Huawei

Huawei RH2288 V3(Intel Xeon E5-2623 v4)

| SPECfp®_rate2006 = NC | SPECfp_rate_base2006 = NC |

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

<table>
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<tr>
<th>Copies</th>
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<tr>
<td>410.bwaves</td>
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<tr>
<td>416.gamess</td>
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<td>433.milc</td>
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<td>436.cactusADM</td>
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<td>437.leslie3d</td>
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<td>450.soplex</td>
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<td>453.povray</td>
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<td>454.calculix</td>
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<td>4.9.lbm</td>
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<tr>
<td>481.wrf</td>
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Non-Compliant
Huawei RH2288 V3 (Intel Xeon E5-2623 v4)

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

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**Hardware**

<table>
<thead>
<tr>
<th>CPU Name</th>
<th>Intel Xeon E5-2623 v4</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.20 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>2600</td>
</tr>
<tr>
<td>FPU</td>
<td>Integrated</td>
</tr>
<tr>
<td>CPU(s) enabled</td>
<td>8 cores, 2 chips, 4 cores/chip, 2 threads/core</td>
</tr>
<tr>
<td>CPU(s) orderable</td>
<td>1.2 chip</td>
</tr>
<tr>
<td>Primary Cache</td>
<td>32 KB I + 32 KB D on chip per core</td>
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<tr>
<td>Secondary Cache</td>
<td>256 KB I+D on chip per core</td>
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<tr>
<td>L3 Cache</td>
<td>10 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other Cache</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)</td>
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<tr>
<td>Disk Subsystem</td>
<td>1 x 500 GB SATA, 7200 RPM</td>
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<td>Other Hardware</td>
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</table>

**Software**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Red Hat Enterprise Linux Server release 7.0 (Maipo)</th>
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</thead>
<tbody>
<tr>
<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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<td>Auto Parallel</td>
<td>No</td>
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<tr>
<td>File System</td>
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<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
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<tr>
<td>Base Pointers</td>
<td>32/64-bit</td>
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<tr>
<td>Peak Pointers</td>
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CPU2006 license: 3175
Test date: Mar-2016
Hardware Availability: Mar-2016
Software Availability: Mar-2016

**Non-Compliant**

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Huawei RH2288 V3 (Intel Xeon E5-2623 v4)

SPEC CPU2006 license: 3175
Test sponsor: Huawei
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Results Table

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</tr>
</tbody>
</table>

Submit Notes

A security 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 Snooq Mode to ES mode
Set Patrol Scrub to Disable

Non-Compliant
Huawei

Huawei RH2288 V3(Intel Xeon E5-2623 v4)

**SPEC fp_rate2006 = NC**

**SPEC fp_rate_base2006 = NC**

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

---

**Platform Notes (Continued)**

Sysinfo program /spec16/config/sysinfo.rev6914  
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5e2859a reab8a38219e1  
running on localhost.localdomain Sun Mar  6 21:39:10 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 E5-2623 v4 @ 2.60GHz  
  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 : 4  
  siblings : 8  
  physical 0: cores 0 1 2 3  
  physical 1: cores 0 1 2 3  
  cache size : 10240 KB

From /proc/meminfo
  
  MemTotal: 263571176 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)"  
  ANSI_COLOR="0;31"  
  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

---

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**Non Compliant**
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Platform Notes (Continued)

run-level 3 Mar 5 04:55

SPEC is set to: /spec16
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 xfs 443G 25G 418G 6% /

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 2133 MHz
8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz, configured at 2133 MHz

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>

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64
Huawei

Huawei RH2288 V3(Intel Xeon E5-2623 v4)

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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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
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<tbody>
<tr>
<td>410.bwaves</td>
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</tr>
<tr>
<td>416.gamess</td>
<td>-DSPEC_CPU_LP64</td>
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<tr>
<td>433.milc</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>434.zeusmp</td>
<td>-DSPEC_CPU_LP64 -nofor_main</td>
</tr>
<tr>
<td>435.gromacs</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>436.cactusADM</td>
<td>-DSPEC_CPU_LP64 -nofor_main</td>
</tr>
<tr>
<td>437.leslie3d</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>444.namd</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>447.dealII</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>450.soplex</td>
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<td>453.povray</td>
<td>-DSPEC_CPU_LP64</td>
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<td>454.calculix</td>
<td>-DSPEC_CPU_LP64 -nofor_main</td>
</tr>
<tr>
<td>459.GemsFDTD</td>
<td>-DSPEC_CPU_LP64</td>
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<tr>
<td>465.tonto</td>
<td>-DSPEC_CPU_LP64</td>
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<td>470.lbm</td>
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<td>481.wrf</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX</td>
</tr>
<tr>
<td>482.sphinx3</td>
<td>-DSPEC_CPU_LP64</td>
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### 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
```
SPEC CFP2006 Result

Huawei

Huawei RH2288 V3(Intel Xeon E5-2623 v4)

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
-xCORE-AVX2
-ipo
-03
-no-prec-div
-opt-prefetch
-ipo
-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
670.lbm: basepeak = yes
482.sphinx3: basepeak = yes

C++ benchmarks:
444.namd: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -03(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 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: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
            -unroll4 -auto-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=1 -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) -unroll4 -auto
            -inline-calloc -opt-malloc-options=3

15 benchmarks using both Fortran and C:

453.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

Non-Compliant
Huawei RH2288 V3 (Intel Xeon E5-2623 v4)

**SPEC CFP2006 Result**

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<thead>
<tr>
<th>SPECfp_rate2006</th>
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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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**Non-Compliant**

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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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