## SPEC CPU®2017 Integer Rate Result

ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System (2.40 GHz, Intel Xeon Silver 4214R)

<table>
<thead>
<tr>
<th>Copies</th>
<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>126</td>
<td>148</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>130</td>
<td></td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td></td>
<td>218</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td></td>
<td>291</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>124</td>
<td></td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td></td>
<td></td>
</tr>
<tr>
<td>541.leela_r</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td></td>
<td>295</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>95.8</td>
<td></td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon Silver 4214R
- **Max MHz:** 3500
- **Nominal:** 2400
- **Enabled:** 24 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:** 16.5 MB I+D on chip per chip
- **Other:** None
- **Memory:** 768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R, running at 2400)
- **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
ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Silver 4214R)

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

RESULTS TABLE

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>500.perlbench_r</td>
<td>48</td>
<td>710</td>
<td>108</td>
<td>711</td>
<td>107</td>
<td>715</td>
<td>107</td>
<td>48</td>
<td>607</td>
<td>126</td>
<td>609</td>
<td>126</td>
<td>609</td>
<td>126</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>48</td>
<td>524</td>
<td>130</td>
<td>527</td>
<td>129</td>
<td>523</td>
<td>130</td>
<td>48</td>
<td>458</td>
<td>148</td>
<td>459</td>
<td>148</td>
<td>458</td>
<td>148</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>48</td>
<td>267</td>
<td>291</td>
<td>265</td>
<td>293</td>
<td>267</td>
<td>291</td>
<td>48</td>
<td>267</td>
<td>291</td>
<td>265</td>
<td>293</td>
<td>267</td>
<td>291</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>48</td>
<td>555</td>
<td>113</td>
<td>554</td>
<td>114</td>
<td>557</td>
<td>113</td>
<td>48</td>
<td>555</td>
<td>113</td>
<td>554</td>
<td>114</td>
<td>557</td>
<td>113</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>48</td>
<td>231</td>
<td>220</td>
<td>232</td>
<td>218</td>
<td>232</td>
<td>218</td>
<td>48</td>
<td>231</td>
<td>220</td>
<td>232</td>
<td>218</td>
<td>232</td>
<td>218</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>48</td>
<td>259</td>
<td>325</td>
<td>255</td>
<td>329</td>
<td>257</td>
<td>327</td>
<td>48</td>
<td>252</td>
<td>334</td>
<td>252</td>
<td>333</td>
<td>252</td>
<td>334</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>48</td>
<td>443</td>
<td>124</td>
<td>442</td>
<td>124</td>
<td>442</td>
<td>124</td>
<td>48</td>
<td>443</td>
<td>124</td>
<td>442</td>
<td>124</td>
<td>442</td>
<td>124</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>48</td>
<td>689</td>
<td>115</td>
<td>684</td>
<td>116</td>
<td>689</td>
<td>115</td>
<td>48</td>
<td>689</td>
<td>115</td>
<td>684</td>
<td>116</td>
<td>689</td>
<td>115</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>48</td>
<td>426</td>
<td>295</td>
<td>426</td>
<td>295</td>
<td>426</td>
<td>295</td>
<td>48</td>
<td>426</td>
<td>295</td>
<td>426</td>
<td>295</td>
<td>426</td>
<td>295</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>48</td>
<td>541</td>
<td>95.8</td>
<td>539</td>
<td>96.1</td>
<td>543</td>
<td>95.5</td>
<td>48</td>
<td>529</td>
<td>97.9</td>
<td>529</td>
<td>98.0</td>
<td>530</td>
<td>97.9</td>
</tr>
</tbody>
</table>

SPECrate®2017_int_base = 163
SPECrate®2017_int_peak = 169

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

ASUSTeK Computer Inc.
ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Silver 4214R)

SPECrater®2017_int_base = 163
SPECrater®2017_int_peak = 169

Copyright 2017-2020 Standard Performance Evaluation Corporation

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

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

Platform Notes

BIOS Configuration:
VT-d = Disabled
Patrol Scrub = Disabled
ENERGY_PERF_BIAS_CFG mode = performance
Engine Boost = Level3(Max)
LLC dead line alloc = Disabled
SR-IOV Support = Disabled
CSM Support = Disabled

Sysinfo program /191u1/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on linux-628j Mon Sep  7 16:49:38 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) Silver 4214R CPU @ 2.40GHz
   2 "physical id"s (chips)
48 "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 : 12
siblings : 24
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13

