



SPEC® CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

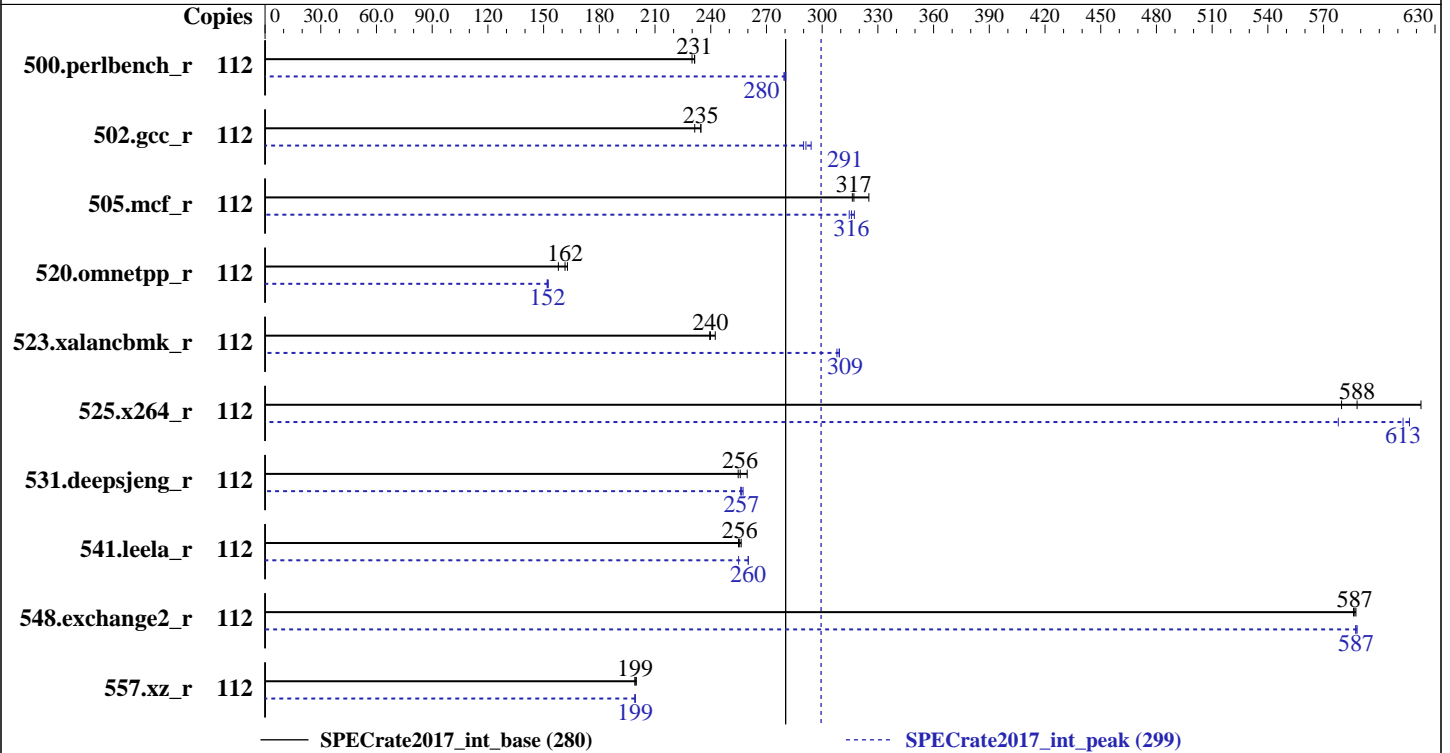
SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046
Test Sponsor: Sugon
Tested by: Sugon

Test Date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Sep-2017



Hardware

CPU Name: Intel Xeon Platinum 8180
Max MHz.: 3800
Nominal: 2500
Enabled: 56 cores, 2 chips, 2 threads/core
Orderable: 1,2 chips
Cache L1: 32 KB I + 32 KB D on chip per core
L2: 1 MB I+D on chip per core
L3: 38.5 MB I+D on chip per chip
Other: None
Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2667V-R)
Storage: 1 x 4.0 TB SATA, 10K RPM
Other: None

Software

OS: SUSE Linux Enterprise Server 12 SP2
4.4.21-69-default
Compiler: C/C++: Version 18.0.0.128 of Intel C/C++
Compiler for Linux;
Fortran: Version 18.0.0.128 of Intel Fortran
Compiler for Linux
Parallel: No
Firmware: American Megatrends Inc. BIOS Version 0JGST023 released Nov-2017
File System: xfs
System State: Run level 5 (Multi User with GUI)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other: jemalloc: jemalloc memory allocator library
V5.0.1;
jemalloc: configured and built at default for
32bit (i686) and 64bit (x86_64) targets;
jemalloc: built with the RedHat Enterprise 7.4,
and the system compiler gcc 4.8.5;
jemalloc: sources available from jemalloc.net or
releases



