



SPEC® CINT2006 Result

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Huawei

SPECint®2006 = 59.2

Huawei 5288 V3 (Intel Xeon E5-2660 v3)

SPECint_base2006 = 59.2

CPU2006 license: 3175

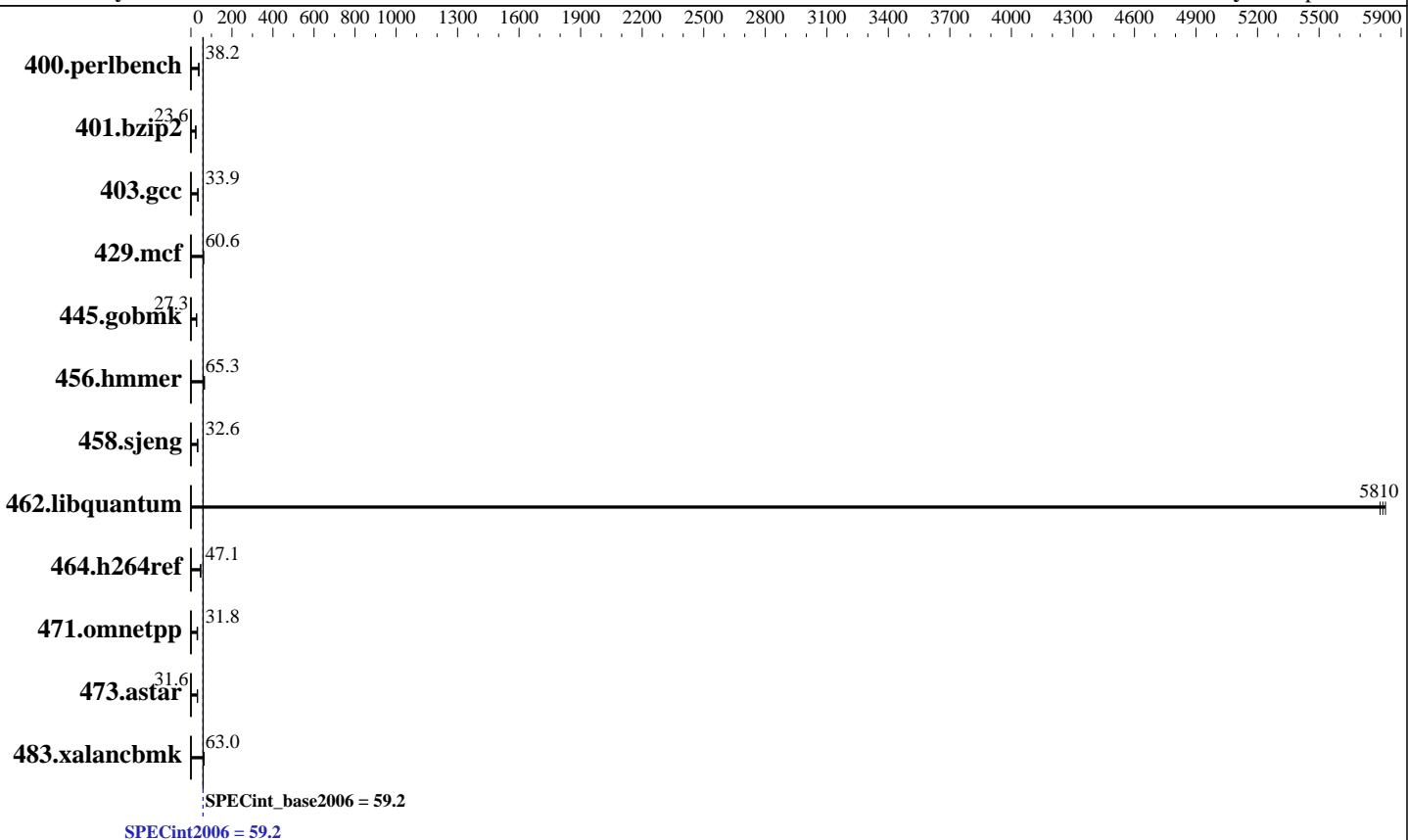
Test date: Jul-2015

Test sponsor: Huawei

Hardware Availability: Sep-2014

Tested by: Huawei

Software Availability: Sep-2014



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Hardware

CPU Name: Intel Xeon E5-2660 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip
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: 25 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 500 GB SATA, 7200 RPM
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.0 (Maipo)
Compiler: 3.10.0-123.el7.x86_64
Auto Parallel: C/C++: Version 15.0.0.090 of Intel C++ Studio XE for Linux
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	256	38.2	256	38.2	254	38.4	256	38.2	256	38.2	254	38.4
401.bzip2	409	23.6	408	23.6	412	23.4	409	23.6	408	23.6	412	23.4
403.gcc	236	34.1	238	33.9	237	33.9	236	34.1	238	33.9	237	33.9
429.mcf	150	60.6	151	60.6	147	61.8	150	60.6	151	60.6	147	61.8
445.gobmk	385	27.2	384	27.3	385	27.3	385	27.2	384	27.3	385	27.3
456.hmmer	143	65.4	143	65.2	143	65.3	143	65.4	143	65.2	143	65.3
458.sjeng	371	32.6	371	32.6	371	32.6	371	32.6	371	32.6	371	32.6
462.libquantum	3.57	5800	3.57	5810	3.56	5820	3.57	5800	3.57	5810	3.56	5820
464.h264ref	470	47.1	469	47.1	468	47.3	470	47.1	469	47.1	468	47.3
471.omnetpp	197	31.8	208	30.0	195	32.0	197	31.8	208	30.0	195	32.0
473.astar	222	31.6	221	31.7	222	31.6	222	31.6	221	31.7	222	31.6
483.xalancbmk	110	62.8	108	63.8	109	63.0	110	62.8	108	63.8	109	63.0

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

Submit Notes

The config file option 'submit' was used.

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 mode

Set Patrol Scrub to Disable

Set Hyper-Threading to Disable

Sysinfo program /spec/config/sysinfo.rev6914

\$Rev: 6914 \$ \$Date::: 2014-06-25 ## e3fbb8667b5a285932ceab81e28219e1

running on localhost.localdomain Fri Jul 31 13:11:00 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 E5-2660 v3 @ 2.60GHz

2 "physical id"s (chips)

20 "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)

```
caution.)  
    cpu cores : 10  
    siblings   : 10  
    physical 0: cores 0 1 2 3 4 8 9 10 11 12  
