



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

CPU2017 License: 9016

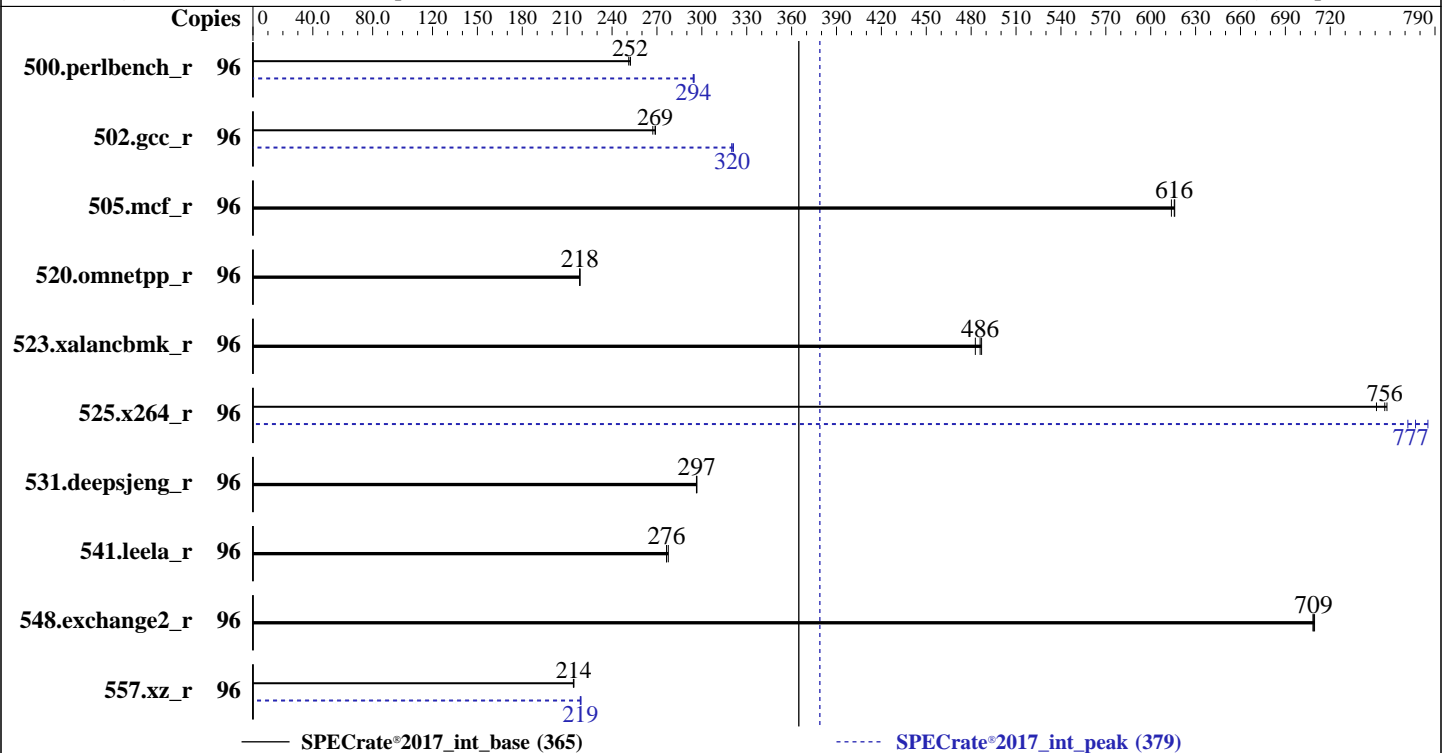
Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Aug-2020

Hardware Availability: Feb-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 chip(s)  
 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 1 TB SATA SSD  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP1  
 Kernel 4.12.14-195-default  
 Compiler: C/C++: Version 19.1.1.217 of Intel C/C++ Compiler Build 20200306 for Linux;  
 Fortran: Version 19.1.1.217 of Intel Fortran Compiler Build 20200306 for Linux  
 Parallel: No  
 Firmware: Version 6102 released Dec-2019  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other: jemalloc: jemalloc memory allocator library V5.0.1  
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Aug-2020

Hardware Availability: Feb-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	609	251	606	252	<b>606</b>	<b>252</b>	96	<b>519</b>	<b>294</b>	518	295	519	294
502.gcc_r	96	509	267	505	269	<b>506</b>	<b>269</b>	96	423	321	425	320	<b>424</b>	<b>320</b>
505.mcf_r	96	252	616	253	614	<b>252</b>	<b>616</b>	96	252	616	253	614	<b>252</b>	<b>616</b>
520.omnetpp_r	96	576	219	577	218	<b>577</b>	<b>218</b>	96	576	219	577	218	<b>577</b>	<b>218</b>
523.xalancbmk_r	96	208	487	210	483	<b>209</b>	<b>486</b>	96	208	487	210	483	<b>209</b>	<b>486</b>
525.x264_r	96	<b>222</b>	<b>756</b>	224	751	222	758	96	<b>216</b>	<b>777</b>	214	785	218	772
531.deepsjeng_r	96	<b>371</b>	<b>297</b>	371	296	371	297	96	<b>371</b>	<b>297</b>	371	296	371	297
541.leela_r	96	575	276	573	278	<b>575</b>	<b>276</b>	96	575	276	573	278	<b>575</b>	<b>276</b>
548.exchange2_r	96	355	708	355	710	<b>355</b>	<b>709</b>	96	355	708	355	710	<b>355</b>	<b>709</b>
557.xz_r	96	484	214	483	214	<b>484</b>	<b>214</b>	96	474	219	473	219	<b>474</b>	<b>219</b>

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

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

## 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"

OS set to performance mode via cpupower frequency-set -g performance

## Environment Variables Notes

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

LD\_LIBRARY\_PATH = "/191u1/lib/intel64:/191u1/lib/ia32:/191u1/je5.0.1-32"

MALLOC\_CONF = "retain:true"



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Aug-2020

**Hardware Availability:** Feb-2020

**Software Availability:** Apr-2020

## General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM  
memory using Redhat Enterprise Linux 8.0  
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.

