### Lenovo Global Technology

**ThinkSystem SR665**  
2.90 GHz, AMD EPYC 7272

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**SPEC CPU®2017 Integer Speed Result**

**Lenovo Global Technology**

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ThinkSystem SR665  
2.90 GHz, AMD EPYC 7272

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**SPEC CPU®2017 Integer Speed Result**

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

| Threads | 0 | 1.00 | 2.00 | 3.00 | 4.00 | 5.00 | 6.00 | 7.00 | 8.00 | 9.00 | 10.00 | 11.00 | 12.00 | 13.00 | 14.00 | 15.00 | 16.00 | 17.00 | 18.00 | 19.00 | 20.00 |
|---------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 600.perlbench_s | 24 | 1 | 4.57 | 4.84 | 8.94 | 8.94 | 14.4 | 15.3 |
| 602.gcc_s | 24 | 1 | 9.66 | 11.9 | 12.1 |
| 605.mcf_s | 24 | 1 | 4.61 | 4.69 | 4.93 |
| 620.omnetpp_s | 24 | 1 | 8.88 |
| 623.xalancbmk_s | 24 | 1 | 9.66 |
| 625.x264_s | 24 | 1 | 4.66 |
| 631.deepsjeng_s | 24 | 1 | 4.93 |
| 641.leela_s | 24 | 1 | 4.93 |
| 648.exchange2_s | 24 | 1 | 15.8 |
| 657.xz_s | 24 | 1 | 19.2 |

---

**Hardware**

- **CPU Name:** AMD EPYC 7272  
- **Max MHz:** 3200  
- **Nominal:** 2900  
- **Enabled:** 24 cores, 2 chips, 2 threads/core  
- **Orderable:** 1.2 chips  
- **Cache L1:** 32 KB I + 32 KB D on chip per core  
- **L2:** 512 KB I+D on chip per core  
- **L3:** 64 MB I+D on chip per chip, 16 MB shared / 3 cores  
- **Other:** None  
- **Memory:** 1 TB (32 x 32 GB 2Rx8 PC4-3200AA-R)  
- **Storage:** 1 x 960 GB SATA SSD  
- **Other:** None

---

**Software**

- **OS:** Red Hat Enterprise Linux 8.1 (Ootpa)  
- **Kernel:** 4.18.0-147.el8.x86_64  
- **Compiler:** C/C++/Fortran: Version 2.0.0 of AOCC  
- **Parallel:** Yes  
- **Firmware:** Lenovo BIOS Version D8E105P 1.00 released May-2020  
- **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 v5.1.0  
- **Power Management:** BIOS set to prefer performance at the cost of additional power usage
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Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

CPU2017 License: 9017
Test Date: Jun-2020
Hardware Availability: Jun-2020
Software Availability: Nov-2019

Results Table

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<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>24</td>
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<td>11.9</td>
<td>149</td>
<td>11.9</td>
<td>150</td>
<td>11.7</td>
<td>1</td>
<td>146</td>
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<td>631.deepsjeng_s</td>
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<td>311</td>
<td>4.61</td>
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<td>313</td>
<td>4.58</td>
<td>1</td>
<td>306</td>
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<td>423</td>
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<td>422</td>
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<td>423</td>
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<td>648.exchange2_s</td>
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<td>15.8</td>
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<td>15.8</td>
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<td>19.2</td>
<td>24</td>
<td>323</td>
<td>19.2</td>
<td>323</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 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)
Environments variables set by runcpu before the start of the run:

GOMP_CPU_AFFINITY = "0-47"
LD_LIBRARY_PATH =
    "/home/cpu2017-1.1.0-amd-rome-aocc200-C1/amd_speed_aocc200_rome_C_lib/64
    ;
/home/cpu2017-1.1.0-amd-rome-aocc200-C1/amd_speed_aocc200_rome_C_lib/32
"

MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "48"

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 623.xalancbmk_s peak run:
GOMP_CPU_AFFINITY = "0"
OMP_STACKSIZE = "128M"

Environment variables set by runcpu during the 625.x264_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 631.deepsjeng_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 648.exchange2_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 657.xz_s peak run:
GOMP_CPU_AFFINITY = "0-23"

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.
Lenovo Global Technology
ThinkSystem SR665
2.90 GHz, AMD EPYC 7272

SPECspeed®2017_int_base = 8.34
SPECspeed®2017_int_peak = 8.54

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

Test Date: Jun-2020
Hardware Availability: Jun-2020
Software Availability: Nov-2019

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.
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 5.1.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.1.0/jemalloc-5.1.0.tar.bz2

Platform Notes

BIOS settings:
Choose Operating Mode set to Maximum Performance

Sysinfo program /home/cpu2017-1.1.0-amd-rome-aocc200-C1/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7ed1be6e46a485a0011
running on localhost.localdomain Fri Jun 22 19:21:35 2018