    physical 1: cores 0 1 2 3 4 8 9 10 11 12  
    cache size : 25600 kB  
  
From /proc/meminfo  
MemTotal:      263578912 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 Jul 31 13:10  
  
SPEC is set to: /spec  
Filesystem      Type  Size  Used Avail Use% Mounted on  
/dev/sdal      ext4  385G  9.9G  355G   3% /  
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. 1.50 05/26/2015  
Memory:  
 8x Micron 36ASF2G72PZ-2G1A2 16 GB 1 rank 2133 MHz  
 8x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz  
  
(End of data from sysinfo program)
```



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General Notes

Environment variables set by runspec before the start of the run:

KMP_AFFINITY = "granularity=fine,compact,1,0"

LD_LIBRARY_PATH = "/spec/libs/32:/spec/libs/64:/spec/sh"

OMP_NUM_THREADS = "20"

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  
runspec command invoked through numactl i.e.:
```

```
numactl --interleave=all runspec <etc>
```

Base Compiler Invocation

C benchmarks:

```
icc -m64
```

C++ benchmarks:

```
icpc -m64
```

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -DSPEC_CPU_LP64

429.mcf: -DSPEC_CPU_LP64

445.gobmk: -DSPEC_CPU_LP64

456.hammer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

464.h264ref: -DSPEC_CPU_LP64

471.omnetpp: -DSPEC_CPU_LP64

473.astar: -DSPEC_CPU_LP64

483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32  
-Wl,-z,muldefs -L/sh -lsmartheap64
```



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Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

445.gobmk: icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks (except as noted below):

icpc -m64

471.omnetpp: icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
456.hmmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: basepeak = yes

401.bzip2: basepeak = yes

403.gcc: basepeak = yes

429.mcf: basepeak = yes

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Peak Optimization Flags (Continued)

445.gobmk: basepeak = yes

456.hmmer: basepeak = yes

458.sjeng: basepeak = yes

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: basepeak = yes

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

Tested with SPEC CPU2006 v1.2.

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