ASUSTeK Computer Inc.
ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Gold 6240R)

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

<table>
<thead>
<tr>
<th>Benchmark</th>
<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>96</td>
<td>259</td>
<td>269</td>
</tr>
<tr>
<td>502.gcc_r</td>
<td>96</td>
<td>304</td>
<td>581</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>96</td>
<td>215</td>
<td></td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>96</td>
<td>447</td>
<td>700</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>96</td>
<td>265</td>
<td>720</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>96</td>
<td>247</td>
<td>630</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>557.xz_r</td>
<td>96</td>
<td>205</td>
<td></td>
</tr>
</tbody>
</table>

SPECrate®2017_int_base = 337
SPECrate®2017_int_peak = 351

Hardware

CPU Name: Intel Xeon Gold 6240R
Max MHz: 4000
Nominal: 2400
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

**ASUSTeK Computer Inc.**  
ASUS RS720-E9(Z11PP-D24) Server System  
(2.40 GHz, Intel Xeon Gold 6240R)

**SPECrate®2017_int_base = 337**  
**SPECrate®2017_int_peak = 351**

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>ASUSTeK Computer Inc.</td>
</tr>
<tr>
<td>Tested by:</td>
<td>ASUSTeK Computer Inc.</td>
</tr>
<tr>
<td>Test Date:</td>
<td>Sep-2020</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>Feb-2020</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Apr-2020</td>
</tr>
</tbody>
</table>

#### 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>perlbench_r</td>
<td>500</td>
<td>667</td>
<td>229</td>
<td>667</td>
<td>229</td>
<td>668</td>
<td>229</td>
<td>96</td>
<td>569</td>
<td>269</td>
<td>568</td>
<td>269</td>
<td>570</td>
<td>268</td>
</tr>
<tr>
<td>gcc_r</td>
<td>502</td>
<td>525</td>
<td>259</td>
<td>524</td>
<td>259</td>
<td>525</td>
<td>259</td>
<td>96</td>
<td>447</td>
<td>304</td>
<td>446</td>
<td>304</td>
<td>446</td>
<td>304</td>
</tr>
<tr>
<td>mcf_r</td>
<td>505</td>
<td>267</td>
<td>581</td>
<td>267</td>
<td>580</td>
<td>267</td>
<td>581</td>
<td>96</td>
<td>267</td>
<td>581</td>
<td>267</td>
<td>580</td>
<td>267</td>
<td>581</td>
</tr>
<tr>
<td>xalancbmk_r</td>
<td>523</td>
<td>227</td>
<td>447</td>
<td>227</td>
<td>447</td>
<td>227</td>
<td>447</td>
<td>96</td>
<td>227</td>
<td>447</td>
<td>227</td>
<td>447</td>
<td>227</td>
<td>447</td>
</tr>
<tr>
<td>x264_r</td>
<td>525</td>
<td>241</td>
<td>697</td>
<td>239</td>
<td>702</td>
<td>240</td>
<td>700</td>
<td>96</td>
<td>230</td>
<td>732</td>
<td>230</td>
<td>729</td>
<td>233</td>
<td>721</td>
</tr>
<tr>
<td>deepsjeng_r</td>
<td>531</td>
<td>416</td>
<td>265</td>
<td>416</td>
<td>265</td>
<td>416</td>
<td>265</td>
<td>96</td>
<td>416</td>
<td>265</td>
<td>416</td>
<td>265</td>
<td>416</td>
<td>265</td>
</tr>
<tr>
<td>leela_r</td>
<td>541</td>
<td>646</td>
<td>246</td>
<td>645</td>
<td>247</td>
<td>645</td>
<td>247</td>
<td>96</td>
<td>646</td>
<td>246</td>
<td>645</td>
<td>247</td>
<td>645</td>
<td>247</td>
</tr>
<tr>
<td>exchange2_r</td>
<td>548</td>
<td>399</td>
<td>630</td>
<td>399</td>
<td>630</td>
<td>399</td>
<td>630</td>
<td>96</td>
<td>399</td>
<td>630</td>
<td>399</td>
<td>630</td>
<td>399</td>
<td>630</td>
</tr>
<tr>
<td>xz_r</td>
<td>557</td>
<td>518</td>
<td>200</td>
<td>520</td>
<td>199</td>
<td>519</td>
<td>200</td>
<td>96</td>
<td>507</td>
<td>204</td>
<td>506</td>
<td>205</td>
<td>505</td>
<td>205</td>
</tr>
</tbody>
</table>

