



SPEC® CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint®_rate2006 = 1620

Huawei 2288H V5 (Intel Xeon Gold 6130)

SPECint_rate_base2006 = 1540

CPU2006 license: 3175

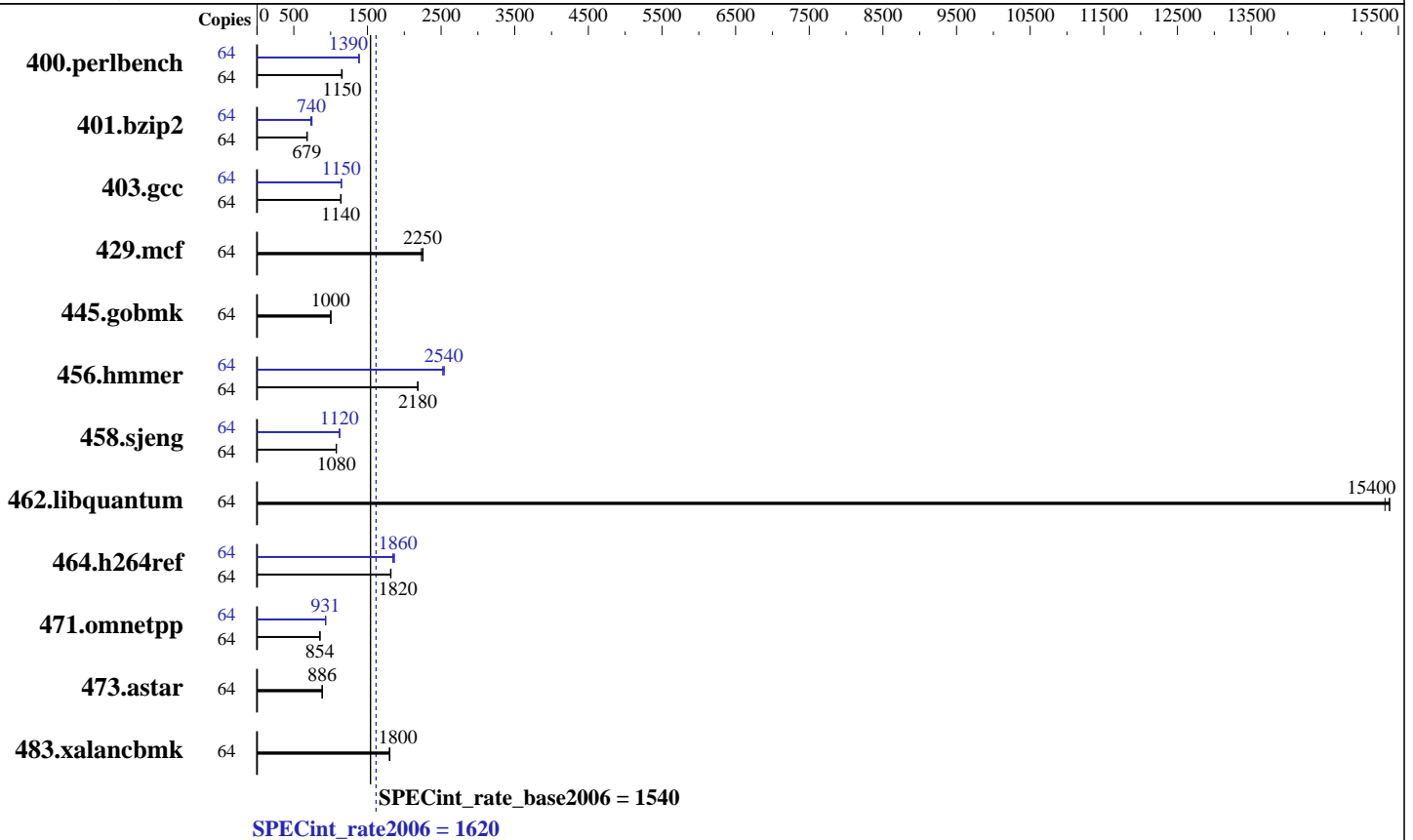
Test sponsor: Huawei

Tested by: Huawei

Test date: Nov-2017

Hardware Availability: Jul-2017

Software Availability: Nov-2016



Hardware

CPU Name: Intel Xeon Gold 6130
 CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
 CPU MHz: 2100
 FPU: Integrated
 CPU(s) enabled: 32 cores, 2 chips, 16 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 1 MB I+D on chip per core
 L3 Cache: 22 MB I+D on chip per chip
 Other Cache: None
 Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2666V-R)
 Disk Subsystem: 1 x 1200 GB SAS, 10000 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 7.3 (Maipo)
 3.10.0-514.el7.x86_64
 Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux
 Auto Parallel: No
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V10.2



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 1620

Huawei 2288H V5 (Intel Xeon Gold 6130)

SPECint_rate_base2006 = 1540

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

Test date: Nov-2017
Hardware Availability: Jul-2017
Software Availability: Nov-2016

