Lenovo Global Technology
ThinkSystem SR635
3.10 GHz, AMD EPYC 7232P

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology
Test Date: Mar-2020
Hardware Availability: Jan-2020

SPECrates
SPECrates®2017_int_base = 56.8
SPECrates®2017_int_peak = 60.1

500.perlbench_r 16
502.gcc_r 16
505.mcf_r 16
520.omnetpp_r 16
523.xalancbmk_r 16
525.x264_r 16
531.deepsjeng_r 16
541.leela_r 16
548.exchange2_r 16
557.xz_r 16

Hardware
CPU Name: AMD EPYC 7232P
Max MHz: 3200
Nominal: 3100
Enabled: 8 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: 32 MB I+D on chip per chip, 8 MB shared / 2 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 12 SP5 (x86_64)
Kernel 4.12.14-120-default
Compiler: C/C++/Fortran: Version 2.0.0 of AOCC
Parallel: No
Firmware: Lenovo BIOS Version CFE107O 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 v5.2.0
Power Management: BIOS set to prefer performance at the cost of additional power usage
### RESULTS TABLE

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<tbody>
<tr>
<td>500.perlbench_r</td>
<td>16</td>
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<td>41.5</td>
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<td>42.8</td>
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<td>16</td>
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<td>61.8</td>
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<td>285</td>
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<td>520.omnetpp_r</td>
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<td>29.1</td>
<td>720</td>
<td>29.1</td>
<td>718</td>
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<td>29.1</td>
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<td>718</td>
<td>29.3</td>
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<td>523.xalancbmk_r</td>
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<tr>
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<tr>
<td>548.exchange2_r</td>
<td>16</td>
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<td>557.xz_r</td>
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<td>33.6</td>
<td>514</td>
<td>33.6</td>
<td>513</td>
<td>33.7</td>
</tr>
</tbody>
</table>

**SPECrate®2017_int_base = 56.8**

**SPECrate®2017_int_peak = 60.1**

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 numactl i.e.:
numactl --interleave=all runcpu <etc>

Set dirty_ratio=8 to limit dirty cache to 8% of memory
Set swappiness=1 to swap only if necessary
Set zone_reclaim_mode=1 to free local node memory and avoid remote memory
sync then drop_caches=3 to reset caches before invoking runcpu

dirty_ratio, swappiness, zone_reclaim_mode and drop_caches were all set using privileged echo (e.g. echo 1 > /proc/sys/vm/swappiness).

Transparent huge pages set to 'always' for this run (OS default)
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SPEC CPU®2017 Integer Rate Result
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Lenovo Global Technology  SPECrate®2017_int_base = 56.8
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Environment Variables Notes
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = 
    "\home\cpu2017-1.1.0-amd-rome-aocc200-C1/amd_rate_aocc200_rome_C_lib/64;\n    /home/cpu2017-1.1.0-amd-rome-aocc200-C1/amd_rate_aocc200_rome_C_lib/32:"\nMALLOC_CONF = "retain:true"

General Notes
Binaries were compiled on a system with 2x AMD EPYC 7601 CPU + 512GB Memory using Fedora 26

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.
Yes: The test sponsor attests, as of date of publication, that CVE-2018-3640 (Spectre variant 3a) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2018-3639 (Spectre variant 4) is mitigated in the system as tested and documented.
jemalloc: configured and built with GCC v9.1.0 in Ubuntu 19.04 with -O3 -znver2 -flto
jemalloc 5.2.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.2.0/jemalloc-5.2.0.tar.bz2

Platform Notes
BIOS settings:
Set Operating Mode set to Maximum Performance
NUMA nodes per socket set to NPS1

Sysinfo program /home/cpu2017-1.1.0-amd-rome-aocc200-C1/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7ed1e6e46a485a0011
running on linux-4au0 Wed Mar 11 02:59:47 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 : AMD EPYC 7232P 8-Core Processor
  1 "physical id"s (chips)
  16 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

(Continued on next page)
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Platform Notes (Continued)

```
cpu cores : 8
siblings : 16
physical 0: cores 0 1 4 5 8 9 12 13
```

