base2006</td>
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**CPU2006 license:** 3175

**Test sponsor:** Huawei

**Test date:** Apr-2016

**Hardware Availability:** Mar-2016

**Tested by:** Huawei

**Software Availability:** Aug-2015

**Test date:** Apr-2016

**Hardware Availability:** Mar-2016

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---

**Platform Notes (Continued)***

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 E5-2683 v4 @ 2.10GHz
- 2 "physical id"s (chips)
- 32 "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 : 16
  - siblings : 16
  - physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  - physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
- cache size : 40960 KB

From `/proc/meminfo`

- MemTotal: 263569320 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

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

**os-release**

- 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)"
- CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
- Redhat-release: Red Hat Enterprise Linux Server 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
run-level 3 Apr 6 05:57
```

SPEC is set to: /spec16

---

**Non-Compliant**

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Huawei

Huawei XH620 V3 (Intel Xeon E5-2683 v4)

SPECfp2006 = NC
SPECfp_base2006 = NC

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

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

Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB memory using Red Hat 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>
The Huawei XH622 V3 and Huawei XH628 V3 and Huawei XH620 V3 are electronically equivalent.
The results have been measured on a Huawei XH620 V3 model.
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
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
482.sphinx3: -DSPEC_CPU_LP64

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

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

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
Huawei XH620 V3 (Intel Xeon E5-2683 v4) SPECfp2006 = NC
SPECfp_base2006 = NC

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### Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
- `-xCORE-AVX2`
- `-ipo`
- `-O3`
- `-no-prec-div`
- `-parallel`
- `-opt-prefetch`
- `-ansi-alias`

### Peak Compiler Invocation

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<tr>
<th>C benchmarks:</th>
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<tbody>
<tr>
<td><code>icc</code></td>
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<table>
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<tr>
<th>C++ benchmarks:</th>
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<tr>
<th>Fortran benchmarks:</th>
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<td><code>ifort</code></td>
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<tr>
<td><code>-m64</code></td>
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</tbody>
</table>

Benchmarks using both Fortran and C:
- `icc`         
- `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)` `-prof-use(pass 2)` `-fno-alias` `-auto-illp32`

Continued on next page
SPEC CFP2006 Result

Huawei

Huawei XH620 V3 (Intel Xeon E5-2683 v4)

SPECfp2006 = NC
SPECfp_base2006 = NC

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

Peak Optimization Flags (Continued)

447.dealII: basepeak = yes
450.soplex: basepeak = yes
453.povray: -xCORE-AVX2(pass 2) -prof-gen:threadsafepass 1
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4
-ansi-alias

Fortran benchmarks:
410.bwaves: basepeak = yes
416.gamess: -xCORE-AVX2(pass 2) -prof-gen:threadsafepass 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: -xCORE-AVX2(pass 2) -prof-gen:threadsafepass 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 -opt-prefetch -parallel
465.tonto: -xCORE-AVX2(pass 2) -prof-gen:threadsafepass 1
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -inline-calloc
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:
435.gromacs: basepeak = yes
436.cactusADM: basepeak = yes
454.calculix: -xCORE-AVX2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

Continued on next page
SPEC CFP2006 Result
Huawei
Huawei XH620 V3 (Intel Xeon E5-2683 v4)

<table>
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<th>SPECfp2006</th>
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CPU2006 license: 3175  
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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 <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>.

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.  
Originally published on 29 June 2016.