Huawei

Huawei 5288 V3 (Intel Xeon E5-2630L v4)

<table>
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<tr>
<td>SPECfp\textsubscript{rate}_base\textsubscript{2006}</td>
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CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Test date: May-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 the SPEC CPU rule 1.3.2.  

Copies

| 410.bwaves |
| 416.gamess |
| 433.milc |
| 434.zeusmp |
| 435.gromacs |
| 436.cactusADM |
| 437.leslie3d |
| 444.namd |
| 447.dealII |
| 450.soplex |
| 453.povray |
| 454.calculix |
| 459.GemsFDTD |
| 465.tonto |
| 4.2.lbm |
| 481.wrf |
| 482.sphinx3 |
Huawei 5288 V3 (Intel Xeon E5-2630L v4)

<table>
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<tr>
<th>SPEC CPU2006 Result</th>
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CPU2006 license: 3175
Test date: May-2016
Test sponsor: Huawei
Hardware Availability: Mar-2016
Tested by: Huawei

CPU Name: Intel Xeon E5-2630L v4
CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz
CPU MHz: 1800
CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip, 2 threads/core
CPU(s) orderable: 1,2 chip
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 26 KB I+D on chip per core
L3 Cache: 25 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2400T-R, running at 2133 MHz)
Disk Subsystem: 1 x 500 GB SATA, 7.200 RPM

Software
Operating System: Red Hat Enterprise Linux Server release 7.2 (Maipo) 3.10.0-327.el7.x86_64
Compiler: C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux; Auto Parallel: No
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: None

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 5288 V3(Intel Xeon E5-2630L v4)

CPU2006 license: 3175
Test sponsor: Huawei
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Results Table

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<td>NC</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

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

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

Huawei 5288 V3(Intel Xeon E5-2630L v4)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
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Test date: May-2016
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Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Snoop Mode to ES mode
Set Patrol Scrub to Disable
Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb6b 0a285e82ceab81e28219e1
running on localhost.localdomain Wed May 11 02:19:20 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 E5-2630L v4 @ 1.80GHz
  2 "physical id"s (chips)
  40 "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 : 10
  siblings : 20
  physical 0: cores 0 1 2 3 4 8 9 10 11 12
  physical 1: cores 0 1 2 3 4 8 9 10 11 12
  cache size : 25600 KB

From /proc/meminfo
MemTotal: 65567004 kB
B HogPagees: Total: 0
HugePages: 0

From /etc/*release* /etc/*version*
NAME=Red Hat Enterprise Linux Server
VERSION="7.2 (Maipo)"
ID=rhel
ID_LIKE="fedora"
VERSION_ID="7.2"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.2 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME=cpe:/o:redhat:enterprise_linux:7.2:GA:server
redhat-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.2 (Maipo)

Continued on next page

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
SPECCFP2006 Result

Huawei
Huawei 5288 V3(Intel Xeon E5-2630L v4)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3175
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Test date: May-2016
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Platform Notes (Continued)

uname -a:
    Linux localhost.localdomain 3.10.0-327.el7.x86_64 #1 SMP Thu Oct 29 17:29:29 EDT 2015 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 May 6 08:37

SPEC is set to: /spec16

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda3      xfs   431G   84G  347G  20% /

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. 3.12 03/03/2016

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

(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
File system page cache cleared with:
    echo 1 > /proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:
    numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:
    icc  -m64

Continued on next page
Huawei

Huawei 5288 V3(Intel Xeon E5-2630L v4)

| SPECfp_rate2006 | NC |
| SPECfp_rate_base2006 | NC |

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m64

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>
</tr>
</thead>
<tbody>
<tr>
<td>410.bwaves</td>
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<td>-DSPEC_CPU_LP64 -nofor_main</td>
</tr>
<tr>
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<td>453.povray</td>
<td>-DSPEC_CPU_LP64</td>
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<td>-DSPEC_CPU_LP64 -nofor_main</td>
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<tr>
<td>459.GemsFDTD</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>465.tonto</td>
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<tr>
<td>470.lbm</td>
<td>-DSPEC_CPU_LP64</td>
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<tr>
<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>
</tr>
</tbody>
</table>

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
Huawei

Huawei 5288 V3(Intel Xeon E5-2630L v4)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3175
Test sponsor: Huawei
Test date: May-2016

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Base Optimization Flags (Continued)

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

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch auto-p32
-ansi-alias -opt-mem-layout-trans=3

Peak Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks (except as noted below):
icpc -m64

Fortran benchmarks:
ifort -m64

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

Peak Portability Flags

410.bwaves: -DSPEC_CPU_LP64
416.cactuse: -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.lbm: -DSPEC_CPU_LP64
444.namd: -DSPEC_CPU_LP64
447.dealII: -DSPEC_CPU_LP64
450.soplex -D_FILE_OFFSET_BITS=64
453.povray: -DSPEC_CPU_LP64
454.calculix: -DSPEC_CPU_LP64 -nofor_main
459.GemsFDTD: -DSPEC_CPU_LP64

Continued on next page
SPEC CFP2006 Result

Huawei

Huawei 5288 V3 (Intel Xeon E5-2630L v4)

SPECfp_rate2006 = NC
SPECfp_rate_base2006 = NC

CPU2006 license: 3175
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Peak Portability Flags (Continued)

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

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) -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
447.dealII: basepeak = yes
450.soplex: -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) -opt-malloc-options=3
455.povray: -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) -unroll4 -ansi-alias

Fortran benchmarks:

410.bwaves: basepeak = yes
416.gamess: -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) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep-

Non-compliant
## SPEC CFP2006 Result

**Huawei**

**Huawei 5288 V3 (Intel Xeon E5-2630L v4)**

<table>
<thead>
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<tr>
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- **CPU2006 license:** 3175
- **Test date:** May-2016
- **Test sponsor:** Huawei
- **Tested by:** Huawei
- **Hardware Availability:** Mar-2016
- **Software Availability:** Mar-2016

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**Peak Optimization Flags (Continued)**

- **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-spec-div(pass 2)
  - -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4 -auto
  - -inline-calloc -opt-malloc-options=3
- **481.wrf:**
  - -xCORE-AVX2(pass 2)
  - -prof-gen:threadsafe(pass 1)
  - -ipo(pass 2) -O3(pass 2) -no-spec-div(pass 2)
  - -par-num-threads=1(pass 1) -opt-mem-layout-trans=3(pass 2)
  - -prof-use(pass 2) -opt-prefetch -auto-ilp32

---

**Benchmarks using both Fortran and C:**

- **435.gromacs:**
  - -xCORE-AVX2(pass 2)
  - -prof-gen:threadsafe(pass 1)
  - -ipo(pass 2) -O3(pass 2) -no-spec-div(pass 2)
  - -par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4 -auto
  - -inline-calloc -opt-malloc-options=3
  - -opt-prefetch -auto-ilp32
- **436.cactusADM:** basepeak = yes
- **454.calculix:** 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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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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