Huawei 1288H V5 (Intel Xeon Gold 6134)

<table>
<thead>
<tr>
<th>Test sponsor:</th>
<th>Huawei</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by:</td>
<td>Huawei</td>
</tr>
<tr>
<td>Hardware</td>
<td>Software</td>
</tr>
<tr>
<td>CPU Name:</td>
<td>Intel Xeon Gold 6134</td>
</tr>
<tr>
<td>CPU Characteristics:</td>
<td>Intel Turbo Boost Technology up to 3.70 GHz</td>
</tr>
<tr>
<td>CPU MHz:</td>
<td>3200</td>
</tr>
<tr>
<td>FPU:</td>
<td>Integrated</td>
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<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>
<td>1.2 chip</td>
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<tr>
<td>Primary Cache:</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Secondary Cache:</td>
<td>1 MB I+D on chip per core</td>
</tr>
<tr>
<td>Operating System:</td>
<td>Red Hat Enterprise Linux Server release 7.3 (Maipo)</td>
</tr>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 17.0.0.098 of Intel C/C++ Compiler for Linux; Fortran: Version 17.0.0.098 of Intel Fortran Compiler for Linux</td>
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<tr>
<td>Auto Parallel:</td>
<td>Yes</td>
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<td>File System:</td>
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**SPECfp®2006 = 142**

**SPECfp_base2006 = 137**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
<td>52.8</td>
</tr>
<tr>
<td>416.gamess</td>
<td>50.4</td>
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<tr>
<td>433.milc</td>
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<tr>
<td>434.zeusmp</td>
<td>251</td>
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<tr>
<td>435.gromacs</td>
<td>65.5</td>
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<tr>
<td>436.cactusADM</td>
<td>909</td>
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<tr>
<td>437.leslie3d</td>
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<td>444.namd</td>
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<td>447.dealII</td>
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<td>450.soplex</td>
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<td>459.GemsFDTD</td>
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<tr>
<td>465.tonto</td>
<td>68.7</td>
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<tr>
<td>470.lbm</td>
<td>58.5</td>
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<tr>
<td>481.wrf</td>
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<tr>
<td>482.sphinx3</td>
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**SPECfp_base2006 = 137**

**SPECfp2006 = 142**
Huawei

Huawei 1288H V5 (Intel Xeon Gold 6134)

SPECafka2006 Result

Huawei 1288H V5 (Intel Xeon Gold 6134)

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

Huawei

Huawei 1288H V5 (Intel Xeon Gold 6134)

SPEC CFP2006 Result

Huawei 1288H V5 (Intel Xeon Gold 6134)

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

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Peak Seconds</th>
<th>Peak Ratio</th>
<th>Peak Seconds</th>
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<td>481.wrf</td>
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<td>228</td>
<td>85.5</td>
<td>229</td>
<td>85.0</td>
</tr>
</tbody>
</table>

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

Operating System Notes

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

Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Custom
Set Hyper-Threading to Disable
Sysinfo program /spec17/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on localhost.localdomain Wed Jun 7 09:56:12 2017

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

Continued on next page

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Huawei

Huawei 1288H V5 (Intel Xeon Gold 6134)  

SPECfp2006 = 142
SPECfp_base2006 = 137

CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei  
Test date: Jun-2017  
Hardware Availability: Aug-2017  
Software Availability: Nov-2016

Platform Notes (Continued)

From /proc/cpuinfo

- model name: Intel(R) Xeon(R) Gold 6134 CPU @ 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 caution.)
  - cpu cores: 8
  - siblings: 8
  - physical 0: cores 0 2 3 9 16 19 26 27
  - physical 1: cores 0 2 3 9 16 19 26 27
- cache size: 25344 KB

From /proc/meminfo

- MemTotal: 394145204 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

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

- NAME="Red Hat Enterprise Linux Server"
- VERSION="7.3 (Maipo)"
- ID="rhel"
- ID_LIKE="fedora"
- VERSION_ID="7.3"
- PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
- ANSI_COLOR="0;31"
- CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
- redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
- system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)

uname -a:

Linux localhost.localdomain 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 6 13:18

SPEC is set to: /spec17

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 262G 87G 176G 34% /

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. 0.10 02/14/2017
Memory:
- 24x Samsung M393A2K43BB1-CTD 16 GB 2 rank 2666 MHz

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SPEC CFP2006 Result

Huawei
Huawei 1288H V5 (Intel Xeon Gold 6134)

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Platform Notes (Continued)

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/spec17/libs/32:/spec17/libs/64:/spec17/sh10.2"
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.2
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

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.zesmp: -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

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Huawei 1288H V5 (Intel Xeon Gold 6134)

SPECfp2006 = 142
SPECfp_base2006 = 137

CPU2006 license: 3175
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Hardware Availability: Aug-2017
Software Availability: Nov-2016

Base Portability Flags (Continued)

465.tonto: -DSPEC_CPU_LP64
470.ibm: -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 -qopt-prefetch

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch

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

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -qopt-prefetch

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:

Continued on next page
Huawei

Huawei 1288H V5 (Intel Xeon Gold 6134)

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CPU2006 license: 3175
Test sponsor: Huawei
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Tested by: Huawei
Hardware Availability: Aug-2017
Software Availability: Nov-2016

Peak Optimization Flags (Continued)

433.milc: basepeak = yes
470.lbm: basepeak = yes
482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
        -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -fno-alias -auto-ilp32

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

Fortran benchmarks:

410.bwaves: basepeak = yes
416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
        -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -unroll2 -inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes
437.leslie3d: basepeak = yes
459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
        -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -unroll2 -inline-level=0
        -qopt-prefetch -parallel

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
        -par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -inline-callloc -qopt-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

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SPEC CFP2006 Result

Huawei

Huawei 1288H V5 (Intel Xeon Gold 6134)

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CPU2006 license: 3175
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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-ic17.0-official-linux64.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-SKL-V1.6.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-SKL-V1.6.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.