## SPEC CPU®2017 Integer Speed Result

**ASUSTeK Computer Inc.**  
ASUS RS520A-E11(KMPA-U16) Server System  
2.95 GHz, AMD EPYC 75F3

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9016</th>
<th>Test Date:</th>
<th>Jun-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>ASUSTeK Computer Inc.</td>
<td>Hardware Availability:</td>
<td>May-2021</td>
</tr>
<tr>
<td>Tested by:</td>
<td>ASUSTeK Computer Inc.</td>
<td>Software Availability:</td>
<td>Mar-2021</td>
</tr>
</tbody>
</table>

### Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed®2017_int_base</th>
<th>SPECspeed®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>32</td>
<td>7.55</td>
<td>7.56</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>32</td>
<td>14.7</td>
<td>14.8</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>32</td>
<td>9.33</td>
<td>9.36</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>32</td>
<td>15.6</td>
<td>15.6</td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>32</td>
<td>18.8</td>
<td>18.8</td>
</tr>
<tr>
<td>625.x264_s</td>
<td>32</td>
<td>7.19</td>
<td>7.19</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>32</td>
<td>6.33</td>
<td>6.34</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>32</td>
<td>25.7</td>
<td>25.7</td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>32</td>
<td>26.8</td>
<td>26.8</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name**: AMD EPYC 75F3  
- **Max MHz**: 4000  
- **Nominal**: 2950  
- **Enabled**: 32 cores, 1 chip, 2 threads/core  
- **Orderable**: 1 chip  
- **Cache L1**: 32 KB I + 32 KB D on chip per core  
- **L2**: 512 KB I+D on chip per core  
- **L3**: 256 MB I+D on chip per chip, 32 MB shared / 4 cores  
- **Other**: None  
- **Memory**: 512 GB (8 x 64 GB 2Rx4 PC4-3200AA-R)  
- **Storage**: 1 x 240 GB SATA SSD  
- **Other**: None

### Software

- **OS**: SUSE Linux Enterprise Server 15 SP2 (x86_64)  
  Kernel 5.3.18-22-default  
- **Compiler**: C/C++/Fortran: Version 3.0.0 of AOCC  
- **Parallel**: Yes  
- **Firmware**: Version 0401 released Apr-2021  
- **File System**: xfs  
- **System State**: Run level 3 (multi-user)  
- **Base Pointers**: 64-bit  
- **Peak Pointers**: 64-bit  
- **Other**: jemalloc: jemalloc memory allocator library v5.1.0  
- **Power Management**: BIOS and OS set to prefer performance at the cost of additional power usage.
RESULTS TABLE

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
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<td>255</td>
<td>7.55</td>
<td>235</td>
<td>7.55</td>
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<td>232</td>
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<tr>
<td>602.gcc_s</td>
<td>32</td>
<td>259</td>
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<td>14.8</td>
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<td>1</td>
<td>269</td>
<td>14.8</td>
<td>270</td>
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<td>269</td>
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<tr>
<td>605.mcf_s</td>
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<td>208</td>
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<tr>
<td>623.xalanchmk_s</td>
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<td>15.6</td>
<td>91.1</td>
<td>15.6</td>
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<td>32</td>
<td>91.1</td>
<td>15.6</td>
<td>91.1</td>
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<td>90.1</td>
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<td>625.x264_s</td>
<td>32</td>
<td>94.0</td>
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<td>94.1</td>
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<td>93.7</td>
<td>18.8</td>
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<tr>
<td>631.deepsjeng_s</td>
<td>32</td>
<td>199</td>
<td>7.20</td>
<td>201</td>
<td>7.13</td>
<td>199</td>
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<td>32</td>
<td>199</td>
<td>7.20</td>
<td>201</td>
<td>7.13</td>
<td>199</td>
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<td>32</td>
<td>269</td>
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<td>6.35</td>
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<td>6.33</td>
<td>269</td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>32</td>
<td>115</td>
<td>25.7</td>
<td>115</td>
<td>25.7</td>
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<td>32</td>
<td>115</td>
<td>25.7</td>
<td>115</td>
<td>25.7</td>
<td>115</td>
</tr>
</tbody>
</table>

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

COMPILER NOTES

The AMD64 AOCC Compiler Suite is available at http://developer.amd.com/amd-aocc/

SUBMIT NOTES

The config file option 'submit' was used. 'numactl' was used to bind copies to the cores. See the configuration file for details.