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046
Test Sponsor: Sugon
Tested by: Sugon

Test Date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Sep-2017

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	112	771	231	<u>771</u>	<u>231</u>	776	230	112	636	280	<u>637</u>	<u>280</u>	638	279
502.gcc_r	112	685	231	<u>676</u>	<u>235</u>	676	235	112	547	290	539	294	<u>545</u>	<u>291</u>
505.mcf_r	112	557	325	<u>571</u>	<u>317</u>	572	316	112	575	315	<u>573</u>	<u>316</u>	570	317
520.omnetpp_r	112	902	163	<u>910</u>	<u>162</u>	930	158	112	963	153	<u>966</u>	<u>152</u>	967	152
523.xalancbmk_r	112	488	242	494	239	<u>493</u>	<u>240</u>	112	384	308	<u>383</u>	<u>309</u>	382	309
525.x264_r	112	315	622	<u>333</u>	<u>588</u>	338	580	112	<u>320</u>	<u>613</u>	318	616	339	578
531.deepsjeng_r	112	494	260	<u>502</u>	<u>256</u>	504	255	112	501	256	499	257	<u>500</u>	<u>257</u>
541.leela_r	112	723	256	727	255	<u>726</u>	<u>256</u>	112	713	260	727	255	<u>713</u>	<u>260</u>
548.exchange2_r	112	501	586	<u>500</u>	<u>587</u>	500	587	112	<u>499</u>	<u>587</u>	500	587	499	588
557.xz_r	112	605	200	<u>607</u>	<u>199</u>	607	199	112	<u>607</u>	<u>199</u>	607	199	607	199

SPECrate2017_int_base = 280

SPECrate2017_int_peak = 299

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"

General Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/tianyan/benchmarks/cpu2017/lib/ia32:/home/tianyan/benchmarks/cpu2017/lib/intel64:/home/tianyan/benchmarks/cpu2017/je5.0.1-32:/home/tianyan/benchmarks/cpu2017/je5.0.1-64"
Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.4
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesystem page cache synced and cleared with:
sync; echo 3> /proc/sys/vm/drop_caches
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046
Test Sponsor: Sugon
Tested by: Sugon

Test Date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Sep-2017

Platform Notes

Sysinfo program /home/tianyan/benchmarks/cpu2017/bin/sysinfo
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
running on localhost Fri Dec 1 19:12:36 2017

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see
<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

From /proc/cpuinfo

```
model name : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
 2 "physical id"s (chips)
 112 "processors"
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 : 28
siblings : 56
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27
28 29 30
```

From lscpu:

```
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 112
On-line CPU(s) list: 0-111
Thread(s) per core: 2
Core(s) per socket: 28
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
Stepping: 4
CPU MHz: 1000.000
CPU max MHz: 2501.0000
CPU min MHz: 1000.0000
BogoMIPS: 4999.97
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 39424K
NUMA node0 CPU(s): 0-3,7-9,14-17,21-23,56-59,63-65,70-73,77-79
NUMA node1 CPU(s): 4-6,10-13,18-20,24-27,60-62,66-69,74-76,80-83
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046
Test Sponsor: Sugon
Tested by: Sugon

Test Date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Sep-2017

Platform Notes (Continued)

```
NUMA node2 CPU(s):      28-31,35-37,42-45,49-51,84-87,91-93,98-101,105-107
NUMA node3 CPU(s):      32-34,38-41,46-48,52-55,88-90,94-97,102-104,108-111
Flags:                   fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc
aperfmpperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg
fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
xsave avx f16c rdrand lahf_lm abm 3dnowprefetch ida arat epb pln pts dtherm intel_pt
tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmil hle avx2 smep bmi2
erms invpcid rtm cqm mpx avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd
avx512bw avx512vl xsaveopt xsavec xgetbv1 cqm_llc cqm_occup_llc
```

```
/proc/cpuinfo cache data
cache size : 39424 KB
```

```
From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.
available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 7 8 9 14 15 16 17 21 22 23 56 57 58 59 63 64 65 70 71 72 73 77 78
79
node 0 size: 95339 MB
node 0 free: 90268 MB
node 1 cpus: 4 5 6 10 11 12 13 18 19 20 24 25 26 27 60 61 62 66 67 68 69 74 75 76 80 81
82 83
node 1 size: 96760 MB
node 1 free: 93586 MB
node 2 cpus: 28 29 30 31 35 36 37 42 43 44 45 49 50 51 84 85 86 87 91 92 93 98 99 100
101 105 106 107
node 2 size: 96760 MB
node 2 free: 84048 MB
node 3 cpus: 32 33 34 38 39 40 41 46 47 48 52 53 54 55 88 89 90 94 95 96 97 102 103 104
108 109 110 111
node 3 size: 96758 MB
node 3 free: 81244 MB
node distances:
node  0  1  2  3
0:  10  11  21  21
1:  11  10  21  21
2:  21  21  10  11
3:  21  21  11  10
```

