Huawei RH1288 V3 (Intel Xeon E5-2667 v4)

| SPECfp®2006 = | NC |
| SPECfp_base2006 = | NC |

**Copyright 2006-2016 Standard Performance Evaluation Corporation**

<table>
<thead>
<tr>
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</tr>
<tr>
<td>416.gamess</td>
</tr>
<tr>
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</tr>
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</tr>
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<td>481.wrf</td>
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<td>482.sphinx3</td>
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### SPEC CFP2006 Result

**Huawei**

Huawei RH1288 V3 (Intel Xeon E5-2667 v4)

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

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---

**Hardware**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon E5-2667 v4</td>
</tr>
<tr>
<td>CPU Characteristics</td>
<td>Intel Turbo Boost Technology up to 3.60 GHz</td>
</tr>
<tr>
<td>CPU MHz</td>
<td>3200</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>
</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>
</tr>
<tr>
<td>Secondary Cache</td>
<td>256 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3 Cache</td>
<td>25 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)</td>
</tr>
<tr>
<td>Disk Subsystem</td>
<td>1 x 1000 GB SATA, 7200rpm</td>
</tr>
<tr>
<td>Other Hardware</td>
<td>None</td>
</tr>
</tbody>
</table>

**Software**

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating System</td>
<td>Red Hat Enterprise Linux Server release 7.0 (Maipo) 3.10.0-123.el7.x86_64</td>
</tr>
</tbody>
</table>
| 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 |
| Auto Parallel | Yes |
| File System | ext4 |
| System State | Run level 3 (multi-user) |
| Base Pointers | 64-bit |
| Peak Pointers | 32/64-bit |
| Other Software | None |
Huawei

Huawei RH1288 V3 (Intel Xeon E5-2667 v4)

SPECfp2006 = NC
SPECfp_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
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Results Table

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<td>NC</td>
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<td>NC</td>
</tr>
</tbody>
</table>

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

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 Thu Mar 24 08:30:33 2016

Continued on next page
Huawei

Huawei RH1288 V3 (Intel Xeon E5-2667 v4)

SPECfp2006 = NC
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CPU2006 license: 3175
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Hardware Availability: Mar-2016
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Software Availability: Mar-2016

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Open Systems Group policy on general availability.

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 E5-2667 v4 @ 3.20GHz
  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
cautions.)
cpu cores : 8
siblings : 8
physical 0: cores 0 3 4 8 10 11 12
physical 1: cores 0 3 4 8 10 11 12
cache size : 25600 KB

From /proc/meminfo

MemTotal: 263571180 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 Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-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 Mar 24 08:21
SPEC is set to: /spec16

Continued on next page
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Platform Notes (Continued)

Filesystem     Type  Size  Used  Avail  Use%  Mounted on
/dev/sda2      ext4   913G  108G  759G  13%  /

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 where 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
  8x Samsung M393A2G40EB1-CRC 16 GB 2 rank 2400 MHz

(End of data from sysinfo program)

General Notes

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 = "16"

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/enable
runcpt command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Non-Compliant

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Base Compiler Invocation

C benchmarks:
  icc   -m64

C++ benchmarks:
  icpc  -m64

Fortran benchmarks:
  ifort -m64
### Huawei RH1288 V3 (Intel Xeon E5-2667 v4)

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### Base Compiler Invocation (Continued)

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

### Base Portability Flags

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<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
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<tr>
<td>410.bwaves</td>
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<tr>
<td>416.games</td>
<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>433.milc</td>
<td><code>-DSPEC_CPU_LP64</code></td>
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<tr>
<td>434.zeusmp</td>
<td><code>-DSPEC_CPU_LP64</code></td>
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<td><code>-DSPEC_CPU_LP64 -nofor_main</code></td>
</tr>
<tr>
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</tr>
<tr>
<td>437.leslie3d</td>
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</tr>
<tr>
<td>444.namd</td>
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<tr>
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<td><code>-DSPEC_CPU_LP64</code></td>
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</tr>
<tr>
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<td><code>-DSPEC_CPU_LP64</code></td>
</tr>
<tr>
<td>481.wrf</td>
<td><code>-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX</code></td>
</tr>
<tr>
<td>482.sphinx3</td>
<td><code>-DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX</code></td>
</tr>
</tbody>
</table>

### 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`

**Benchmarks using both Fortran and C:**
- `xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias`
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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
  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) -prof-use(pass 2) -fno-alias -auto-ilp32
  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) -prof-use(pass 2) -unroll4

Continued on next page...
SPEC CFP2006 Result

Huawei

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Peak Optimization Flags (Continued)

453.povray (continued):
   -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes

416.games: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
   -ipo(pass 2) -O3(pass 1) -no-prec-div(pass 2)
   -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll2
   -inline-level=0 -ipopt-prefetch parallel

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -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=0 -opt-prefetch parallel

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) -inline-calloc
   -opt-prefetch parallel 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

811.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
Huawei RH1288 V3 (Intel Xeon E5-2667 v4)  

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You can also download the XML flags sources by saving the following links:

- [Intel-ic16.0-official-linux64.xml](http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml)
- [Huawei-Platform-Settings-BDW-V1.0.xml](http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-BDW-V1.0.xml)

Non-Compliant