Huawei CH121 (Intel Xeon E5-2670 v2)

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

SPECint\_rate2006 = 816
SPECint\_rate\_base2006 = 788

CPU Name: Intel Xeon E5-2670 v2
CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz: 2500
FPU: Integrated
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: 256 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 PC3-14900R-13, ECC)
Disk Subsystem: 1 x 300 GB SAS, 10000 RPM
Other Hardware: None

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
Composer: 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
# SPEC CINT2006 Result

## Huawei

**Huawei CH121 (Intel Xeon E5-2670 v2)**

<table>
<thead>
<tr>
<th>Benchmark</th>
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<td>328</td>
<td>841</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"

## Platform Notes

BIOS configuration:
Set Power Efficiency Mode to Custom
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 Wed Jul 16 08:50:05 2014

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 E5-2670 v2 @ 2.50GHz
  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
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Platform Notes (Continued)

cautions.)
  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: 264478184 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 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 Jul 16 08:47

SPEC is set to: /spec
  Filesystem   Type  Size  Used Avail Use% Mounted on
  /dev/sda2    ext4  272G   90G  168G  35% /

Additional information from dmidecode:
  BIOS Insyde Corp. RMIBV629 05/12/2014
  Memory:
    2x Hynix HMT42GR7AFR4C-RD 16 GB 1866 MHz 2 rank
    8x NO DIMM NO DIMM
    14x Samsung M393B2G70QH0-CMA 16 GB 1866 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
Filesystem page cache cleared with:
  echo 1>/proc/sys/vm/drop_caches
runspec command invoked through numactl i.e.:

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CPU2006 license: 3175
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Tested by: Huawei
Test date: Jul-2014
Hardware Availability: Sep-2013
Software Availability: Nov-2013

General Notes (Continued)
numactl --interleave=all runspec <etc>

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:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -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

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

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Test date: Jul-2014
Hardware Availability: Sep-2013
Software Availability: Nov-2013

### Peak Compiler Invocation (Continued)

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

### Peak Portability Flags

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>-DSPEC_CPU_LP64</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>-DSPEC_CPU_LINUX</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>-DSPEC_CPU_LINUX</td>
</tr>
</tbody>
</table>

### Peak Optimization Flags

C benchmarks:

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -prof-use(pass 2) -O3(pass 2) -no-prec-div(pass 2) -auto-ilp32</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>-xSSE4.2(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</td>
</tr>
<tr>
<td>403.gcc</td>
<td>basepeak = yes</td>
</tr>
<tr>
<td>429.mcf</td>
<td>basepeak = yes</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32</td>
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<tr>
<td>462.libquantum</td>
<td>basepeak = yes</td>
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<tr>
<td>464.h264ref</td>
<td>-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias</td>
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</table>

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<tr>
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<td>Software Availability: Nov-2013</td>
</tr>
</tbody>
</table>

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: -xSSE4.2(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

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

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

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-V1.0-IVB-RevG.xml

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

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