Huawei RH2288A V2 (Intel Xeon E5-2630L v2)

**SPECint_rate2006 = 456**  
**SPECint_rate_base2006 = 439**

**Hardware**
- **CPU Name:** Intel Xeon E5-2630L v2  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 2.80 GHz  
- **CPU MHz:** 2400  
- **FPU:** Integrated  
- **CPU(s) enabled:** 12 cores, 2 chips, 6 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:** 15 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 128 GB (8 x 16 GB 2Rx4 PC3-14900R-11, ECC, running at 1600 MHz)  
- **Disk Subsystem:** 1 x 500 GB SATA, 7200 RPM  
- **Other Hardware:** None

**Software**
- **Operating System:** Red Hat Enterprise Linux Server release 6.5 (Santiago)  
- **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
Huawei

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SPECint_rate_base2006 = 439

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

Results Table

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<th>Ratio</th>
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<td></td>
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</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 Mon Sep  1 06:13:57 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 E5-2630L v2 @ 2.40GHz
  2 "physical id"s (chips)
  24 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with
Continued on next page
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Platform Notes (Continued)

cautions.

cpu cores : 6
siblings : 12
physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
cache size : 15360 KB

From /proc/meminfo
MemTotal: 132103760 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 Sep 1 06:06

SPEC is set to: /spec
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda1 ext4 439G 74G 343G 18% /

Additional information from dmidecode:
BIOS Insyde Corp. RMIBV388 08/09/2014
Memory:
  8x Samsung M393B2G70QH0-CMA 16 GB 1600 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 numacl1 i.e.:
umactl --interleave=all runspec <etc>
The Huawei RH2288A V2 and Huawei RH1288A V2

Continued on next page
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Hardware Availability: Sep-2013
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General Notes (Continued)
are electronically equivalent.
The results have been measured on a Huawei RH2288A V2 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:

```
-xSSE4.2 -ipo -03 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
```

C++ benchmarks:

```
-xSSE4.2 -ipo -03 -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
```

Continued on next page
Huawei

Huawei RH2288A V2 (Intel Xeon E5-2630L v2)

**SPEC CINT2006 Result**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>SPECint_rate2006</td>
<td>456</td>
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<td>SPECint_rate_base2006</td>
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**CPU2006 license:** 3175
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**Peak Compiler Invocation (Continued)**

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: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilkp32`

401.bzip2: `-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`

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

458.sjeng: `-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`

462.libquantum: basepeak = yes

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`

Continued on next page
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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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