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	545	1150	540	1160	<u>542</u>	<u>1150</u>	64	451	1390	452	1380	<u>451</u>	<u>1390</u>
401.bzip2	64	<u>909</u>	<u>679</u>	912	677	904	683	64	827	747	<u>834</u>	<u>740</u>	847	730
403.gcc	64	451	1140	453	1140	<u>453</u>	<u>1140</u>	64	<u>450</u>	<u>1150</u>	449	1150	451	1140
429.mcf	64	259	2260	<u>260</u>	<u>2250</u>	261	2230	64	259	2260	<u>260</u>	<u>2250</u>	261	2230
445.gobmk	64	670	1000	<u>670</u>	<u>1000</u>	670	1000	64	670	1000	<u>670</u>	<u>1000</u>	670	1000
456.hammer	64	274	2180	<u>273</u>	<u>2180</u>	273	2180	64	<u>235</u>	<u>2540</u>	235	2540	237	2520
458.sjeng	64	<u>719</u>	<u>1080</u>	720	1070	718	1080	64	692	1120	<u>691</u>	<u>1120</u>	690	1120
462.libquantum	64	86.6	15300	86.2	15400	<u>86.2</u>	<u>15400</u>	64	86.6	15300	86.2	15400	<u>86.2</u>	<u>15400</u>
464.h264ref	64	781	1810	<u>779</u>	<u>1820</u>	778	1820	64	759	1870	<u>762</u>	<u>1860</u>	768	1840
471.omnetpp	64	468	854	468	854	<u>468</u>	<u>854</u>	64	<u>430</u>	<u>931</u>	430	931	429	933
473.astar	64	508	884	507	886	<u>507</u>	<u>886</u>	64	508	884	507	886	<u>507</u>	<u>886</u>
483.xalancbmk	64	245	1800	246	1800	<u>245</u>	<u>1800</u>	64	245	1800	246	1800	<u>245</u>	<u>1800</u>

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:
Power Efficiency Mode Set to Performance
SNC Set to Enable
IMC Interleaving Set to 1 way
Patrol Scrub Set to Disable
Sysinfo program /spec/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
running on localhost.localdomain Sun Nov 19 22:46:48 2017

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) Gold 6130 CPU @ 2.10GHz
2 "physical id"s (chips)
64 "processors"

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 1620

Huawei 2288H V5 (Intel Xeon Gold 6130)

SPECint_rate_base2006 = 1540

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Nov-2017

Hardware Availability: Jul-2017

Software Availability: Nov-2016

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 : 16
siblings  : 32
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
cache size : 22528 KB
```

From /proc/meminfo

```
MemTotal:      394144360 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

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

```
os-release:
NAME="Red Hat Enterprise Linux Server"
VERSION="7.3 (Maipo)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="7.3"
PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server
```

uname -a:

```
Linux localhost.localdomain 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13
EDT 2016 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Nov 19 22:43

SPEC is set to: /spec

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       ext4  689G   68G  587G  11% /
```

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. 0.31 09/29/2017

Memory:

24x Samsung M393A2K43BB1-CTD 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 1620

Huawei 2288H V5 (Intel Xeon Gold 6130)

SPECint_rate_base2006 = 1540

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

Test date: Nov-2017
Hardware Availability: Jul-2017
Software Availability: Nov-2016

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/spec/lib/ia32:/spec/lib/intel64:/spec/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.2
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
Filesystem page cache cleared with:
shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
C++ benchmarks:
icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32
401.bzip2: -D_FILE_OFFSET_BITS=64
403.gcc: -D_FILE_OFFSET_BITS=64
429.mcf: -D_FILE_OFFSET_BITS=64
445.gobmk: -D_FILE_OFFSET_BITS=64
456.hmmer: -D_FILE_OFFSET_BITS=64
458.sjeng: -D_FILE_OFFSET_BITS=64
462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX
464.h264ref: -D_FILE_OFFSET_BITS=64
471.omnetpp: -D_FILE_OFFSET_BITS=64
473.astar: -D_FILE_OFFSET_BITS=64
483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3
C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 1620

Huawei 2288H V5 (Intel Xeon Gold 6130)

SPECint_rate_base2006 = 1540

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

Test date: Nov-2017
Hardware Availability: Jul-2017
Software Availability: Nov-2016

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/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/compilers_and_libraries_2017/linux/lib/ia32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

401.bzip2: -DSPEC_CPU_LP64

403.gcc: -D_FILE_OFFSET_BITS=64

429.mcf: -D_FILE_OFFSET_BITS=64

445.gobmk: -D_FILE_OFFSET_BITS=64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

464.h264ref: -D_FILE_OFFSET_BITS=64

471.omnetpp: -D_FILE_OFFSET_BITS=64

473.astar: -D_FILE_OFFSET_BITS=64

483.xalancbmk: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)

-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)

-no-prec-div(pass 2) -auto-ilp32 -qopt-mem-layout-trans=3

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 1620

Huawei 2288H V5 (Intel Xeon Gold 6130)

SPECint_rate_base2006 = 1540

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Nov-2017

Hardware Availability: Jul-2017

Software Availability: Nov-2016

Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -qopt-prefetch -auto-ilp32
-qopt-mem-layout-trans=3

403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3

429.mcf: basepeak = yes

445.gobmk: basepeak = yes

456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-qopt-mem-layout-trans=3

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -unroll4 -auto-ilp32
-qopt-mem-layout-trans=3

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -unroll2 -qopt-mem-layout-trans=3

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2(pass 2)
-par-num-threads=1(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2)
-qopt-ra-region-strategy=block
-qopt-mem-layout-trans=3 -Wl,-z,muldefs
-L/sh10.2 -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



SPEC CINT2006 Result

Copyright 2006-2017 Standard Performance Evaluation Corporation

Huawei

SPECint_rate2006 = 1620

Huawei 2288H V5 (Intel Xeon Gold 6130)

SPECint_rate_base2006 = 1540

CPU2006 license: 3175

Test sponsor: Huawei

Tested by: Huawei

Test date: Nov-2017

Hardware Availability: Jul-2017

Software Availability: Nov-2016

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.html>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-SKL-V1.7.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic17.0-official-linux64.xml>

<http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-SKL-V1.7.xml>

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.2.
Report generated on Tue Dec 12 16:35:19 2017 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 12 December 2017.