



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

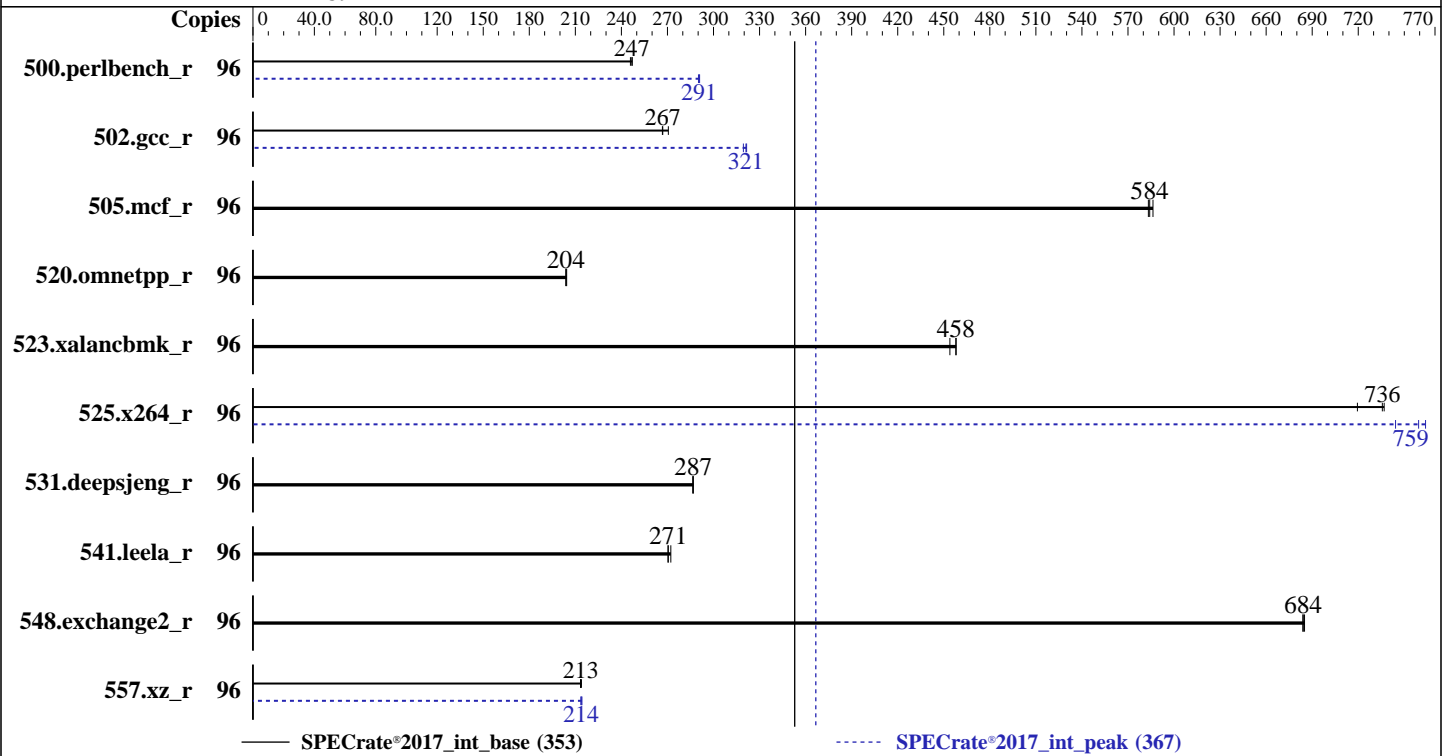
Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020



Hardware

CPU Name: Intel Xeon Gold 6248R
 Max MHz: 4000
 Nominal: 3000
 Enabled: 48 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: 35.75 MB I+D on chip per chip
 Other: None
 Memory: 768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R)
 Storage: 1 x 800 GB SAS SSD
 Other: None

Software

OS: SUSE Linux Enterprise Server 12 SP4 (x86_64)
 Kernel 4.12.14-94.41-default
 Compiler: C/C++: Version 19.1.1.217 of Intel C/C++ Compiler for Linux;
 Fortran: Version 19.1.1.217 of Intel Fortran Compiler for Linux
 Parallel: No
 Firmware: Version 6.83 released Jun-2019
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other: jemalloc memory allocator V5.0.1
 Power Management: BIOS set to prefer performance at the cost of additional power usage.