OPERATING SYSTEM NOTES

'ulimit -s unlimited' was used to set environment stack size limit
'ulimit -l 2097152' was used to set environment locked pages in memory limit
OS set to performance mode via cpupower frequency-set -g performance
runcpu command invoked through numactl i.e.: numactl --interleave=all runcpu <etc>
'echo 8 > /proc/sys/vm/dirty_ratio' run as root to limit dirty cache to 8% of memory.
'echo 1 > /proc/sys/vm/swappiness' run as root to limit swap usage to minimum necessary.
'echo 1 > /proc/sys/vm/zone_reclaim_mode' run as root to free node-local memory and avoid remote memory usage.
'sync; echo 3 > /proc/sys/vm/drop_caches' run as root to reset filesystem caches.
'sysctl -w kernel.randomize_va_space=0' run as root to disable address space layout randomization (ASLR) to reduce run-to-run variability.
To enable Transparent Hugepages (THP) for all allocations,

(Continued on next page)
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#### Operating System Notes (Continued)

'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and  
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.

#### Environment Variables Notes

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

- **GOMP_CPU_AFFINITY** = "0-63"
- **LD_LIBRARY_PATH** = 
  
- **MALLOC_CONF** = "retain: true"
- **OMP_DYNAMIC** = "false"
- **OMP_SCHEDULE** = "static"
- **OMP_STACKSIZE** = "128M"
- **OMP_THREAD_LIMIT** = "64"

Environment variables set by runcpu during the 600.perlbench_s peak run:

- **GOMP_CPU_AFFINITY** = "0"

Environment variables set by runcpu during the 602.gcc_s peak run:

- **GOMP_CPU_AFFINITY** = "0"

Environment variables set by runcpu during the 605.mcf_s peak run:

- **GOMP_CPU_AFFINITY** = "0"

Environment variables set by runcpu during the 620.omnetpp_s peak run:

- **GOMP_CPU_AFFINITY** = "0"

Environment variables set by runcpu during the 625.x264_s peak run:

- **GOMP_CPU_AFFINITY** = "0"

Environment variables set by runcpu during the 641.leela_s peak run:

- **GOMP_CPU_AFFINITY** = "0"

Environment variables set by runcpu during the 657.xz_s peak run:

- **GOMP_CPU_AFFINITY** = "0-31"

#### General Notes

Binaries were compiled on a system with 2x AMD EPYC 7742 CPU + 1TiB Memory using OpenSUSE 15.2

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.

(Continued on next page)
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General Notes (Continued)

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: configured and built with GCC v4.8.2 in RHEL 7.4 (No options specified)
jemalloc 5.1.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.1.0/jemalloc-5.1.0.tar.bz2

Platform Notes

BIOS Configuration:
DLWM Support = Disabled
SVM Mode = Disabled
NUMA nodes per socket = NPS2
APBDIS = 1
Fix SOC P-state = P0
Engine Boost = Enabled
IOMMU = Disabled

Sysinfo program /cpu118/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca64
running on localhost Thu Jun 24 21:13:52 2021

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 : AMD EPYC 75F3 32-Core Processor
      1 "physical id"s (chips)
      64 "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 : 32
   siblings : 64
   physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
               25 26 27 28 29 30 31

From lscpu from util-linux 2.33.1:
   Architecture: x86_64
   CPU op-mode(s): 32-bit, 64-bit
   Byte Order: Little Endian
   Address sizes: 48 bits physical, 48 bits virtual
   CPU(s): 64
   On-line CPU(s) list: 0-63
   Thread(s) per core: 2

(Continued on next page)
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Platform Notes (Continued)

Core(s) per socket: 32
Socket(s): 1
NUMA node(s): 2
Vendor ID: AuthenticAMD
CPU family: 25
Model: 1
Model name: AMD EPYC 75F3 32-Core Processor
Stepping: 1
CPU MHz: 1832.225
CPU max MHz: 2950.0000
CPU min MHz: 1500.0000
BogoMIPS: 5888.78
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K
L2 cache: 512K
L3 cache: 32768K
NUMA node0 CPU(s): 0-15,32-47
NUMA node1 CPU(s): 16-31,48-63
Flags: fpu vme de pse tsc msr pae mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq mmonitor ssse3 fma cx16 pcid sse4_1 sse4_2 movbe popcnt aes xsave avx f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bext perfctr_l1c mwaltx cpb cat_l3 cdp_l3 invpcid_single hw_pstate ssbd mba ibrs ibpbi stibp vmmcall fsgsbase bmis avx2 smep bmi2 erms invpcid cmq rdrt_a rdseed adx smap clflushopt clwb sha ni xsaveopt xsavec xgetbv1 xsaves cmq_llc cmq_occrr_l1c cmq_mbm_total cmq_mbm_local clzero irperf xsaveerptr wbnoinvd arat npt lbrv svm_lock nrip_save tsc_scale vmcbig_clean flushbyasm decodeassists pausefilter pftreshold v_vmsave_vmload vgif umip pkup ospek vsャ言 vpcmulqduq rdpid overflow_recov succor smca

