Huawei RH5885 V3 (Intel Xeon E7-8893 v3)

**SPECint\_rate2006 = 889**

**SPECint\_rate\_base2006 = 850**

<table>
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<tr>
<th>Program</th>
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<th>SPECint_rate2006</th>
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<tr>
<td>400.perlbench</td>
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<td>429.mcf</td>
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<td>445.gobmk</td>
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<td>456.hmmer</td>
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<td>850</td>
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</table>

**Huawei**

- **CPU2006 license:** 3175
- **Test date:** Oct-2015
- **CPU Name:** Intel Xeon E7-8893 v3
- **Compiler:** C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
- **Test sponsor:** Huawei
- **Hardware Availability:** May-2015
- **Hardware Characteristics:**
  - Intel Xeon E7-8893 v3
  - CPU MHz: 3200
  - CPU(s) enabled: 16 cores, 4 chips, 4 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: 45 MB I+D on chip per chip
  - Memory: 512 GB (32 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
- **Operating System:** SUSE Linux Enterprise Server 12 (x86_64) 3.12.28-4-default
- **File System:** ext4
- **System State:** Run level 3 (multi-user)
- **Software Availability:** Oct-2014
- **Other Software:** Microquill SmartHeap V10.0

**Other Hardware:** 2 x 300 GB SAS, 10K RPM

---

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info@spec.org

http://www.spec.org/
Huawei RH5885 V3 (Intel Xeon E7-8893 v3)

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

Results Table

<table>
<thead>
<tr>
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<td>217</td>
<td>1020</td>
<td>217</td>
</tr>
</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 Performance
Set Lock_step to disabled
Baseboard Management Controller used to adjust the fan speed to 100%
Set Memory Power Saving to disabled
Sysinfo program /zsn/spec1/config/sysinfo.rev6914
$Rev: 6914 $ $Date:: 2014-06-25 $$ e3fbb8667b5a285932ceab81e28219e1
running on RH5885V3 Thu Oct 15 10:02:05 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 E7-8893 v3 @ 3.20GHz
4 "physical id"s (chips)
32 "processors"
Huawei RH5885 V3 (Intel Xeon E7-8893 v3)

**SPECint_rate2006 =** 889
**SPECint_rate_base2006 =** 850

**CPU2006 license:** 3175  
**Test date:** Oct-2015  
**Test sponsor:** Huawei  
**Hardware Availability:** May-2015  
**Tested by:** Huawei  
**Software Availability:** Oct-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.)

```plaintext
cpu cores : 4  
siblings : 8  
physical 0: cores 1 5 16 20  
physical 1: cores 1 5 16 20  
physical 2: cores 1 5 16 20  
physical 3: cores 1 5 16 20
```

cache size : 46080 KB

From /proc/meminfo

```plaintext
MemTotal: 529120176 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB
```

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

```plaintext
SuSE-release:  
SUSE Linux Enterprise Server 12 (x86_64)  
VERSION = 12  
PATCHLEVEL = 0  
# This file is deprecated and will be removed in a future service pack or release.  
# Please check /etc/os-release for details about this release.
```

```plaintext
os-release:  
NAME="SLES"  
VERSION="12"  
VERSION_ID="12"  
PRETTY_NAME="SUSE Linux Enterprise Server 12"  
ID="sles"  
ANSI_COLOR="0;32"  
CPE_NAME="cpe:/o:suse:sles:12"
```

uname -a:

```plaintext
Linux RH5885V3 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014  
(9879bd4) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Oct 15 09:55

```plaintext
SPEC is set to: /zsn/spec1

Filesystem Type Size Used Avail Use% Mounted on
/dev/sdb1 ext4 823G 6.9G 774G 1% /zsn
```

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.

```plaintext
BIOS American Megatrends Inc. BLISQ954 09/19/2015  
Memory: 32x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1600 MHz
```

Continued on next page
Huawei

Huawei RH5885 V3 (Intel Xeon E7-8893 v3)

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CPU2006 license: 3175
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Test date: Oct-2015
Hardware Availability: May-2015
Software Availability: Oct-2014

Platform Notes (Continued)

16x NO DIMM NO DIMM

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of memory is 512 GB and the dmidecode description should have two lines reading as:
32x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1600 MHz
16x NO DIMM NO DIMM

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/zsn/spec1/libs/32:/zsn/spec1/libs/64:/zsn/spec1/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`
runcspec 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`
Huawei

<table>
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**CPU2006 license:** 3175

**Test sponsor:** Huawei

**Tested by:** Huawei

**Test date:** Oct-2015

**Hardware Availability:** May-2015

**Software Availability:** Oct-2014

### Base Other Flags

C benchmarks:

403gcc: -Dalloca=_alloca

### Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:

```
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32
```

### 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: -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
```

```
401.bzip2: -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
```

```
403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div
```

Continued on next page
Huawei RH5885 V3 (Intel Xeon E7-8893 v3)

**SPECint_rate2006** = 889  
**SPECint_rate_base2006** = 850

---

**Peak Optimization Flags (Continued)**

- 429.mcf: basepeak = yes
- 445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
  -ansi-alias -opt-mem-layout-trans=3
- 456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
- 458.sjeng: -xCORE-AVX2(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: -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-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-ic15.0-official-linux64.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-V1.2-HSW-RevG.xml
## SPEC CINT2006 Result

**Huawei**

**Huawei RH5885 V3 (Intel Xeon E7-8893 v3)**

| SPECint_rate2006 | 889 |
| SPECint_rate_base2006 | 850 |

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Tested with SPEC CPU2006 v1.2.
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