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

Huawei 2288H V5 (Intel Xeon Gold 6248R)

SPECrate®2017_int_peak = 367

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
500.perlbench_r	96	622	246	619	247	619	247	96	526	291	527	290	525	291		
502.gcc_r	96	502	271	509	267	510	267	96	423	321	423	322	425	319		
505.mcf_r	96	265	586	266	583	266	584	96	265	586	266	583	266	584		
520.omnetpp_r	96	618	204	618	204	616	204	96	618	204	618	204	616	204		
523.xalancbmk_r	96	223	454	221	458	221	458	96	223	454	221	458	221	458		
525.x264_r	96	228	737	234	719	228	736	96	226	744	221	759	220	764		
531.deepsjeng_r	96	384	287	384	287	384	287	96	384	287	384	287	384	287		
541.leela_r	96	588	271	588	270	584	272	96	588	271	588	270	584	272		
548.exchange2_r	96	367	685	368	684	368	684	96	367	685	368	684	368	684		
557.xz_r	96	486	213	485	214	486	213	96	485	214	485	214	484	214		

SPECrate®2017_int_base = **353**

SPECrate®2017_int_peak = **367**

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

Compiler Notes

The inconsistent Compiler version information under Compiler Version section is due to a discrepancy in Intel Compiler. The correct version of C/C++ compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux. The correct version of Fortran compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux. SPEC has learned that this result, which used an evaluation compiler, was submitted contrary to the compiler license terms. Intel has granted a one-time waiver for this result.

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"

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
"/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64:
4:/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/ia32:"

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Environment Variables Notes (Continued)

```
/usr/local/jemalloc32-5.0.1"
MALLOCONF = "retain:true"
```

General Notes

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>
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.
jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

Platform Notes

BIOS configuration:
Power Policy Set to Performance
SNC Set to Enabled
IMC Interleaving Set to 1-way Interleave
XPT Prefetch Set to Enabled

Sysinfo program /spec2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on linux-r48i Thu Jul 16 15:04:11 2020

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) Gold 6248R CPU @ 3.00GHz
2 "physical id"s (chips)
96 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Platform Notes (Continued)

```

cpu cores : 24
siblings  : 48
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 25 26 27 28 29
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 25 26 27 28 29

```

From lscpu:

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
CPU(s):                 96
On-line CPU(s) list:   0-95
Thread(s) per core:    2
Core(s) per socket:    24
Socket(s):              2
NUMA node(s):          4
Vendor ID:              GenuineIntel
CPU family:             6
Model:                  85
Model name:             Intel(R) Xeon(R) Gold 6248R CPU @ 3.00GHz
Stepping:               7
CPU MHz:                3000.000
CPU max MHz:            4000.0000
CPU min MHz:            1200.0000
BogoMIPS:               6000.00
Virtualization:         VT-x
L1d cache:              32K
L1i cache:              32K
L2 cache:               1024K
L3 cache:               36608K
NUMA node0 CPU(s):     0-3,7-9,13-15,19,20,48-51,55-57,61-63,67,68
NUMA node1 CPU(s):     4-6,10-12,16-18,21-23,52-54,58-60,64-66,69-71
NUMA node2 CPU(s):     24-27,31-33,37-39,43,44,72-75,79-81,85-87,91,92
NUMA node3 CPU(s):     28-30,34-36,40-42,45-47,76-78,82-84,88-90,93-95
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 cpuid
aperfmpperf pni pclmulqdq dtes64 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 cpuid_fault epb cat_l3 cdp_l3 invpcid_single ssbd
mba ibrs ibpb stibp tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1
hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a avx512f avx512dq rdseed adx smap
clflushopt clwb intel_pt avx512cd avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves
cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local dtherm ida arat pln pts pku ospke
avx512_vnni flush_l1d arch_capabilities

```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Platform Notes (Continued)