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 12 13 14 15 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
node 0 size: 257817 MB
node 0 free: 257346 MB
node 1 cpus: 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 48 49 50 51 52 53 54 55 56
node 1 size: 258025 MB
node 1 free: 257425 MB
node distances:

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Platform Notes (Continued)

\begin{verbatim}
node  0   1
 0:  10  12
 1:  12  10

From /proc/meminfo
 MemTotal:       528222656 kB
 HugePages_Total:       0
 Hugepagesize:       2048 kB

/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has performance

From /etc/*release* /etc/*version*
 os-release:
 NAME="SLES"
 VERSION="15-SP2"
 VERSION_ID="15.2"
 PRETTY_NAME="SUSE Linux Enterprise Server 15 SP2"
 ID="sles"
 ID_LIKE="suse"
 ANSI_COLOR="0;32"
 CPE_NAME="/cpe:/o:suse:sles:15:sp2"

uname -a:
 Linux localhost 5.3.18-22-default #1 SMP Wed Jun 3 12:16:43 UTC 2020 (720aeba) x86_64
 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit): Not affected
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: usercopy/swaps barriers and __user pointer sanitation
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: always-on, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 Jun 24 17:48
\end{verbatim}

(Continued on next page)
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Platform Notes (Continued)

SPEC is set to: /cpu118
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda4 xfs 199G 25G 175G 13% /

From /sys/devices/virtual/dmi/id
Vendor: ASUSTeK COMPUTER INC.
Product: RS520A-E11-RS24U
Product Family: Server
Serial: 333366669999

Additional information from dmidecode 3.2 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:
8x Samsung M393A8G40AB2-CWE 64 GB 2 rank 3200
8x Unknown Unknown

BIOS:
BIOS Vendor: American Megatrends Inc.
BIOS Version: 0401
BIOS Date: 04/14/2021
BIOS Revision: 4.1

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C       | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak) 657.xz_s(base, peak)
------------------------------------------------------------------------------
AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin
==============================================================================

C++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)
------------------------------------------------------------------------------
AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu

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**Compiler Version Notes (Continued)**

Thread model: posix  
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin

---

**Base Compiler Invocation**

C benchmarks:  
clang  

C++ benchmarks:  
clang++

Fortran benchmarks:  
flang

---

**Base Portability Flags**

600.perlbench_s: -DSPEC_LINUX_X64 -DSPEC_LP64  
602.gcc_s: -DSPEC_LP64  
605.mcf_s: -DSPEC_LP64  
620.omnetpp_s: -DSPEC_LP64  
623.xalancbmk_s: -DSPEC_LINUX -DSPEC_LP64  
625.x264_s: -DSPEC_LP64  
631.deepsjeng_s: -DSPEC_LP64  
641.leela_s: -DSPEC_LP64  
648.exchange2_s: -DSPEC_LP64  
657.xz_s: -DSPEC_LP64
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Base Optimization Flags

C benchmarks:
-m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition
-Wl,--mllvm -Wl,--enable-lcm-vrp -Wl,--mllvm -Wl,--region-vectorize
-Wl,--mllvm -Wl,--function-specialize
-Wl,--mllvm -Wl,--align-all-nofallthru-blocks=6
-Wl,--mllvm -Wl,--reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
--mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -mllvm -function-specialize -flv-function-specialization
--mllvm -enable-gvn-hoist -mllvm -global-vectorize-slp=true
--mllvm -enable-lcm-vrp -mllvm -reduce-array-computations=3 -z muldefs
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-llang -llangrti