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 7272 12-Core Processor
 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 4 5 6 8 9 10 12 13 14
physical 1: cores 0 1 2 4 5 6 8 9 10 12 13 14

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
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: AuthenticAMD

(Continued on next page)
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Platform Notes (Continued)

CPU family: 23
Model: 49
Model name: AMD EPYC 7272 12-Core Processor
Stepping: 0
CPU MHz: 2827.705
CPU max MHz: 2900.0000
CPU min MHz: 1500.0000
BogoMIPS: 5789.02
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K
L2 cache: 512K
L3 cache: 16384K
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 mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm
constant_tsc rep_good nopl xtopology nonstop_tsc cpuid extd_apicid aperf
pni pclmulqdq monitor ssse3 fma cx16 sse4_1 sse4_2 movbe popcnt aes avx f16c
rdx 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
mbtxt cpb cat_l3 cdp_l3 hw_pstate sme ssbd mba sev ibrs ibpb stibp vmmcall fsgsbase
bm11 avx2 smep bmi2 cqm rdt_a rdseed adx smap clflushopt clwb sha ni xsaveopt xsave
x2 v8cs xsave xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local
czero irperf xsaveerptr wbnoinvd arat npt lbrv svm_lock nrip_save tsc_scale vmcb_clean
flushbyasid decodeassist pausefilter pfthreshold avic v_vmsave_vmload vgif umip rdpid
tcp_hashing recov socor smca

/proc/cpuinfo cache data

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

node distances:
node   0   1
 0:  10  32
 1:  32  10

From /proc/meminfo
MemTotal: 1056715028 kB

(Continued on next page)
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SPECspeed®2017_int_base = 8.34
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Platform Notes (Continued)

HugePages_Total:       0
Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*

os-release:
  NAME="Red Hat Enterprise Linux"
  VERSION="8.1 (Ootpa)"
  ID="rhel"
  ID_LIKE="fedora"
  VERSION_ID="8.1"
  PLATFORM_ID="platform:el8"
  PRETTY_NAME="Red Hat Enterprise Linux 8.1 (Ootpa)"
  ANSI_COLOR="0;31"
  redhat-release: Red Hat Enterprise Linux release 8.1 (Ootpa)
  system-release: Red Hat Enterprise Linux release 8.1 (Ootpa)
  system-release-cpe: cpe:/o:redhat:enterprise_linux:8.1:ga

uname -a:
  Linux localhost.localdomain 4.18.0-147.el8.x86_64 #1 SMP Thu Sep 26 15:52:44 UTC 2019
  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: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retropoline, IBPB: conditional, IBRS_FW, STIBP: conditional, RSB filling

run-level 3 Jun 22 19:12

SPEC is set to: /home/cpu2017-1.1.0-amd-rome-aocc200-C1

From /sys/devices/virtual/dmi/id
  BIOS: Lenovo D8E105P-1.00 05/08/2020
  Vendor: Lenovo
  Product: ThinkSystem SR665 MB
  Product Family: ThinkSystem
  Serial: 1234567890

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SPECCPU 2017 Integer Speed Result

SPECspeed®2017_int_base = 8.34
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Platform Notes (Continued)

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:
32x Samsung M393A4G43AB3-CWE 32 kB 2 rank 3200

(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)
-----------------------------------------------------------------------------------------------
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++     | 623.xalancbmk_s(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++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base)
　　　| 631.deepsjeng_s(base, peak) 641.leela_s(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
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===================================================================================================
C++     | 623.xalancbmk_s(peak)
(Continued on next page)
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Compiler Version Notes (Continued)
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++
620.omnetpp_s(base, peak) 623.xalancbmk_s(base)
631.deepsjeng_s(base, peak) 641.leela_s(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

Fortran
648.exchange2_s(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

600.perlbench_s: -DSPEC_LINUX_X64 -DSPEC_LP64
602.gcc_s: -DSPEC_LP64

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Base Portability Flags (Continued)

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

Base Optimization Flags

C benchmarks:
- flto -Wl,-mltvm -Wl,-function-specialize
- Wl,-mltvm -Wl,-region-vectorize -Wl,-mltvm -Wl,-vector-library=LIBMVEC
- Wl,-mltvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
- march=znver2 -fstruct-layout=3 -mltvm -unroll-threshold=50
- fremap-arrays -mltvm -function-specialize -mltvm -enable-gvn-hoist
- mltvm -reduce-array-computations=3 -mltvm -global-vectorize-slp
- mltvm -vector-library=LIBMVEC -mltvm -inline-threshold=1000
- flv-function-specialization -z muldefs -DSPEC_OPENMP -fopenmp
- DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm
- ljemalloc -lflang