```
/proc/cpuinfo cache data
cache size : 36608 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 13 14 15 19 20 48 49 50 51 55 56 57 61 62 63 67 68
node 0 size: 191973 MB
node 0 free: 191591 MB
node 1 cpus: 4 5 6 10 11 12 16 17 18 21 22 23 52 53 54 58 59 60 64 65 66 69 70 71
node 1 size: 193531 MB
node 1 free: 193033 MB
node 2 cpus: 24 25 26 27 31 32 33 37 38 39 43 44 72 73 74 75 79 80 81 85 86 87 91 92
node 2 size: 193502 MB
node 2 free: 193246 MB
node 3 cpus: 28 29 30 34 35 36 40 41 42 45 46 47 76 77 78 82 83 84 88 89 90 93 94 95
node 3 size: 193321 MB
node 3 free: 193059 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: 790864816 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

```
From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 4
# 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-SP4"
VERSION_ID="12.4"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP4"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp4"
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Platform Notes (Continued)

uname -a:

```
Linux linux-r48i 4.12.14-94.41-default #1 SMP Wed Oct 31 12:25:04 UTC 2018 (3090901)
x86_64 x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

CVE-2018-3620 (L1 Terminal Fault):	Not affected
Microarchitectural Data Sampling:	No status reported
CVE-2017-5754 (Meltdown):	Not affected
CVE-2018-3639 (Speculative Store Bypass):	Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2017-5753 (Spectre variant 1):	Mitigation: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):	Mitigation: Indirect Branch Restricted Speculation, IBPB, IBRS_FW

run-level 3 Jul 16 12:21

SPEC is set to: /spec2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	xfs	730G	118G	612G	17%	/

```
From /sys/devices/virtual/dmi/id
BIOS: INSYDE Corp. 6.83 06/29/2019
Vendor: Huawei
Product: 2288H V5
Product Family: Purley
Serial: Huawei
```

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.

```
Memory:
24x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933
```

(End of data from sysinfo program)

Compiler Version Notes

```
=====
C | 502.gcc_r(peak)
-----
```

Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Compiler Version Notes (Continued)

Build 20200304

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

```

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

```

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1 NextGen Build 20200304

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

```

=====
C          | 557.xz_r(peak)
=====

```

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1 NextGen Build 20200304

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

icc (NextGen): command line warning #10430: Unsupported command line options encountered

These options as listed are not supported with the compiler selected.

For more information, use '-qnextgen-diag'.

option list:

-no-prec-div

```

=====
C          | 500.perlbench_r(peak)
=====

```

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.1.1.217 Build 20200306

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

icc: NOTE: The evaluation period for this product ends on 30-jul-2020 UTC.

```

=====
C          | 502.gcc_r(peak)
=====

```

Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen Build 20200304

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Compiler Version Notes (Continued)

```
C | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
  | 525.x264_r(base, peak) 557.xz_r(base)
```

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

```
C | 557.xz_r(peak)
```

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
icc (NextGen): command line warning #10430: Unsupported command line options
encountered
These options as listed are not supported with the compiler selected.
For more information, use '-qnextgen-diag'.
option list:
-no-prec-div

```
C | 500.perlbench_r(peak)
```

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
icc: NOTE: The evaluation period for this product ends on 30-jul-2020 UTC.

```
C | 502.gcc_r(peak)
```

Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

```
C | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
  | 525.x264_r(base, peak) 557.xz_r(base)
```

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Compiler Version Notes (Continued)

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C | 557.xz_r(peak)
=====

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

icc (NextGen): command line warning #10430: Unsupported command line options encountered

These options as listed are not supported with the compiler selected.

