## Lenovo Global Technology

**ThinkSystem SR635**  
2.80 GHz, AMD EPYC 7543

<table>
<thead>
<tr>
<th>SPECspeed\textsuperscript{\textregistered}2017_int_base</th>
<th>SPECspeed\textsuperscript{\textregistered}2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.6</td>
<td>12.7</td>
</tr>
</tbody>
</table>

### CPU2017 License: 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology  
**Test Date:** Jul-2021  
**Hardware Availability:** Jun-2021  
**Software Availability:** Mar-2021

### Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>perlbench_s</td>
<td>32</td>
</tr>
<tr>
<td>gcc_s</td>
<td>32</td>
</tr>
<tr>
<td>mcf_s</td>
<td>32</td>
</tr>
<tr>
<td>omnetpp_s</td>
<td>32</td>
</tr>
<tr>
<td>xalancbmk_s</td>
<td>32</td>
</tr>
<tr>
<td>x264_s</td>
<td>32</td>
</tr>
<tr>
<td>deepsjeng_s</td>
<td>32</td>
</tr>
<tr>
<td>leela_s</td>
<td>32</td>
</tr>
<tr>
<td>exchange2_s</td>
<td>32</td>
</tr>
<tr>
<td>xz_s</td>
<td>32</td>
</tr>
</tbody>
</table>

**SPECspeed\textsuperscript{\textregistered}2017_int_base (12.6)**  
**SPECspeed\textsuperscript{\textregistered}2017_int_peak (12.7)**

### Hardware

**CPU Name:** AMD EPYC 7543  
**Max MHz:** 3700  
**Nominal:** 2800  
**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:** 256 GB (8 x 32 GB 2Rx4 PC4-3200AA-R)  
**Storage:** 1 x 960 GB SATA SSD  
**Other:** None

### Software

**OS:** SUSE Linux Enterprise Server 15 SP2 (x86_64)  
**Compiler:** C/C++/Fortran: Version 3.0.0 of AOCC  
**Parallel:** Yes  
**Firmware:** Lenovo BIOS Version CFE125U 6.0 released May-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
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>32</td>
<td>245</td>
<td>7.28</td>
<td>246</td>
<td>7.23</td>
<td>243</td>
<td>7.30</td>
<td>32</td>
<td>245</td>
<td>7.28</td>
<td>246</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>32</td>
<td>292</td>
<td>13.6</td>
<td>293</td>
<td>13.6</td>
<td>291</td>
<td>13.7</td>
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<td>13.8</td>
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<tr>
<td>605.mcf_s</td>
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<td>224</td>
<td>21.1</td>
<td>223</td>
<td>21.2</td>
<td>224</td>
<td>21.1</td>
<td>1</td>
<td>223</td>
<td>21.1</td>
<td>223</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>32</td>
<td>186</td>
<td>8.77</td>
<td>186</td>
<td>8.76</td>
<td>187</td>
<td>8.70</td>
<td>32</td>
<td>186</td>
<td>8.77</td>
<td>186</td>
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<tr>
<td>623.xalanchmk_s</td>
<td>32</td>
<td>98.5</td>
<td>14.4</td>
<td>99.0</td>
<td>14.3</td>
<td>98.0</td>
<td>14.5</td>
<td>32</td>
<td>98.5</td>
<td>14.4</td>
<td>99.0</td>
</tr>
<tr>
<td>625.x264_s</td>
<td>32</td>
<td>102</td>
<td>17.3</td>
<td>102</td>
<td>17.3</td>
<td>101</td>
<td>17.4</td>
<td>1</td>
<td>102</td>
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<tr>
<td>631.deepsjeng_s</td>
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<td>217</td>
<td>6.59</td>
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<td>6.60</td>
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<td>6.57</td>
<td>32</td>
<td>217</td>
<td>6.59</td>
<td>217</td>
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<tr>
<td>641.leela_s</td>
<td>32</td>
<td>291</td>
<td>5.86</td>
<td>291</td>
<td>5.87</td>
<td>291</td>
<td>5.87</td>
<td>1</td>
<td>291</td>
<td>5.85</td>
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<tr>
<td>648.exchange2_s</td>
<td>32</td>
<td>124</td>
<td>23.7</td>
<td>124</td>
<td>23.7</td>
<td>124</td>
<td>23.6</td>
<td>1</td>
<td>124</td>
<td>23.8</td>
<td>124</td>
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<tr>
<td>657.xz_s</td>
<td>32</td>
<td>246</td>
<td>25.1</td>
<td>246</td>
<td>25.2</td>
<td>248</td>
<td>25.0</td>
<td>32</td>
<td>246</td>
<td>25.1</td>
<td>246</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
'ulimit -l 2097152' was used to set environment locked pages in memory limit
runcpu command invoked through numacl i.e.:
numacl --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,
'echo always > /sys/kernel/mm/transparent_hugepage/always' and
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SPECspeak®2017_int_base = 12.6
SPECspeak®2017_int_peak = 12.7