```
From /proc/meminfo
MemTotal:      394872828 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsb_release -d
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046
Test Sponsor: Sugon
Tested by: Sugon

Test Date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Sep-2017

Platform Notes (Continued)

SUSE Linux Enterprise Server 12 SP2

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

SuSE-release:

SUSE Linux Enterprise Server 12 (x86_64)

VERSION = 12

PATCHLEVEL = 2

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.

os-release:

NAME="SLES"

VERSION="12-SP2"

VERSION_ID="12.2"

PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"

ID="sles"

ANSI_COLOR="0;32"

CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:

Linux localhost 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016 (9464f67) x86_64
x86_64 x86_64 GNU/Linux

run-level 5 Feb 24 15:42

SPEC is set to: /home/tianywan/benchmarks/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda5	xf	3.6T	74G	3.6T	2%	/home

Additional information from dmidecode follows. 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 American Megatrends Inc. 0JGST023 11/06/2017

Memory:

24x Samsung M393A2K43CB2-CTD 16 GB 2 rank 2666

(End of data from sysinfo program)

Compiler Version Notes

=====
CC 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
525.x264_r(base, peak) 557.xz_r(base, peak)

icc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046
Test Sponsor: Sugon
Tested by: Sugon

Test Date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Sep-2017

Compiler Version Notes (Continued)

=====
CC 500.perlbench_r(peak) 502.gcc_r(peak)
=====

icc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.
=====

=====
CXXC 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base)
541.leela_r(base)
=====

icpc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.
=====

=====
CXXC 520.omnetpp_r(peak) 523.xalancbmk_r(peak) 531.deepsjeng_r(peak)
541.leela_r(peak)
=====

icpc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.
=====

=====
FC 548.exchange2_r(base, peak)
=====

ifort (IFORT) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.
=====

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046
Test Sponsor: Sugon
Tested by: Sugon

Test Date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Sep-2017

Base Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```

Base Optimization Flags

C benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc
```

C++ benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib -ljemalloc
```

Fortran benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

Base Other Flags

C benchmarks:

```
-m64 -std=c11
```

C++ benchmarks:

```
-m64
```

Fortran benchmarks:

```
-m64
```



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046
Test Sponsor: Sugon
Tested by: Sugon

Test Date: Dec-2017
Hardware Availability: Dec-2017
Software Availability: Sep-2017

Peak Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Peak Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -D_FILE_OFFSET_BITS=64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```

Peak Optimization Flags

C benchmarks:

```
500.perlbench_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3
-fno-strict-overflow -L/usr/local/je5.0.1-64/lib
-ljemalloc
```

```
502.gcc_r: -L/opt/intel/compilers_and_libraries_2018/linux/lib/ia32
-Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3
-L/usr/local/je5.0.1-32/lib -ljemalloc
```

```
505.mcf_r: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -L/usr/local/je5.0.1-64/lib
-ljemalloc
```

```
525.x264_r: -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=3 -fno-alias
```

(Continued on next page)



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046

Test Sponsor: Sugon

Tested by: Sugon

Test Date: Dec-2017

Hardware Availability: Dec-2017

Software Availability: Sep-2017

Peak Optimization Flags (Continued)

525.x264_r (continued):

```
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

557.xz_r: Same as 505.mcf_r

C++ benchmarks:

```
520.omnetpp_r: -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo  
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3  
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

```
523.xalancbmk_r: -L/opt/intel/compilers_and_libraries_2018/linux/lib/ia32  
-Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2) -ipo  
-xCORE-AVX512 -O3 -no-prec-div -qopt-mem-layout-trans=3  
-L/usr/local/je5.0.1-32/lib -ljemalloc
```

531.deepsjeng_r: Same as 520.omnetpp_r

541.leela_r: Same as 520.omnetpp_r

Fortran benchmarks:

```
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte  
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

Peak Other Flags

C benchmarks (except as noted below):

```
-m64 -std=c11
```

502.gcc_r: -m32 -std=c11

C++ benchmarks (except as noted below):

```
-m64
```

523.xalancbmk_r: -m32

Fortran benchmarks:

```
-m64
```

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

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Sugon-Purley-Platform-Settings-revA-I.html>



SPEC CPU2017 Integer Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Sugon

SPECrate2017_int_base = 280

I620-G30 (Intel Xeon Platinum 8180)

SPECrate2017_int_peak = 299

CPU2017 License: 9046

Test Sponsor: Sugon

Tested by: Sugon

Test Date: Dec-2017

Hardware Availability: Dec-2017

Software Availability: Sep-2017

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

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Sugon-Purley-Platform-Settings-revA-I.xml>

SPEC is a registered trademark 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 info@spec.org.

Tested with SPEC CPU2017 v1.0.2 on 2017-12-01 06:12:36-0500.

Report generated on 2018-10-31 13:22:59 by CPU2017 PDF formatter v6067.

Originally published on 2017-12-26.