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 XH622 V3 (Intel Xeon E5-2650L v4)

SPECint_rate2006 = NC
SPECint_rate_base2006 = NC

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

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Results Table

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<td>NC</td>
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<td>56</td>
<td>NC</td>
<td>56</td>
</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"

Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Performance
Set Snoop Mode to COD mode
Set Patrol Scrub to Disable
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec16/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Sat Apr  2 10:29:41 2016

Continued on next page
Huawei

Huawei XH622 V3 (Intel Xeon E5-2650L v4)

<table>
<thead>
<tr>
<th>SPECint_rate2006 = NC</th>
<th>SPECint_rate_base2006 = NC</th>
</tr>
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</table>

CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei  
Test date: Apr-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 SPEC CPU rule 1.3.2 and the SPEC 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 E5-2650L v4@ 1.70GHz
- 2 "physical id"s (chips)
- 56 "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 : 7
- siblings : 14
- physical 0: cores 0 2 3 4 5 6 9 10 11 12 13 14
- physical 1: cores 0 2 3 4 5 6 8 9 10 11 12 13 14
- cache size : 17920 KB

From /proc/meminfo

- MemTotal: 263566036 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"
- ID=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 Mar 30 06:06

SPEC is set to: /spec16

Filesystem    Type    Size    Used    Avail    Use%    Mounted on
Continued on next page

Non-Compliant
Huawei

Huawei XH622 V3 (Intel Xeon E5-2650L v4)

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Platform Notes (Continued)
/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 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
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:
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.
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
runcase 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.
These have been measured on a Huawei XH620 V3 model

Base Compiler Invocation

C benchmarks:
icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
C++ benchmarks:
icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
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.

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX=-IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -03 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3

C++ benchmarks:
-xCORE-AVX2 -ipo -03 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap

Base Other Flags

C benchmarks:
-Wl,dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin
400.perlbench: icc -m64
Huawei XH622 V3 (Intel Xeon E5-2650L v4)

### SPEC CINT2006 Result

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<thead>
<tr>
<th>SPECint_rate2006</th>
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**CPU2006 license:** 3175  
**Test date:** Apr-2016  
**Hardware Availability:** Mar-2016  
**Test sponsor:** Huawei  
**Tested by:** Huawei  
**Software Availability:** Mar-2016  

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## Peak Compiler Invocation (Continued)

- `401.bzip2`: `icc -m64`
- `456.hmmer`: `icc -m64`
- `458.sjeng`: `icc -m64`

**C++ benchmarks:**

`icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

## Peak Portability Flags

- `400.perlbench`: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
- `401.bzip2`: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64`
- `403.gcc`: `-D_FILE_OFFSET_BITS=64`
- `429.mcf`: `-D_FILE_OFFSET_BITS=64`
- `445.gobmk`: `-D_FILE_OFFSET_BITS=64`
- `456.hmmer`: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64`
- `458.sjeng`: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64`
- `462.libquantum`: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LP64`
- `464.h264ref`: `-D_FILE_OFFSET_BITS=64`
- `471.omnetpp`: `-D_FILE_OFFSET_BITS=64`
- `473.astar`: `-D_FILE_OFFSET_BITS=64`
- `483.xalancbmk`: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX`

## Peak Optimization Flags

**C benchmarks**

- `400.perlbench`: `-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) -auto-ilp32`

- `401.bzip2`: `-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) -opt-prefetch`  
  `-auto-ilp32 -ansi-alias`

- `403.gcc`: `basepeak = yes`

Continued on next page
SPEC CINT2006 Result

Huawei

Huawei XH622 V3 (Intel Xeon E5-2650L v4)

SPECint_rate2006 = NC
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Peak Optimization Flags (Continued)

429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2 (pass 2) -prof-gen:threadsafe (pass 1)
            -prof-use (pass 2) -par-num-threads=1 (pass 1) -ansi-alias
            -opt-mem-layout-trans=3
456.hmmer: -xCORE-AVX2 -ipo (pass 2) -no-prec-div -unroll2 -auto-ilp32
458.sjeng: -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) -unroll14
            -auto-ilp32
462.libquantum: basepeak = yes
464.h264ref: -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) -unroll12
            -ansi-alias

C++ benchmarks:

471.omnetpp: -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) -ansi-alias
            -opt-ra-region-strategy=block -Wl,-z,muldefs
            -L/sh -lsmartheap
473.astar: basepeak = yes
493.scalapack: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Non-Compliant
Huawei

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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 using 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 other inquiries, please contact webmaster@spec.org.

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