For more information, use '-qnextgen-diag'.

option list:

-no-prec-div
=====

=====
C | 500.perlbench_r(peak)
=====

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

icc: NOTE: The evaluation period for this product ends on 30-jul-2020 UTC.
=====

=====
C | 502.gcc_r(peak)
=====

Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
Build 20200304

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
=====

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

Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
=====

=====
C | 557.xz_r(peak)
=====

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

Huawei 2288H V5 (Intel Xeon Gold 6248R)

SPECrate®2017_int_peak = 367

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Compiler Version Notes (Continued)

```
-----
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
icc (NextGen): command line warning #10430: Unsupported command line options
  encountered
These options as listed are not supported with the compiler selected.
For more information, use '-qnextgen-diag'.
option list:
  -no-prec-div
-----
```

```
=====
C      | 500.perlbench_r(peak)
-----
```

```
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
  Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
icc: NOTE: The evaluation period for this product ends on 30-jul-2020 UTC.
-----
```

```
=====
C++   | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak)
      | 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)
-----
```

```
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
-----
```

```
=====
Fortran | 548.exchange2_r(base, peak)
-----
```

```
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
ifort: NOTE: The evaluation period for this product ends on 30-jul-2020 UTC.
-----
```

Base Compiler Invocation

C benchmarks:
icc

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Base Compiler Invocation (Continued)

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

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:

```

-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-xCORE-AVX512 -O3 -ffast-math -flto -mfpmath=sse -funroll-loops
-fuse-ld=gold -qopt-mem-layout-trans=4
-L/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc

```

C++ benchmarks:

```

-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto -mfpmath=sse
-funroll-loops -fuse-ld=gold -qopt-mem-layout-trans=4
-L/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc

```

Fortran benchmarks:

```

-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto

```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

Huawei 2288H V5 (Intel Xeon Gold 6248R)

SPECrate®2017_int_peak = 367

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-mbranches-within-32B-boundaries
-L/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmallocc
```

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: -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
```

Peak Optimization Flags

C benchmarks:

```
500.perlbench_r: -w1, -z, muldefs -prof-gen(pass 1) -prof-use(pass 2)
-xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -fno-strict-overflow
-mbranches-within-32B-boundaries
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Peak Optimization Flags (Continued)

500.perlbench_r (continued):

```
-L/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

502.gcc_r: -m32

```
-L/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/ia32_lin
-std=gnu89
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX512 -flto
-Ofast(pass 1) -O3 -ffast-math -qnextgen -fuse-ld=gold
-qopt-mem-layout-trans=4 -L/usr/local/jemalloc32-5.0.1/
-ljemalloc
```

505.mcf_r: basepeak = yes

525.x264_r: -m64 -qnextgen -std=c11

```
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -xCORE-AVX512 -flto -O3 -ffast-math
-fuse-ld=gold -qopt-mem-layout-trans=4 -fno-alias
-L/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

557.xz_r: -m64 -qnextgen -std=c11

```
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4
-L/opt/intel/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Huawei

(Test Sponsor: China Academy of Information and Communications Technology)

SPECrate®2017_int_base = 353

SPECrate®2017_int_peak = 367

Huawei 2288H V5 (Intel Xeon Gold 6248R)

CPU2017 License: 6177

Test Sponsor: China Academy of Information and Communications Technology

Tested by: China Academy of Information and Communications Technology

Test Date: Jul-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

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

http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revB.html

<http://www.spec.org/cpu2017/flags/CAICT-Platform-Settings-CLX-V1.0.html>

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

http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revB.xml

<http://www.spec.org/cpu2017/flags/CAICT-Platform-Settings-CLX-V1.0.xml>

SPEC CPU and SPECrate 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 info@spec.org.

Tested with SPEC CPU®2017 v1.1.0 on 2020-07-16 03:04:11-0400.

Report generated on 2020-10-29 21:30:21 by CPU2017 PDF formatter v6255.

Originally published on 2020-08-21.