## SPEC® CINT2006 Result

**Huawei**

Huawei RH1288 V3 (Intel Xeon E5-2630 v3)

### SPECint_rate2006 = 696

| SPECint_rate_base2006 = 668 |

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

<table>
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<tr>
<th>Benchmark</th>
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</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon E5-2630 v3  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 3.20 GHz  
- **CPU MHz:** 2400  
- **FPU:** Integrated  
- **CPU(s) enabled:** 16 cores, 2 chips, 8 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:** 20 MB I+D on chip per chip  
- **Other Cache:** None  
- **Memory:** 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz)  
- **Disk Subsystem:** 1 x 500 GB SATA, 7200 RPM  
- **Other Hardware:** None

### Software

- **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
Huawei RH1288 V3 (Intel Xeon E5-2630 v3)

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

Results Table

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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
Set Snoop Mode to ES
Set Hyper-Threading to Disabled
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 Dec 15 13:21:01 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 E5-2630 v3 @ 2.40GHz
2 "physical id"s (chips)

Continued on next page
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Platform Notes (Continued)

32 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 8
siblings : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB

From /proc/meminfo
MemTotal: 263577520 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 Dec 15 13:19

SPEC is set to: /spec
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 445G 83G 362G 19% /

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. 1.23 11/19/2014
Memory:
8x Samsung M393A2G40DB0-CPB 16 GB 1 rank 2133 MHz, configured at 1867 MHz
8x Samsung M393A2G40DB0-CPB 16 GB 2 rank 2133 MHz, configured at 1867 MHz

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

## Huawei

Huawei RH1288 V3 (Intel Xeon E5-2630 v3)

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<tr>
<th>SPECint_rate2006</th>
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## 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 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
```
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Peak Compiler Invocation

C benchmarks (except as noted below):

- \texttt{icc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32}
  - 400.perlbench: \texttt{icc -m64}
  - 401.bzip2: \texttt{icc -m64}
  - 456.hmmer: \texttt{icc -m64}
  - 458.sjeng: \texttt{icc -m64}

C++ benchmarks:

- \texttt{icpc -m32 -L/opt/intel/composer\_xe\_2015/lib/ia32}

Peak Portability Flags

- 400.perlbench: \texttt{-DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64}
- 401.bzip2: \texttt{-DSPEC\_CPU\_LP64}
- 456.hmmer: \texttt{-DSPEC\_CPU\_LP64}
- 458.sjeng: \texttt{-DSPEC\_CPU\_LP64}
- 462.libquantum: \texttt{-DSPEC\_CPU\_LINUX}
- 483.xalancbmk: \texttt{-DSPEC\_CPU\_LINUX}

Peak Optimization Flags

C benchmarks:

- 400.perlbench: \texttt{-xCORE\-AVX2(pass 2) -prof\_gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof\_use(pass 2) -auto-ilm32}
- 401.bzip2: \texttt{-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-ilm32 -ansi\_alias}
- 403.gcc: \texttt{-xCORE\-AVX2 -ipo -O3 -no-prec-div}
- 429.mcf: \texttt{basepeak = yes}
- 445.gobmk: \texttt{-xCORE\-AVX2(pass 2) -prof\_gen(pass 1) -prof\_use(pass 2) -ansi\_alias -opt\_mem\_layout\_trans=3}
- 456.hmmer: \texttt{-xCORE\-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilm32}
- 458.sjeng: \texttt{-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-ilm32}

Continued on next page
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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-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
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-HASWELL-V1.2.20150130.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-V1.2.20150130.xml

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