## Huawei RH5885 V3 (Intel Xeon E7-8850 v2)

**SPECint\_rate2006 = 1400**

**SPECint\_rate_base2006 = 1370**

<table>
<thead>
<tr>
<th>CPU2006 license:</th>
<th>Test date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3175</td>
<td>Jul-2014</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test sponsor:</th>
<th>Hardware Availability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huawei</td>
<td>Feb-2014</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Tested by:</th>
<th>Software Availability:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huawei</td>
<td>Nov-2013</td>
</tr>
</tbody>
</table>

### Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Operating System:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel Xeon E7-8850 v2</td>
<td>Red Hat Enterprise Linux Server release 6.5 (Santiago)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU Characteristics:</th>
<th>Compiler:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel Turbo Boost Technology up to 2.80 GHz</td>
<td>C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU MHz:</th>
<th>Auto Parallel:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2300</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FPU:</th>
<th>File System:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated</td>
<td>ext4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU(s) enabled:</th>
<th>System State:</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 cores, 4 chips, 12 cores/chip, 2 threads/core</td>
<td>Run level 3 (multi-user)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU(s) orderable:</th>
<th>Base Pointers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4 chips</td>
<td>32-bit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary Cache:</th>
<th>Peak Pointers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 KB I + 32 KB D on chip per core</td>
<td>32/64-bit</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary Cache:</th>
<th>Other Software:</th>
</tr>
</thead>
<tbody>
<tr>
<td>256 KB I+D on chip per core</td>
<td>Microquill SmartHeap V10.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L3 Cache:</th>
<th>Software:</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 MB I+D on chip per chip</td>
<td></td>
</tr>
</tbody>
</table>

| Other Cache: | |
|--------------||
| None         | |

| Memory: | |
|---------||
| 256 GB (16 x 16 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz) | |

| Disk Subsystem: | |
|-----------------||
| 2 x 600 GB SAS, 10K RPM | |

| Other Hardware: | |
|-----------------||
| None            | |
Huawei

Huawei RH5885 V3 (Intel Xeon E7-8850 v2)

**SPEC CINT2006 Result**

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

**Test date:** Jul-2014  
**Hardware Availability:** Feb-2014  
**Software Availability:** Nov-2013  

---

**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>96</td>
<td>757</td>
<td>1240</td>
<td>754</td>
<td>1240</td>
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<td>642</td>
<td>1460</td>
<td>641</td>
<td>1460</td>
<td>641</td>
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<td></td>
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<tr>
<td>401.bzip2</td>
<td>96</td>
<td>1302</td>
<td>712</td>
<td>1298</td>
<td>714</td>
<td>1301</td>
<td>712</td>
<td>96</td>
<td>767</td>
<td>1010</td>
<td>766</td>
<td>1010</td>
<td>766</td>
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<td>403.mcf</td>
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<td>766</td>
<td>1010</td>
<td>767</td>
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<td>765</td>
<td>1010</td>
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<td>766</td>
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<td>429.mcf</td>
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<td>527</td>
<td>1660</td>
<td>527</td>
<td>1660</td>
<td>525</td>
<td>1670</td>
<td>96</td>
<td>527</td>
<td>1660</td>
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<td>445.gobmk</td>
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<td>820</td>
<td>1230</td>
<td>821</td>
<td>1230</td>
<td>821</td>
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<td>456.hmmer</td>
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<td>483</td>
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<td>484</td>
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<tr>
<td>458.sjeng</td>
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<td>959</td>
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<td>959</td>
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<tr>
<td>462.libquantum</td>
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<td>9810</td>
<td>203</td>
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<tr>
<td>464.h264ref</td>
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<td>1015</td>
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<td>1031</td>
<td>2060</td>
<td>1015</td>
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<td>1005</td>
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<tr>
<td>471.omnetpp</td>
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<td>1018</td>
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<td>1018</td>
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<tr>
<td>473.astar</td>
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<td>928</td>
<td>726</td>
<td>922</td>
<td>731</td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>96</td>
<td>526</td>
<td>1260</td>
<td>526</td>
<td>1260</td>
<td>526</td>
<td>1260</td>
<td>96</td>
<td>526</td>
<td>1260</td>
<td>526</td>
<td>1260</td>
<td>526</td>
<td>1260</td>
<td></td>
</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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**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 Performance
- Set Lock_step to disabled

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 RH5885V3 Thu Jul 24 09:24:02 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 E7-8850 v2 @ 2.30GHz
  4 "physical id"s (chips)
  96 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
 Continued on next page
```

---

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/
Huawei RH5885 V3 (Intel Xeon E7-8850 v2)

SPECint_rate2006 = 1400
SPECint_rate_base2006 = 1370

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

Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 12
siblings : 24
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 24576 KB

From /proc/meminfo
MemTotal: 264351944 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 RH5885V3 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 23 16:10

SPEC is set to: /spec
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 385G 13G 353G 4% /spec

Additional information from dmidecode:
BIOS American Megatrends Inc. BLISV050 06/07/2014
Memory:
  16x 16 GB
  14x Hynix HMT42GR7AFR4C-PB 16 GB 1066 MHz 2 rank
  2x Hynix HMT42GR7MFR4C-PB 16 GB 1066 MHz 2 rank
  32x NO DIMM NO DIMM

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of memory is 256 GB and the dmidecode description should have two lines reading as:
  14x Hynix HMT42GR7AFR4C-PB 16 GB 1066 MHz 2 rank
  2x Hynix HMT42GR7MFR4C-PB 16 GB 1066 MHz 2 rank
Huawei

Huawei RH5885 V3 (Intel Xeon E7-8850 v2)

| SPECint_rate2006 | 1400 |
|SPECint_rate_base2006 | 1370 |

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

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.:
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
Huawei

Huawei RH5885 V3 (Intel Xeon E7-8850 v2)

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<tr>
<th>SPECint_rate2006</th>
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CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

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

Peak Compiler Invocation

C benchmarks (except as noted below):

```plaintext
icc -m32
400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64
```

C++ benchmarks:

```plaintext
icpc -m32
```

Peak Portability Flags

```plaintext
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:

```plaintext
400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
              -prof-use(pass 2)
              -xO3(pass 2) -no-prec-div(pass 2) -auto-ilp32
401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
           -xO3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
           -opt-prefetch -auto-ilp32 -ansi-alias
403.gcc: -xSSE4.2 -ipo -xO3 -no-prec-div
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 -xO3 -no-prec-div -unroll2 -auto-ilp32
458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
           -xO3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
           -unroll4 -auto-ilp32
```
SPEC CINT2006 Result

Huawei

Huawei RH5885 V3 (Intel Xeon E7-8850 v2)

SPECint_rate2006 = 1400
SPECint_rate_base2006 = 1370

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

Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes
464.h264ref: basepeak = yes

C++ benchmarks:
471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(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.xalanchbmk: 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

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

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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http://www.spec.org/