**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"
ASUSTeK Computer Inc.
ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Gold 6240R)

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

SPECrate®2017_int_base = 337
SPECrate®2017_int_peak = 351

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
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 295195f888a3d7edbble6e46a485a0011
running on linux-628j Wed Sep 30 17:14:24 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)
ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Gold 6240R)

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrate®2017_int_base = 337
SPECrate®2017_int_peak = 351

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

Platform Notes (Continued)

From /proc/cpuinfo
model name : Intel(R) Xeon(R) Gold 6240R CPU @ 2.40GHz
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 9 10 11 12 13 16 17 18 19 20 21 24 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 6240R CPU @ 2.40GHz
Stepping: 7
CPU MHz: 2400.000
CPU max MHz: 4000.0000
CPU min MHz: 1000.0000
BogoMIPS: 4800.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 36608K
NUMA node0 CPU(s): 0-3,7,8,12-14,18-20,48-51,55,56,60-62,66-68
NUMA node1 CPU(s): 4-6,9-11,15-17,21-23,52-54,57-59,63-65,69-71
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 rdtsscp
lm constant_tsc 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
xtrn 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

(Continued on next page)
SPEC CPU®2017 Integer Rate Result

ASUSTeK Computer Inc.
ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Gold 6240R)

SPECraten®2017_int_base = 337
SPECraten®2017_int_peak = 351

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

Platform Notes (Continued)

invpcid_single intelpin ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnni
flexpriority ept vspecbase 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 xsavees cqm_llc cqm_occum_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_l1d 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 12 13 14 18 19 20 48 49 50 51 55 56 60 61 62 66 67 68
node 0 size: 192078 MB
node 0 free: 191609 MB
node 1 cpus: 4 5 6 9 10 11 15 16 17 21 22 23 52 53 54 57 58 59 63 64 65 69 71
node 1 size: 193501 MB
node 1 free: 193222 MB
node 2 cpus: 24 25 26 27 31 32 33 37 38 39 43 44 73 74 75 79 80 81 85 86 87 91 92
node 2 size: 193531 MB
node 2 free: 193274 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: 193277 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: 791185084 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)
ASUSTeK Computer Inc.

ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Gold 6240R)

SPEC CPU®2017 Integer Rate Result

SPECrate®2017_int_base = 337
SPECrate®2017_int_peak = 351

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

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 Sep 30 17:13
SPEC is set to: /191u1

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda4      xfs   932G   21G  911G   3% /

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)
ASUSTeK Computer Inc.  
ASUS RS720-E9(Z11PP-D24) Server System  
(2.40 GHz, Intel Xeon Gold 6240R)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base = 337</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_int_peak = 351</td>
</tr>
</tbody>
</table>

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 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) |
| (Continued on next page) |
ASUSTeK Computer Inc.  
ASUS RS720-E9(Z1IPP-D24) Server System  
(2.40 GHz, Intel Xeon Gold 6240R)  

**SPEC CPU®2017 Integer Rate Result**

Copyright 2017-2020 Standard Performance Evaluation Corporation

---

**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.

---

| | 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

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

---

| 500.perlbench_r(peak) 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.

---

C++

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.

---

| 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

Intel(R) Fortran 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)
ASUSTeK Computer Inc.
ASUS RS720-E9(Z11PP-D24) Server System (2.40 GHz, Intel Xeon Gold 6240R)

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

SPECrate®2017_int_base = 337
SPECrate®2017_int_peak = 351

ASUSTeK Computer Inc.
ASUS RS720-E9(Z11PP-D24) Server System (2.40 GHz, Intel Xeon Gold 6240R)

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

Base Compiler Invocation (Continued)

Fortran benchmarks:
ifort

Base Portability Flags

500.perlibench_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
-W1,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-xCORE-AVX512 -O3 -ffast-math -ftlo -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 -W1,-plugin-opt=-x86-branches-within-32B-boundaries
-W1,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -ftlo -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 -W1,-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

### 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  
-ljemalloc
```

(Continued on next page)
ASUSTeK Computer Inc.
ASUS RS720-E9(Z11PP-D24) Server System
(2.40 GHz, Intel Xeon Gold 6240R)

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

SPECrat®2017_int_base = 337
SPECrat®2017_int_peak = 351

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 Optimization Flags (Continued)

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 -gopt-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
-gopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/usr/local/IntelCompiler19/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

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

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

SPEC CPU and SPECrat 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 2020-09-30 05:14:23-0400.
Originally published on 2020-11-10.