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):              48
On-line CPU(s) list: 0-47
Thread(s) per core:  2
Core(s) per socket:  12
Socket(s):           2
NUMA node(s):        2
Vendor ID:           GenuineIntel
CPU family:          6
Model:               85
Model name:          Intel(R) Xeon(R) Silver 4214R CPU @ 2.40GHz
Stepping:            7
CPU MHz:             2400.000
CPU max MHz:         3500.0000
CPU min MHz:         1000.0000
BogoMIPS:            4800.00
Virtualization:      VT-x
L1d cache:           32K
L1i cache:           32K
L2 cache:            1024K
L3 cache:            16896K
NUMA node0 CPU(s):   0-11,24-35
NUMA node1 CPU(s):   12-23,36-47
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 rdtsscp
                     lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
                     aperfmperf pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
                     xtr Wich pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
                     avx f16c rdrand lahf_lm ablm ab3nowprefetch cpuid_fault epb cat _l3 cdp _l3
                     invpcid_single intel_p鲲 mba mib ibrs ibpb ibrs_enhanced tpr_shadow vmni
                     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 xsave vcmovcl occurr _l1c cqm _mbb _total
                     cqm _mbb _local dtherm ida arat pln pts hw ract_window hwp epp hwp_pkg _req pku
                     ospke avx512_vnni md_clear flush_l1d arch_capabilities

(Continued on next page)
ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Silver 4214R)

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

SPECrate®2017_int_base = 163
SPECrate®2017_int_peak = 169

Test Date: Sep-2020
Hardware Availability: Feb-2020
Software Availability: Apr-2020

Platform Notes (Continued)

/proc/cpuinfo cache data
   cache size : 16896 KB

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
   physical chip.
   available: 2 nodes (0-1)
   node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 24 25 26 27 28 29 30 31 32 33 34 35
   node 0 size: 385585 MB
   node 0 free: 384998 MB
   node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23 36 37 38 39 40 41 42 43 44 45 46 47
   node 1 size: 387066 MB
   node 1 free: 386655 MB
   node distances:
   node 0 1
   0: 10 21
   1: 21 10

From /proc/meminfo
   MemTotal: 791195160 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"

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,
ASUSTeK Computer Inc.  
ASUS RS720-E9(Z11PP-D24) Server System  
(2.40 GHz, Intel Xeon Silver 4214R)  

**SPEC CPU®2017 Integer Rate Result**  
Copyright 2017-2020 Standard Performance Evaluation Corporation  

<table>
<thead>
<tr>
<th>CPU2017 License</th>
<th>Test Date</th>
<th>Test Sponsor</th>
<th>Test Date</th>
<th>Hardware Availability</th>
<th>Tested by</th>
<th>Software Availability</th>
</tr>
</thead>
</table>

**SPECrate®2017_int_base = 163**  
**SPECrate®2017_int_peak = 169**

---

**Platform Notes (Continued)**

RSB filling

run-level 3 Sep 7 16:49

SPEC is set to: /191ul

Filesystem | Type | Size | Used | Avail | Use% | Mounted on
-------------|------|------|------|-------|------|------------------
/dev/sda4    | xfs  | 932G | 52G  | 881G  | 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.

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)
---------------------------------------------
```

(Continued on next page)
## Compiler Version Notes (Continued)

Intel (R) C 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 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.

(Continued on next page)
ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Silver 4214R)

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Silver 4214R)

SPECrate®2017_int_base = 163
SPECrate®2017_int_peak = 169

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

Test Date: Sep-2020
Hardware Availability: Feb-2020
Software Availability: Apr-2020

Compiler Version Notes (Continued)

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

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

(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
(2.40 GHz, Intel Xeon Silver 4214R)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>163</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak</td>
<td>169</td>
</tr>
</tbody>
</table>

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

Test Date: Sep-2020
Hardware Availability: Feb-2020
Software Availability: Apr-2020

Base Portability Flags (Continued)

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

Peak Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort
ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Silver 4214R)

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrate®2017_int_base = 163
SPECrate®2017_int_peak = 169

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.
Test Date: Sep-2020
Hardware Availability: Feb-2020
Software Availability: Apr-2020

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
-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
-W1,-plugin-opt=-x86-branches-within-32B-boundaries
-W1,-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/lib
-1jemalloc

505.mcf_r: basepeak = yes

525.x264_r: -m64 -qnextgen -std=c11
-W1,-plugin-opt=-x86-branches-within-32B-boundaries
-W1,-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
-lqkmalloc

557.xz_r: -W1, -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

(Continued on next page)
ASUSTeK Computer Inc.  
ASUS RS720-E9(Z11PP-D24) Server System  
(2.40 GHz, Intel Xeon Silver 4214R)

SpeCCPU®2017 Integer Rate Result

SPECrate®2017_int_base = 163
SPECrate®2017_int_peak = 169

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.
Test Date: Sep-2020
Hardware Availability: Feb-2020
Tested with SPEC CPU®2017 v1.1.0 on 2020-09-07 04:49:38-0400.
Originally published on 2020-09-29.

Peak Optimization Flags (Continued)

557.xz_r (continued):
-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

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

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-ic19.1u1-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.