Huawei
Huawei CH242 v3

**SPECint** _rate2006 = NC
SPECint_rate_base2006 = NC

**Hardware**
- **CPU Name:** Intel Xeon E7-4830 v2
- **CPU Characteristics:** Intel Turbo Boost Technology up to 2.70 GHz
- **CPU MHz:** 2200
- **FPU:** Integrated
- **CPU(s) enabled:** 40 cores, 4 chips, 10 cores/chip, 2 threads/core
- **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 core
- **Other Cache:** None

**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

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

**Test date:** May-2014
**Hardware Availability:** Jan-2014
**Software Availability:** Nov-2013

***SPEC has determined that this result is not in compliance with the SPEC CPU2006 run and reporting rules. Specifically, the submitter has notified SPEC that the system was run with a BIOS which included a version of the Intel MRC (Memory Reference Code) that is not supported by Huawei or Intel.***

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**Continued on next page**
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Results Table

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</tbody>
</table>

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"
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Platform Notes

BIOS configuration:
Set VMSE LockStep mode disable
Sysinfo program /spec/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572c3afe4d596a3cee98f191 running on localhost.localdomain Sun May 12 0:21 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 E7-4830 v2 @ 2.20GHz
  4 "physical id"s (chips)
  80 "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 4 5 6 7 8 9 10 11 12
  physical 1: cores 1 2 3 4 8 9 10 11 12
  physical 2: cores 0 1 2 3 4 8 9 10 11 12
  physical 3: cores 0 1 2 3 4 8 9 10 11 12
  cache size : 20480 KB

From /proc/meminfo
MemTotal: 264354328 kB
MemFree: 2048 kB

From /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

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Platform Notes (Continued)

run-level 3 May 4 11:22

SPEC is set to: /spec
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 265G 126G 126G 51% /

Additional information from dmidecode:
BIOS American Megatrends Inc. BLISV033 02/27/2014
Memory:
32x 8 GB
8x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank
24x Samsung M393B1K70DH0-CH9 8 GB 1333 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
numactl --interleave=all runspec <etc>

C benchmarks:  
icc -m32

C++ benchmarks:  
icpc -m32

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CPU2006 license: 3175  
Test sponsor: Huawei  
Tested by: Huawei  
Test date: May-2014  
Hardware Availability: Jan-2014  
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### Base Portability Flags

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<tr>
<td>400.perlbench</td>
<td>-DSPEC_CPU_LINUX_IA32</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>

### Base Optimization Flags

C benchmarks:
- -xSSE4.2  
- -ipo  
- -o3  
- -no-rec-div  
- -opt-prefetch  
- -opt-mem-layout-trans=3

C++ benchmarks:
- -xSSE4.2  
- -ipo  
- -o3  
- -no-rec-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
- icc -m64
- icc -m64
- icc -m64
- icc -m64
- icc -m64

C++ benchmarks:
- icpc -m32
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Peak Optimization Flags

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<td>-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32</td>
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</tr>
<tr>
<td>450.hmmer</td>
<td>-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32</td>
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<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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