From lscpu:
- Architecture: x86_64
- CPU op-mode(s): 32-bit, 64-bit
- Byte Order: Little Endian
- Address sizes: 43 bits physical, 48 bits virtual
- CPU(s): 16
- On-line CPU(s) list: 0-15
- Thread(s) per core: 2
- Core(s) per socket: 8
- Socket(s): 1
- NUMA node(s): 1
- Vendor ID: AuthenticAMD
- CPU family: 23
- Model: 49
- Model name: AMD EPYC 7232P 8-Core Processor
- Stepping: 0
- CPU MHz: 3100.000
- CPU max MHz: 3100.0000
- CPU min MHz: 1500.0000
- BogoMIPS: 6188.21
- Virtualization: AMD-V
- L1d cache: 32K
- L1i cache: 32K
- L2 cache: 512K
- L3 cache: 8192K
- NUMA node0 CPU(s): 0-15
- Flags: fpu vme de pse tsc msr pae mce 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 sse4_1 sse4_2 movbe popcnt aes xsave avx f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch osvw ibr skinit wdt tce topoext perfctr_core perfctr_nb perfctr_l2 mwaitx cpb cat_13 cdp_13 hw_pstate sme ssbd sev ibrs iopb stibp vmmcall fsgsbase bmi1 avx2 smep bmi2 cmq rdt_a rdseed adx smap clflushopt clwb sha ni xsaveopt xsaves cmq_llc cmq_occup_llc cmq_mbm_total cmq_mbm_local clzero irperf xsaverpr wbnoinvd arat npt lbiv svm_lock nrip_save tsc_scale vmbc_clean flushbyasid decodeassist pausefilter pfthreshold avic v_vmsave_vmload vgfl umip rdpid overflow_recover succor smca

/proc/cpuinfo cache data
- cache size : 512 KB

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a

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

physical chip.
  available: 1 nodes (0)
  node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  node 0 size: 257760 MB
  node 0 free: 257025 MB
  node distances:
    node 0
      0: 10

From /proc/meminfo
  MemTotal:       263946828 kB
  HugePages_Total:       0
  Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
  SuSE-release:
    SUSE Linux Enterprise Server 12 (x86_64)
    VERSION = 12
    PATCHLEVEL = 5
    # This file is deprecated and will be removed in a future service pack or release.
    # Please check /etc/os-release for details about this release.
  os-release:
    NAME="SLES"
    VERSION="12-SP5"
    VERSION_ID="12.5"
    PRETTY_NAME="SUSE Linux Enterprise Server 12 SP5"
    ID="sles"
    ANSI_COLOR="0;32"
    CPE_NAME="cpe:/o:suse:sles:12:sp5"

uname -a:
  Linux linux-4au0 4.12.14-120-default #1 SMP Thu Nov 7 16:39:09 UTC 2019 (fd9dc36)
  x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

  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/swapgs barriers and __user pointer sanitization
  CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: conditional, RSB filling

(Continued on next page)
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Platform Notes (Continued)

tsx_async_abort: Not affected

run-level 3 Mar 11 02:28

SPEC is set to: /home/cpu2017-1.1.0-amd-rome-aocc200-C1
    Filesystem     Type  Size  Used  Avail  Use% Mounted on
    /dev/sda2      xfs   893G   31G   862G   4% /

From /sys/devices/virtual/dmi/id
    BIOS: Lenovo CFE107O 12/28/2019
    Vendor: Lenovo
    Product: ThinkSystem SR635 -[7Y00000000]的优点
    Product Family: ThinkSystem
    Serial: 0123456789

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:
   8x Samsung M393A4K40DB2-CWE 32 kB 2 rank 3200
   8x Unknown Unknown

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
| C        | 502.gcc_r(peak) |
|----------------------------------|
| AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins |
| AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19) |
| Target: i386-unknown-linux-gnu |
| Thread model: posix |
| InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin |

==============================================================================
| C        | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base, peak) |
|----------------------------------|
| AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins |
| AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19) |
| Target: x86_64-unknown-linux-gnu |
| Thread model: posix |
| InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin |

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

==============================================================================
C       | 502.gcc_r(peak)
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
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C       | 500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak)
   525.x264_r(base, peak) 557.xz_r(base, peak)
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   AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

==============================================================================
C++     | 523.xalancbmk_r(peak)
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
   AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: i386-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