The jemalloc library was  
configured and built at default for  
32bit (i686) and 64bit (x86\_64) targets;  
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:  
VT-d = Disabled  
Patrol Scrub = Disabled  
ENERGY\_PERF\_BIAS\_CFG mode = performance  
SNC = Enabled  
IMC interleaving = 1-way  
Engine Boost = Level3(Max)  
Enforce POR = Disable  
Memory Frequency = 2933  
LLC dead line allc = Disabled  
SR-IOV Support = Disabled  
CSM Support = Disabled

Sysinfo program /191u1/bin/sysinfo  
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011  
running on linux-628j Tue Aug 25 18:09:58 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>

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Aug-2020

Hardware Availability: Feb-2020

Software Availability: Apr-2020

### Platform Notes (Continued)

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.)
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
Address sizes:     46 bits physical, 48 bits virtual
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
aperfperf 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 cpuid_fault ept cat_l3 cdp_l3

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Aug-2020

Hardware Availability: Feb-2020

Software Availability: Apr-2020

### Platform Notes (Continued)

invpcid\_single intel\_ppin ssbd mba ibrs ibpb stibp ibrs\_enhanced 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 hwp hwp\_act\_window hwp\_epp hwp\_pkg\_req pku ospke avx512\_vnni md\_clear flush\_lld arch\_capabilities

```
/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: 192078 MB
node 0 free: 191206 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: 192638 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: 193501 MB
node 2 free: 192812 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: 193529 MB
node 3 free: 192844 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:      791185172 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

```
From /etc/*release* /etc/*version*
os-release:
NAME="SLES"
VERSION="15-SP1"
VERSION_ID="15.1"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp1"
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Aug-2020

Hardware Availability: Feb-2020

Software Availability: Apr-2020

### Platform Notes (Continued)

uname -a:

```
Linux linux-628j 4.12.14-195-default #1 SMP Tue May 7 10:55:11 UTC 2019 (8fba516)
x86_64 x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

CVE-2018-3620 (L1 Terminal Fault):	Not affected
Microarchitectural Data Sampling:	Not affected
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: Enhanced IBRS, IBPB: conditional, RSB filling

run-level 3 Aug 24 18:39

SPEC is set to: /191ul

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xfs	932G	49G	884G	6%	/

From /sys/devices/virtual/dmi/id

```
BIOS: American Megatrends Inc. 6102 12/05/2019
Vendor: ASUSTeK COMPUTER INC.
Product: Z11PP-D24 Series
Product Family: Server
Serial: System Serial Number
```

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  
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

## ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Aug-2020

**Hardware Availability:** Feb-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          | 500.perlbench_r(peak) 557.xz_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.
-----
```

```
=====
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          | 500.perlbench_r(peak) 557.xz_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.
-----
```

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

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Aug-2020

Hardware Availability: Feb-2020

Software Availability: Apr-2020

### Compiler Version Notes (Continued)

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          | 500.perlbench_r(peak) 557.xz_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.

```
=====  
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.

### Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Aug-2020

**Hardware Availability:** Feb-2020

**Software Availability:** Apr-2020

## Base Compiler Invocation (Continued)

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/usr/local/IntelCompiler19/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/usr/local/IntelCompiler19/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
-mbranches-within-32B-boundaries
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Aug-2020

**Hardware Availability:** Feb-2020

**Software Availability:** Apr-2020

## 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: -Wl,-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
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-L/usr/local/IntelCompiler19/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.profddata(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/lib
-ljemalloc
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS720-E9(Z11PP-D24) Server System  
(3.00 GHz, Intel Xeon Gold 6248R)

SPECrate®2017\_int\_base = 365

SPECrate®2017\_int\_peak = 379

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Aug-2020

**Hardware Availability:** Feb-2020

**Software Availability:** Apr-2020

## Peak Optimization Flags (Continued)

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/usr/local/IntelCompiler19/compilers\_and\_libraries\_2020.1.217/linux/compiler/lib/intel64\_lin

-lqkmallo

557.xz\_r: -Wl, -z, muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div

-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries

-L/usr/local/IntelCompiler19/compilers\_and\_libraries\_2020.1.217/linux/compiler/lib/intel64\_lin

-lqkmallo

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

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

<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-z11-V2.0-revH.html>

[http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64\\_revA.html](http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64_revA.html)

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

<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-z11-V2.0-revH.xml>

[http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64\\_revA.xml](http://www.spec.org/cpu2017/flags/Intel-ic19.1ul-official-linux64_revA.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](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.0 on 2020-08-25 06:09:58-0400.

Report generated on 2020-09-29 15:26:17 by CPU2017 PDF formatter v6255.

Originally published on 2020-09-29.