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Software Availability: Mar-2021

Operating System Notes (Continued)

'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 =
"/home/cpu2017-1.1.8-amd-aocc300-milan-B1/amd_speed_aocc300_milan_B Liability/64;/home/cpu2017-1.1.8-amd-aocc300-milan-B1/amd_speed_aocc300_milan_B Liability/32;"
MALLOCONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "64"

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 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 648.exchange2_s peak run:
GOMP_CPU_AFFINITY = "0"

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.
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
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Test Date: Jul-2021
Hardware Availability: Jun-2021
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Platform Notes

BIOS configuration:
Choose Operating Mode set to Maximum Performance
NUMA nodes per socket set to NPS2
SOC P-states set to P0

Sysinfo program /home/cpu2017-1.1.8-amd-aocc300-milan-B1/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acaf64d
running on localhost Wed Jul 28 18:07:50 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 7543 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
Core(s) per socket: 32
Socket(s): 1
NUMA node(s): 2
Vendor ID: AuthenticAMD
CPU family: 25
Model: 1
Model name: AMD EPYC 7543 32-Core Processor
Stepping: 1
CPU MHz: 2406.537
CPU max MHz: 2800.0000
CPU min MHz: 1500.0000
BogoMIPS: 5589.99
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K

(Continued on next page)
SPEC CPU®2017 Integer Speed Result
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Platform Notes (Continued)

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 mce cx8 apic sep mtrr pge 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
monitor 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 bpext perfctr_llc mwaitx cpb
cat_l3 cdp_l3 invpcid_single hw_pstate ssbd mba ibrs iomb stibp vmmcall fsgsbase
bm1 avx2 smep bmi2 erms invpcid cmp rdt_a rdseed avx f16c clflushopt clwb sha ni
xsaves opt xsaveopt xsaves xevb1 xsaves csq llc csq_occup_llc csq_mbm_total csq_mbm_local
clzero irperf xsaves opt vmbnoind arat ar ntpp bsv lock rrip_save tsc scale
vmb_clean flushbyasid decodeassists pausefilter pfthreshold v_vmsave_vmload vgif
umip pku ospds vpc1mulqdq rdpid overflow_recov succor smca

From /proc/cpuinfo cache data
  cache size : 512 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 12 13 14 15 32 33 34 35 36 37 38 39 40 41 42 43
  44 45 46 47
node 0 size: 128820 MB
node 0 free: 128312 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
  57 58 59 60 61 62 63
node 1 size: 128967 MB
node 1 free: 128430 MB
node distances:
node 0 1
  0: 10 12
  1: 12 10

From /proc/meminfo
  MemTotal: 263975580 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

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

From /etc/*release* /etc/*version*
  os-release:
    NAME="SLES"

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SPECspeed®2017_int_base = 12.6
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Platform Notes (Continued)

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): Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2018-3639 (Speculative Store Bypass): Mitigation: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5753 (Spectre variant 1): Mitigation: Full AMD retpoline, IBFP: conditional, IBRS_FW, STIBF: always-on, RSB filling
CVE-2017-5715 (Spectre variant 2): Not affected
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 Jul 28 18:00

SPEC is set to: /home/cpu2017-1.1.8-amd-aocc300-milan-B1
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 xfs 892G 74G 818G 9% /

From /sys/devices/virtual/dmi/id
Vendor: Lenovo
Product: ThinkSystem SR635 -[7Y98XXXXXXXX]-
Product Family: ThinkSystem
Serial: 0123456789

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:

(Continued on next page)
### Platform Notes (Continued)

8x Samsung M393A4K40DB3-CWE 32 GB 2 rank 3200  
8x Unknown Unknown

**BIOS:**

- **BIOS Vendor:** Lenovo  
- **BIOS Version:** CFE125U  
- **BIOS Date:** 05/28/2021  
- **BIOS Revision:** 6.0