C++ benchmarks:
-m64 -std=c++98 -mno-adx -mno-sse4a
-Wl,--mllvm -Wl,--do-block-reorder=aggressive
-Wl,--mllvm -Wl,--region-vectorize -Wl,--mllvm -Wl,--function-specialize
-Wl,--mllvm -Wl,--align-all-nofallthru-blocks=6
-Wl,--mllvm -Wl,--reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -mllvm -enable-partial-unswitch
--mllvm -unroll-threshold=100 -finline-aggressive
-flv-function-specialization --mllvm -loop-unswitch-threshold=200000
--mllvm -reroll-loops -mllvm -aggressive-loop-unswitch
--mllvm -extra-vectorizer-passes -mllvm -reduce-array-computations=3
--mllvm -global-vectorize-slp=true -mllvm -convert-pow-exp-to-int=false
-z muldefs -mllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden -DSPEC_OPENMP
-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -llang
-llangrti

Fortran benchmarks:
-m64 -mno-adx -mno-sse4a -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,--mllvm -Wl,-isr-in-nested-loop -Wl,--mllvm -Wl,--enable-iv-split
-Wl,--mllvm -Wl,--region-vectorize -Wl,--mllvm -Wl,--function-specialize
-Wl,--mllvm -Wl,--align-all-nofallthru-blocks=6
-Wl,--mllvm -Wl,--reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -z muldefs
--mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -DSPEC_OPENMP
-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -llang
-llangrti
SPEC CPU®2017 Integer Speed Result
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ASUSTeK Computer Inc.
ASUS RS520A-E11(KMPA-U16) Server System
2.95 GHz, AMD EPYC 75F3

SPECspeed®2017_int_base = 13.6
SPECspeed®2017_int_peak = 13.6

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Test Date: Jun-2021
CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Hardware Availability: May-2021
Tested by: ASUSTeK Computer Inc.
Software Availability: Mar-2021

Base Other Flags

C benchmarks:
-Wno-unused-command-line-argument -Wno-return-type

C++ benchmarks:
-Wno-unused-command-line-argument -Wno-return-type

Fortran benchmarks:
-Wno-return-type

Peak Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Peak Portability Flags
Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
-m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition
-llvm -Wl,-enable-lcm-vrp -Wl,-mllvm -Wl,-function-specialize
-llvm -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-llvm -Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
-mllvm -unroll-threshold=50 -fremap-arrays -flv-function-specialization
-mllvm -inline-threshold=1000 -mllvm -enable-gvn-hoist
-mllvm -global-vectorize-slp=true -mllvm -function-specialize
-mllvm -enable-lcm-vrp -mllvm -reduce-array-computations=3
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-flang

(Continued on next page)
SPEC CPU®2017 Integer Speed Result
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2.95 GHz, AMD EPYC 75F3

SPECspeed®2017_int_base = 13.6
SPECspeed®2017_int_peak = 13.6

CPU2017 License: 9016
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Test Date: Jun-2021
Hardware Availability: May-2021
Software Availability: Mar-2021

Peak Optimization Flags (Continued)

C++ benchmarks:

620.omnetpp_s: -m64 -std=c++98 -mno-adx -mno-sse4a
-W1, -mlllvm -W1, -do-block-reorder=aggressive
-W1, -mlllvm -W1, -function-specialize
-W1, -mlllvm -W1, -align-all-nofallthru-blocks=6
-W1, -mlllvm -W1, -reduce-array-computations=3 -Ofast
-march=znver3 -fveclib=AMDLIBM -ffast-math -flto
-finline-aggressive -mlllvm -unroll-threshold=100
-flv-function-specialization -mlllvm -enable-licm-vrp
-mlllvm -reroll-loops -mlllvm -aggressive-loop-unswitch
-mlllvm -reduce-array-computations=3
-mlllvm -global-vectorize-slp=true
-mlllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm
-ljemalloc -lflang

623.xalancbmk_s: basepeak = yes

631.deepsjeng_s: basepeak = yes

641.leela_s: Same as 620.omnetpp_s

Fortran benchmarks:

648.exchange2_s: basepeak = yes

Peak Other Flags

C benchmarks:
-Wno-unused-command-line-argument -Wno-return-type

C++ benchmarks:
-Wno-unused-command-line-argument -Wno-return-type

Fortran benchmarks:
-Wno-return-type

The flags files that were used to format this result can be browsed at
**SPEC CPU®2017 Integer Speed Result**

**ASUSTeK Computer Inc.**
ASUS RS520A-E11(KMPA-U16) Server System
2.95 GHz, AMD EPYC 75F3

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<th>SPECspeed®2017_int_base = 13.6</th>
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<td>SPECspeed®2017_int_peak = 13.6</td>
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</tbody>
</table>

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Test Sponsor: ASUSTeK Computer Inc.
Tested by: ASUSTeK Computer Inc.

Test Date: Jun-2021
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You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-AMD-Milan-V1.3.2021-07-06.xml

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