==============================================================================
C++     | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base)
   531.deepsjeng_r(base, peak) 541.leela_r(base, peak)
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
   AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

==============================================================================
C++     | 523.xalancbmk_r(peak)
(Continued on next page)
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Target: i386-unknown-linux-gnu
Thread model: posix
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------------------------------------------------------------------------------
==============================================================================
C++    | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base)
      | 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)
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AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

------------------------------------------------------------------------------
==============================================================================
Fortran | 548.exchange2_r(base, peak)
------------------------------------------------------------------------------
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

Base Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Base Portability Flags

500.perlbench_r: -DSPEC_LINUX_X64 -DSPEC_LP64
502.gcc_r: -DSPEC_LP64

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

505.mcf_r: -DSPEC_LP64  
520.omnetpp_r: -DSPEC_LP64  
523.xalancbmk_r: -DSPEC_LINUX -DSPEC_LP64  
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:**
- -flto -Wl,-mllvm -Wl,-function-specialize  
- -Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC  
- -Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math  
- -march=znver2 -fstruct-layout=3 -mllvm -unroll-threshold=50  
- -fremap-arrays -mllvm -function-specialize -mllvm -enable-gvn-hoist  
- -mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp  
- -mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000  
- -fvl-function-specialization -z muldefs -lmvec -lamdlibm -ljemalloc -lflang

**C++ benchmarks:**
- -flto -Wl,-mllvm -Wl,-function-specialize  
- -Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC  
- -Wl,-mllvm -Wl,-reduce-array-computations=3  
- -Wl,-mllvm -Wl,-suppress-fmas -O3 -ffast-math -march=znver2  
- -mllvm -loop-unswitch-threshold=200000 -mllvm -vector-library=LIBMVEC  
- -mllvm -unroll-threshold=100 -fvl-function-specialization  
- -mllvm -enable-partial-unswitch -z muldefs -lmvec -lamdlibm -ljemalloc -lflang

**Fortran benchmarks:**
- -flto -Wl,-mllvm -Wl,-function-specialize  
- -Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC  
- -Wl,-mllvm -Wl,-reduce-array-computations=3 -ffast-math  
- -Wl,-mllvm -Wl,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop  
- -Wl,-mllvm -Wl,-enable-lv-split -O3 -march=znver2 -funroll-loops  
- -Mrecursive -mllvm -vector-library=LIBMVEC -z muldefs  
- -mllvm -disable-implvar-simplify -mllvm -unroll-aggressive  
- -mllvm -unroll-threshold=150 -lmvec -lamdlibm -ljemalloc -lflang
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Tested by: Lenovo Global Technology
Test Date: Mar-2020
Hardware Availability: Jan-2020
Software Availability: Dec-2019

Peak Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Peak Portability Flags

500.perlbench_r: -DSPEC_LINUX_X64 -DSPEC_LP64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LINUX -D_FILE_OFFSET_BITS=64
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: -flto -Wl,-ml LLVM -Wl,-function-specialize
-Wl,-ml LLVM -Wl,-region-vectorize
-Wl,-ml LLVM -Wl,-vector-library=LIBMVEC
-Wl,-ml LLVM -Wl,-reduce-array-computations=3
-fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver2
-mn-sse4a -fstruct-layout=5
-ml LLVM -vectorize-memory-aggressively
-ml LLVM -function-specialize -ml LLVM -enable-gvn-hoist
-ml LLVM -unroll-threshold=50 -fremap-arrays
-ml LLVM -vector-library=LIBMVEC
-ml LLVM -reduce-array-computations=3
-ml LLVM -global-vectorize-slp -ml LLVM -inline-threshold=1000
-flv-function-specialization -lmvec -laml libm -ljemalloc
-lflang

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## Lenovo Global Technology

**ThinkSystem SR635**

3.10 GHz, AMD EPYC 7232P

<table>
<thead>
<tr>
<th>SPECrate\textsuperscript{\textregistered}2017 int_base</th>
<th>56.8</th>
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<tbody>
<tr>
<td>SPECrate\textsuperscript{\textregistered}2017 int_peak</td>
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### CPU2017 License:

9017

### Test Sponsor:

Lenovo Global Technology

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## Peak Optimization Flags (Continued)

