Huawei
Huawei CH140

SPECint®2006 = 62.0
SPECint_base2006 = 56.6

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

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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>33.1</td>
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<tr>
<td>401.bzip2</td>
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<td>403.gcc</td>
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<td>462.libquantum</td>
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<td>473.aster</td>
<td>56.6</td>
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<tr>
<td>483.xalancbmk</td>
<td>56.6</td>
</tr>
</tbody>
</table>

Software

- Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
- Compiler: C/C++ Version 12.1.0.225 of Intel C++ Studio XE for Linux
- Auto Parallel: Yes
- File System: ext3
- System State: Run level 3 (multi-user)
- Base Pointers: 32/64-bit
- Peak Pointers: 32/64-bit
- Other Software: Microquill SmartHeap V9.01

Hardware

- CPU Name: Intel Xeon E5-2680 v2
- CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
- CPU MHz: 2800
- FPU: Integrated
- CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip
- 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: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)
- Disk Subsystem: 1 X 500 GB SATA 7200RPM
- Other Hardware: None
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SPECint2006 = 62.0
SPECint_base2006 = 56.6

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
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</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 Performance
Set Intel HT Technology to Disable

Sysinfo program /spec/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost Fri Jun 6 16:20:34 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 E5-2680 v2 @ 2.80GHz
  2 "physical id"s (chips)
  20 "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 : 10
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

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Platform Notes (Continued)

From /proc/meminfo
   MemTotal:       132114848 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 Jun 6 16:19

SPEC is set to: /spec
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda2      ext3  455G  101G  331G  24% /

Additional information from dmidecode:
   Memory:
      8x Samsung M393B2G70BH0-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:
   KMP_AFFINITY = "granularity=fine,compact,0,1"
   LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64"
   OMP_NUM_THREADS = "20"

Binaries compiled on a system with 2 x Xeon X5645 CPU + 16GB memory
using RHEL 6.1
Transparent Huge Pages enabled with:
   echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

Base Compiler Invocation

C benchmarks:
   icc  -m64

C++ benchmarks:
   icpc  -m64
SPEC CINT2006 Result

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Base Portability Flags

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

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/smartheap -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc  -m64
400.perlbench: icc  -m32
445.gobmk: icc  -m32
464.h264ref: icc  -m32
C++ benchmarks (except as noted below):
icpc  -m32
473.astar: icpc  -m64
## SPEC CINT2006 Result

### Huawei

**Huawei CH140**

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

### Peak Portability Flags

- **400.perlbench:** -DSPEC_CPU_LINUX_IA32
- **401.bzip2:** -DSPEC_CPU_LP64
- **403.gcc:** -DSPEC_CPU_LP64
- **429.mcf:** -DSPEC_CPU_LP64
- **456.hmmer:** -DSPEC_CPU_LP64
- **458.sjeng:** -DSPEC_CPU_LP64
- **462.libquantum:** -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
- **473.astar:** -DSPEC_CPU_LP64
- **483.xalancbmk:** -DSPEC_CPU_LINUX

### Peak Optimization Flags

#### C benchmarks:

- **400.perlbench:** -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 -ansi-alias

- **401.bzip2:** -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
  -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
  -opt-prefetch -ansi-alias

- **403.gcc:** -xAVX -ipo -O3 -no-prec-div -inline-calloc
  -opt-malloc-options=3 -auto-ilp32

- **429.mcf:** basepeak = yes

- **445.gobmk:** -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
  -ansi-alias

- **456.hmmer:** -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
  -ansi-alias

- **458.sjeng:** basepeak = yes

- **462.libquantum:** -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch
  -auto-p32

- **464.h264ref:** -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

#### 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)
  -opt-ra-region-strategy=block
  -Wl,-z,muldefs -L/smartheap -lsmartheap

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Huawei
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SPECint2006 = 62.0
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Peak Optimization Flags (Continued)

473.astar: basepeak = yes
483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

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-ic12.1-official-linux64.20120425.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.0-IVB-RevG.xml