Huawei RH2288H V3 (Intel Xeon E5-2637 v3)

**SPECint\_rate2006 = 479**

**SPECint\_rate\_base2006 = 459**

<table>
<thead>
<tr>
<th>Test date:</th>
<th>May-2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability:</td>
<td>Sep-2014</td>
</tr>
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<td>Software Availability:</td>
<td>Jun-2014</td>
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</tbody>
</table>

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

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</tbody>
</table>

**SPECint\_rate2006**

| SPECint\_rate\_base2006 | 459 |

**CPU Name:** Intel Xeon E5-2637 v3

**CPU Characteristics:** Intel Turbo Boost Technology up to 3.70 GHz

**CPU MHz:** 3500

**FPU:** Integrated

**CPU(s) enabled:** 8 cores, 2 chips, 4 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:** 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)

**Disk Subsystem:** 1 x 256 GB SATA, SSD

**Other Hardware:** None

**Operating System:** Red Hat Enterprise Linux Server release 7.0 (Maipo)

3.10.0-123.el7.x86_64

**Compiler:** C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux

**Auto Parallel:** No

**File System:** xfs

**System State:** Run level 3 (multi-user)

**Base Pointers:** 32-bit

**Peak Pointers:** 32/64-bit

**Other Software:** Microquill SmartHeap V10.0

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Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Huawei RH2288H V3 (Intel Xeon E5-2637 v3)

SPEC CINT2006 Result

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Huawei

SPECint_rate2006 = 479
SPECint_rate_base2006 = 459

CPU2006 license: 3175
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Results Table

<table>
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<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
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<tr>
<td>471.omnetpp</td>
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<td>411</td>
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<td>473.astar</td>
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</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 Patrol Scrub to Disable

Baseboard Management Controller used to adjust the fan speed to 100%
Sysinfo program /spec/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 #$ e3fbb8667b5a285932ceab81e28219e1
running on localhost.localdomain Mon May 25 05:53:50 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 E5-2637 v3 @ 3.50GHz
  2 "physical id"s (chips)
  16 "processors"

Continued on next page
## Huawei RH2288H V3 (Intel Xeon E5-2637 v3)

### SPECint Rate2006

- **SPECint_rate2006** = 479
- **SPECint_rate_base2006** = 459

### CPU2006 Details
- **CPU2006 license**: 3175
- **Test sponsor**: Huawei
- **Tested by**: Huawei
- **Test date**: May-2015
- **Hardware Availability**: Sep-2014
- **Software Availability**: Jun-2014

### Platform Notes (Continued)

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 : 4
siblings : 8
physical 0: cores 0 1 4 5
physical 1: cores 0 1 4 5
cache size : 15360 KB
```

From /proc/meminfo

```
MemTotal:       263579368 kB
HugePages_Total:       0
Hugepagesize:       2048 kB
```

From /etc/*release* /etc/*version*

```
os-release:
  NAME="Red Hat Enterprise Linux Server"
  VERSION="7.0 (Maipo)"
  ID="rhel"
  ID_LIKE="fedora"
  VERSION_ID="7.0"
  PRETTY_NAME="Red Hat Enterprise Linux Server 7.0 (Maipo)"
  ANSI_COLOR="0;31"
  CPE_NAME="cpe:/o:redhat:enterprise_linux:7.0:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.0 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.0:ga:server
```

```
uname -a:
Linux localhost.localdomain 3.10.0-123.el7.x86_64 #1 SMP Mon May 5 11:16:57 EDT 2014 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 May 22 12:51
```

```
SPEC is set to: /spec
```

```
Filesystem     Type  Size   Used Avail   Use% Mounted on
/dev/sda2      xfs  440G  147G   293G  34% /
```

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

```
BIOS Insyde Corp. 1.30 02/12/2015
Memory:
  8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz
  8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz
  8x NO DIMM NO DIMM   3 rank
```

(End of data from sysinfo program)
## SPEC CINT2006 Result

### Huawei RH2288H V3 (Intel Xeon E5-2637 v3)

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**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 i5-4670K CPU + 16GB memory using RedHat EL 7.0

Transparent Huge Pages enabled with:
```
echo always > /sys/kernel/mm/transparent_hugepage/enabled
```

Filesystem page cache cleared with:
```
echo 1 > /proc/sys/vm/drop_caches
```

runspec command invoked through numactl i.e.:
```
numactl --interleave=all runspec <etc>
```

### Base Compiler Invocation

**C benchmarks:**
```
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

**C++ benchmarks:**
```
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

### 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
```
## Huawei RH2288H V3 (Intel Xeon E5-2637 v3)

**CPU2006 license:** 3175  
**Test sponsor:** Huawei  
**Tested by:** Huawei  
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### SPECint Rate2006

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<td>icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32</td>
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<tr>
<td>401.bzip2</td>
<td>icc -m64</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>icc -m64</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>icc -m64</td>
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### Peak Portability Flags

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<th>Benchmark</th>
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<tbody>
<tr>
<td>400.perlbench</td>
<td>-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64</td>
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### Peak Optimization Flags

#### C benchmarks:

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<tr>
<td>400.perlbench</td>
<td>-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</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>-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</td>
</tr>
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Huawei RH2288H V3 (Intel Xeon E5-2637 v3)

| SPECint_rate2006 | 479 |
| SPECint_rate_base2006 | 459 |

CPU2006 license: 3175  Test date: May-2015
Test sponsor: Huawei  Hardware Availability: Sep-2014
Tested by: Huawei  Software Availability: Jun-2014

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-rr-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-ic15.0-official-linux64.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-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.4.xml

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