### 502.gcc_r: -m32 -flto -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-region-vectorize
-Wl,-mlllvm -Wl,-vector-library=LIBMVEC
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -mno-sse4a -fstruct-layout=5
-mlllvm -vectorize-memory-aggressively
-mlllvm -function-specialize -mlllvm -enable-gvn-hoist
-mlllvm -unroll-threshold=50 -fremap-arrays
-mlllvm -vector-library=LIBMVEC
-mlllvm -reduce-array-computations=3
-mlllvm -global-vectorize-slp -mlllvm -inline-threshold=1000
-flv-function-specialization -fgnu89:inline -ljemalloc

### 505.mcf_r: -flto -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-region-vectorize
-Wl,-mlllvm -Wl,-vector-library=LIBMVEC
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -mno-sse4a -fstruct-layout=5
-mlllvm -vectorize-memory-aggressively
-mlllvm -function-specialize -mlllvm -enable-gvn-hoist
-mlllvm -unroll-threshold=50 -fremap-arrays
-mlllvm -vector-library=LIBMVEC
-mlllvm -reduce-array-computations=3
-mlllvm -global-vectorize-slp -mlllvm -inline-threshold=1000
-flv-function-specialization -lmvec -lamdlibm -ljemalloc
-flv-lang

### 525.x264_r: Same as 500.perlbench_r

### 557.xz_r: basepeak = yes

### C++ benchmarks:

#### 520.omnetpp_r: basepeak = yes

### 523.xalancbmk_r: -m32 -flto -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-region-vectorize
-Wl,-mlllvm -Wl,-vector-library=LIBMVEC
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -flv-function-specialization
-mlllvm -unroll-threshold=100
-mlllvm -enable-partial-unswitch
-mlllvm -loop-unswitch-threshold=200000
-mlllvm -vector-library=LIBMVEC
-mlllvm -inline-threshold=1000 -ljemalloc

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Lenovo Global Technology
ThinkSystem SR635
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SPECrate®2017_int_base = 56.8
SPECrate®2017_int_peak = 60.1

Peak Optimization Flags (Continued)

531.deepsjeng_r: -flto -Wl,-mlvm -Wl,-function-specialize
-apply-common-subexpression -Wl,-mlvm -Wl,-region-vectorize
-apply-loop-subexpression -Wl,-mlvm -Wl,-vector-library=LIBMVEC
-apply-partial-unswitch -Wl,-mlvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -flv-function-specialization
-mlvm-unroll-threshold=100
-mlvm-enable-partial-unswitch
-mlvm-loop-unswitch-threshold=200000
-mlvm-vector-library=LIBMVEC
-mlvm-inline-threshold=1000 -lmvec -lamdlibm -ljemalloc
-lflang

541.leela_r: basepeak = yes

Fortran benchmarks:
-flto -Wl,-mlvm -Wl,-function-specialize
-apply-common-subexpression -Wl,-mlvm -Wl,-region-vectorize -Wl,-mlvm -Wl,-vector-library=LIBMVEC
-apply-loop-subexpression -Wl,-mlvm -Wl,-reduce-array-computations=3 -ffast-math
-Wl,-mlvm -Wl,-inline-recursion=4 -Wl,-mlvm -Wl,-lsr-in-nested-loop
-Wl,-mlvm -Wl,-enable-iv-split -O3 -march=znver2 -funroll-loops
-Mrecursive -mlvm-vector-library=LIBMVEC
-mlvm-disable-indvar-simplify -mlvm-unroll-aggressive
-mlvm-unroll-threshold=150 -lmvec -lamdlibm -ljemalloc -lflang

Peak Other Flags

C benchmarks:

502.gcc_r: -L/sppo/dev/cpu2017/v110/amd_rate_aocc200_rome_C_lib/32

C++ benchmarks:

523.xalancbmk_r: -L/sppo/dev/cpu2017/v110/amd_rate_aocc200_rome_C_lib/32

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-Rome-E.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Rome-E.xml
## Lenovo Global Technology

### ThinkSystem SR635
3.10 GHz, AMD EPYC 7232P

### SPEC CPU®2017 Integer Rate Result

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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 2020-03-10 14:59:47-0400.  
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