C++ benchmarks:
- flto -Wl,-mltvm -Wl,-function-specialize
- Wl,-mltvm -Wl,-region-vectorize -Wl,-mltvm -Wl,-vector-library=LIBMVEC
- Wl,-mltvm -Wl,-reduce-array-computations=3
- Wl,-mltvm -Wl,-suppress-fmas -O3 -ffast-math -march=znver2
- mltvm -loop-unswitch-threshold=200000 -mltvm -vector-library=LIBMVEC
- mltvm -unroll-threshold=100 -flv-function-specialization
- mltvm -enable-partial-unswitch -z muldefs -DSPEC_OPENMP -fopenmp
- DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm
- ljemalloc -lflang

Fortran benchmarks:
- flto -Wl,-mltvm -Wl,-function-specialize
- Wl,-mltvm -Wl,-region-vectorize -Wl,-mltvm -Wl,-vector-library=LIBMVEC
- Wl,-mltvm -Wl,-reduce-array-computations=3 -ffast-math
- Wl,-mltvm -Wl,-inline-recursion=4 -Wl,-mltvm -Wl,-lsr-in-nested-loop
- Wl,-mltvm -Wl,-enable-lv-split -O3 -march=znver2 -funroll-loops
- Mrecursive -mltvm -vector-library=LIBMVEC -z muldefs
- mltvm -disable-indvar-simplify -mltvm -unroll-aggressive
- mltvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -DUSE_OPENMP
- fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm -ljemalloc

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<td>Lenovo Global Technology</td>
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<tr>
<td>Test Date</td>
<td>Jun-2020</td>
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<tr>
<td>Hardware Availability</td>
<td>Jun-2020</td>
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<td>Software Availability</td>
<td>Nov-2019</td>
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</tbody>
</table>

**SPECspeed®2017_int_base = 8.34**  
**SPECspeed®2017_int_peak = 8.54**

#### Base Optimization Flags (Continued)

**Fortran benchmarks (continued):**  
- `lflang`

#### Base Other Flags

**C benchmarks:**  
- `-Wno-return-type`

**C++ benchmarks:**  
- `-Wno-return-type`

**Fortran benchmarks:**  
- `-Wno-return-type`

#### Peak Compiler Invocation

**C benchmarks:**  
- `clang`

**C++ benchmarks:**  
- `clang++`

**Fortran benchmarks:**  
- `flang`

#### Peak 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 -D_FILE_OFFSET_BITS=64`
- `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`
Lenovo Global Technology
ThinkSystem SR665
2.90 GHz, AMD EPYC 7272

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<tr>
<th>SPECspeed®2017_int_base</th>
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CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Jun-2020
Hardware Availability: Jun-2020
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Peak Optimization Flags

C benchmarks:

600.perlbench_s: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3
-fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver2
-mno-sse4a -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp -mllvm -inline-threshold=1000
-ofl-function-specialization -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -lmvec -lamdlibm -fopenmp=libomp -lomp
-lpthread -ldl -ljemalloc -lflang

602.gcc_s: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -mno-sse4a -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp -mllvm -inline-threshold=1000
-ofl-function-specialization -z muldefs -DSPEC_OPENMP
-fopenmp -DUSE_OPENMP -fgnu89-inline -fopenmp=libomp
-lomp -lpthread -ldl -ljemalloc

605.mcf_s: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -mno-sse4a -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp -mllvm -inline-threshold=1000
-ofl-function-specialization -DSPEC_OPENMP -fopenmp

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Peak Optimization Flags (Continued)

605.mcf_s (continued):
-DUSE_OPENMP -lmvec -lamdlibm -fopenmp=libomp -lomp
-lpthread -ldl -ljemalloc -lflang

625.x264_s: Same as 600.perlbench_s

657.xz_s:
-flto -Wl,-mtune=armv8-a+sf -march=znver2 -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-flv-function-specialization -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-lmvec -lamdlibm -ljemalloc -lflang

C++ benchmarks:

620.omnetpp_s: basepeak = yes

623.xalancbmk_s:
-flto -Wl,-mtune=armv8-a+sf -march=znver2 -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-flv-function-specialization -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-lmvec -lamdlibm -ljemalloc

631.deepsjeng_s:
-flto -Wl,-mtune=armv8-a+sf -march=znver2 -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-flv-function-specialization -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-lmvec -lamdlibm -ljemalloc

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Peak Optimization Flags (Continued)

631.deepsjeng_s (continued):
-mlvm -vector-library=LIBMVEC
-mlvm -inline-threshold=1000 -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-mlvec -lamdlibm -ljemalloc -lflang

641.leela_s: basepeak = yes

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-iv-split -O3 -march=znver2 -funroll-loops
-Mrecursive -mllvm -vector-library=LIBMVEC
-mlvm -disable-indvar-simplify -mllvm -unroll-aggressive
-mlvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -DUSE_OPENMP
-fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm -ljemalloc
-lflang

Peak Other Flags

C benchmarks:
-Wno-return-type

C++ benchmarks (except as noted below):
-Wno-return-type

623.xalancbmk_s: -Wno-return-type
-L/sppo/dev/cpu2017/v110/amd_speed_aocc200_rome_C_lib/32

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-Rome2P-K.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-Rome2P-K.xml
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