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

```
Fortran
| 648.exchange2_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
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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.xalanchmk_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

Base Optimization Flags

C benchmarks:
-m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition
-Wl, -mllvm -Wl, -enable-licm-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
-mlvm -unroll-threshold=50 -mlvm -inline-threshold=1000
-fremap-arrays -mlvm -function-specialize -flv-function-specialization
-mlvm -enable-gvn-hoist -mlvm -global-vectorize-slp=true
-mlvm -enable-licm-vrp -mlvm -reduce-array-computations=3 -z muldefs
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-llflang -llflangrt

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

(Continued on next page)
## Base Optimization Flags (Continued)

### C++ benchmarks
- `-W1,-mlllvm -W1,-align-all-nofallthru-blocks=6`
- `-W1,-mlllvm -W1,-reduce-array-computations=3 -O3 -march=znver3`
- `-fveclib=AMDLIBM -ffast-math -flto -mlllvm -enable-partial-unswitch`
- `-mlllvm -unroll-threshold=100 -finline-aggressive`
- `-flv-function-specialization -mlllvm -loop-unswitch-threshold=200000`
- `-mlllvm -reroll-loops -mlllvm -aggressive-loop-unswitch`
- `-mlllvm -extra-vectorizer-passes -mlllvm -reduce-array-computations=3`
- `-mlllvm -global-vectorize-slp=true -mlllvm -convert-pow-exp-to-int=false`
- `-z muldefs -mlllvm -do-block-reorder=aggressive`
- `-fvirtual-function-elimination -fvisibility=hidden -DSPEC_OPENMP`
- `-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -lflang -lflangrti`

### Fortran benchmarks
- `-m64 -mno-adx -mno-sse4a -W1,-mlllvm -W1,-inline-recursion=4`
- `-W1,-mlllvm -W1,-lsr-in-nested-loop -W1,-mlllvm -W1,-enable-iv-split`
- `-W1,-mlllvm -W1,-region-vectorize -W1,-mlllvm -W1,-function-specialize`
- `-W1,-mlllvm -W1,-align-all-nofallthru-blocks=6`
- `-W1,-mlllvm -W1,-reduce-array-computations=3 -O3 -march=znver3`
- `-fveclib=AMDLIBM -ffast-math -flto -z muldefs`
- `-mlllvm -unroll-aggressive -mlllvm -unroll-threshold=150 -DSPEC_OPENMP`
- `-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -lflang -lflangrti`

## 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`

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SPECspeed®2017_int_base = 12.6
SPECspeed®2017_int_peak = 12.7

peak compiler invocation (continued)

C++ benchmarks:
clang++

Fortran benchmarks:
flang

peak portability flags
same as base portability flags

peak optimization flags

C benchmarks:
600.perlbench_s: basepeak = yes
602.gcc_s: -m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition
-Wl,-mlllvm -Wl,-enable-licm-vrp
-Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver3 -fveclib=AMDLIBM -ffast-math -flto
-fstruct-layout=5 -mlllvm -unroll-threshold=50
-fremap-arrays -flv-function-specialization
-mlllvm -inline-threshold=1000 -mlllvm -enable-gvn-hoist
-mlllvm -global-vectorize-slp=true
-mlllvm -function-specialize -mlllvm -enable-licm-vrp
-mlllvm -reduce-array-computations=3 -DSPEC_OPENMP -fopenmp
-fopenmp=libomp -lomp -landlibm -ljemalloc -lflang
605.mcf_s: Same as 602.gcc_s
625.x264_s: Same as 602.gcc_s
657.xz_s: basepeak = yes

C++ benchmarks:
620.omnetpp_s: basepeak = yes
623.xalancbmk_s: basepeak = yes

(continued on next page)
Lenovo Global Technology
ThinkSystem SR635
2.80 GHz, AMD EPYC 7543

SPEC CPU®2017 Integer Speed Result
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SPECspeed®2017_int_base = 12.6
SPECspeed®2017_int_peak = 12.7

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Jul-2021
Hardware Availability: Jun-2021
Software Availability: Mar-2021

Peak Optimization Flags (Continued)

631.deepsjeng_s: basepeak = yes

641.leela_s: -m64 -std=c++98 -mno-adx -mno-sse4a
-W1,-mllvm -W1,-do-block-reorder=aggressive
-W1,-mllvm -W1,-function-specialize
-W1,-mllvm -W1,-align-all-nofallthru-blocks=6
-W1,-mllvm -W1,-reduce-array-computations=3 -0fast
-march=znver3 -fvec=AMDLIBM -ffast-math -flto
-finline-aggressive -mllvm -unroll-threshold=100
-flv-function-specialization -mllvm -enable-licm-vrp
-mllvm -nroll-loops -mllvm -aggressive-loop-unswitch
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp=true
-mllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvvisibility=hidden
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm
-ljemalloc -lflang

Fortran benchmarks:
-m64 -mno-adx -mno-sse4a -W1,-mllvm -W1,-inline-recursion=4
-W1,-mllvm -W1,-lsr-in-nested-loop -W1,-mllvm -W1,-enable-iv-split
-W1,-mllvm -W1,-function-specialize
-W1,-mllvm -W1,-align-all-nofallthru-blocks=6
-W1,-mllvm -W1,-reduce-array-computations=3 -03 -march=znver3
-fvec=AMDLIBM -ffast-math -flto -mllvm -unroll-aggressive
-mllvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -fopenmp=libomp
-lomp -lamdlibm -ljemalloc -lflang

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
http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Milan1P-G.html
### Lenovo Global Technology

**ThinkSystem SR635**  
2.80 GHz, AMD EPYC 7543

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<td>12.7</td>
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**Tested by:** Lenovo Global Technology  
**Test Date:** Jul-2021  
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You can also download the XML flags sources by saving the following links:

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