Huawei CH121 V3 (Intel Xeon E5-2630L v3)

| SPECint®_rate2006 = 592 | SPECint_rate_base2006 = 570 |

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

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| SPECint_rate_base2006 = 570 |

- CPU Name: Intel Xeon E5-2630L v3
- CPU Characteristics: Intel Turbo Boost Technology up to 2.90 GHz
- CPU MHZ: 1800
- FPU: Integrated
- CPU(s) enabled: 16 cores, 2 chips, 8 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: 256 KB I+D on chip per core
- L3 Cache: 20 MB I+D on chip per chip
- Other Cache: None
- Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)
- Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
- Other Hardware: None

Hardware

Software

Operating System: Red Hat Enterprise Linux Server release 6.5
(Santiago) 2.6.32-431.el6.x86_64
Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0
Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Peak Seconds</th>
<th>Peak Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>763</td>
<td>410</td>
<td>760</td>
<td>411</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>32</td>
<td>1110</td>
<td>278</td>
<td>1109</td>
<td>279</td>
</tr>
<tr>
<td>403.gcc</td>
<td>32</td>
<td>583</td>
<td>442</td>
<td>583</td>
<td>442</td>
</tr>
<tr>
<td>429.mcf</td>
<td>32</td>
<td>940</td>
<td>357</td>
<td>940</td>
<td>357</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>32</td>
<td>380</td>
<td>793</td>
<td>377</td>
<td>793</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>32</td>
<td>1020</td>
<td>380</td>
<td>1020</td>
<td>380</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>32</td>
<td>1133</td>
<td>626</td>
<td>1133</td>
<td>625</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>32</td>
<td>572</td>
<td>350</td>
<td>571</td>
<td>350</td>
</tr>
<tr>
<td>473.astar</td>
<td>32</td>
<td>713</td>
<td>315</td>
<td>705</td>
<td>319</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>32</td>
<td>337</td>
<td>656</td>
<td>338</td>
<td>653</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 Custom
Set Snoop Mode to ES
Set Hyper-Threading to Disabled
Set Patrol Scrub to Disable
Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Sun Feb 1 23:37:25 2015

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 v3 @ 1.80GHz
2 "physical id"s (chips)
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Software Availability: Nov-2013

Platform Notes (Continued)

32 "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 : 16
  physical 0: cores 0 1 2 3 4 5 6 7
  physical 1: cores 0 1 2 3 4 5 6 7
  cache size : 20480 KB

From /proc/meminfo
  MemTotal: 264275292 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
  Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*
  redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
  system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)

uname -a:
  Linux localhost.localdomain 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54 EST 2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 1 23:36

SPEC is set to: /spec
  Filesystem Type Size Used Avail Use% Mounted on
  /dev/sda1 ext4 268G 138G 117G 55% /

Additional information from dmidecode:
  BIOS Insyde Corp. 1.13 08/12/2014
  Memory:
  8x NO DIMM NO DIMM 3 rank
  8x Samsung M393A2G40DB0-CPB 16 GB 1867 MHz 1 rank
  8x Samsung M393A2G40DB0-CPB 16 GB 1867 MHz 2 rank

(End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
  LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64:/spec/sh"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
  Transparent Huge Pages enabled with:
  echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
Continued on next page
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### General Notes (Continued)

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

The Huawei CH121 V3 and Huawei CH222 V3 are electronically equivalent.

The results have been measured on a Huawei CH121 V3 model.

### Base Compiler Invocation

C benchmarks:
- `icc -m32`

C++ benchmarks:
- `icpc -m32`

### Base Portability Flags

- `400.perlbench: -DSPEC_CPU_LINUX_IA32`
- `462.libquantum: -DSPEC_CPU_LINUX`
- `483.xalancbmk: -DSPEC_CPU_LINUX`

### Base Optimization Flags

C benchmarks:
- `-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

C++ benchmarks:
- `-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap`

### Base Other Flags

C benchmarks:
- `403.gcc: -Dalloca=_alloca`

### Peak Compiler Invocation

C benchmarks (except as noted below):
- `icc -m32`

Continued on next page
SPEC CINT2006 Result

Huawei
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Peak Compiler Invocation (Continued)

400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32
401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias
403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div
429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3
456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32
Huawei

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**Peak Optimization Flags (Continued)**

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

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**Peak Other Flags**

C benchmarks:

403.gcc: -Dalloca=_alloca

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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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.html

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

http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.xml

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

Tested with SPEC CPU2006 v1.2.


Originally published on 24 February 2015.