# Lenovo Global Technology

**ThinkSystem SR665**  
3.20 GHz, AMD EPYC 74F3

**SPEC CPU®2017 Integer Speed Result**  

**Lenovo Global Technology**  

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**Lenovo Global Technology**  

**ThinkSystem SR665**  
3.20 GHz, AMD EPYC 74F3

**SPECspeed®2017_int_base = 13.6**  
**SPECspeed®2017_int_peak = 13.7**

<table>
<thead>
<tr>
<th>Test Sponsor: Lenovo Global Technology</th>
<th>Tested by: Lenovo Global Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Threads</strong></td>
<td></td>
</tr>
<tr>
<td>600.perlbench_s</td>
<td>48 threads</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>48 threads</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>48 threads</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>48 threads</td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>48 threads</td>
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<tr>
<td>625.x264_s</td>
<td>48 threads</td>
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<tr>
<td>631.deepsjeng_s</td>
<td>48 threads</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>48 threads</td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>48 threads</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>48 threads</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OS</strong>: Red Hat Enterprise Linux 8.3 (Ootpa)</td>
<td><strong>CPU Name</strong>: AMD EPYC 74F3</td>
</tr>
<tr>
<td><strong>Compiler</strong>: C/C++/Fortran: Version 3.0.0 of AOCC</td>
<td><strong>Max MHz</strong>: 4000</td>
</tr>
<tr>
<td><strong>Parallel</strong>: Yes</td>
<td><strong>Nominal</strong>: 3200</td>
</tr>
<tr>
<td><strong>Firmware</strong>: Lenovo BIOS Version D8E115E 2.01 released Mar-2021</td>
<td><strong>Enabled</strong>: 48 cores, 2 chips, 2 threads/core</td>
</tr>
<tr>
<td><strong>File System</strong>: xfs</td>
<td><strong>Orderable</strong>: 1.2 chips</td>
</tr>
<tr>
<td><strong>System State</strong>: Run level 3 (multi-user)</td>
<td><strong>Cache L1</strong>: 32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td><strong>Base Pointers</strong>: 64-bit</td>
<td><strong>L2</strong>: 512 KB I+D on chip per core</td>
</tr>
<tr>
<td><strong>Peak Pointers</strong>: 64-bit</td>
<td><strong>L3</strong>: 256 MB I+D on chip per chip, 32 MB shared / 3 cores</td>
</tr>
<tr>
<td><strong>Other</strong>: jemalloc: jemalloc memory allocator library v5.1.0</td>
<td><strong>Cache L1</strong>: 32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td><strong>Power Management</strong>: BIOS set to prefer performance at the cost of additional power usage</td>
<td><strong>Memory</strong>: 512 GB (16 x 32 GB 2Rx4 PC4-3200AA-R)</td>
</tr>
<tr>
<td><strong>Other</strong>: None</td>
<td><strong>Storage</strong>: 1 x 960 GB SATA SSD</td>
</tr>
</tbody>
</table>

---

**Test Date:** Apr-2021  
**Hardware Availability:** Apr-2021  
**Software Availability:** Mar-2021
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SPECspeed®2017_int_base = 13.6
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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<th>Seconds</th>
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<th>Seconds</th>
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<th>Seconds</th>
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<tr>
<td>600.perlbench_s</td>
<td>48</td>
<td>229</td>
<td>7.76</td>
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<td>7.57</td>
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<td>274</td>
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<td>270</td>
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<td>274</td>
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<td>605.mcf_s</td>
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<td>15.3</td>
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<td>15.3</td>
<td>93.7</td>
<td>15.1</td>
<td>1</td>
<td>15.5</td>
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<td>15.3</td>
<td>91.8</td>
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<td>625.x264_s</td>
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<td>94.0</td>
<td>18.8</td>
<td>94.1</td>
<td>18.7</td>
<td>94.0</td>
<td>18.8</td>
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<td>18.8</td>
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<td>18.8</td>
<td>93.8</td>
<td>18.8</td>
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<td>6.97</td>
<td>203</td>
<td>7.05</td>
<td>203</td>
<td>7.06</td>
<td>48</td>
<td>6.97</td>
<td>206</td>
<td>7.05</td>
<td>203</td>
<td>7.06</td>
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<tr>
<td>648.exchange2_s</td>
<td>48</td>
<td>115</td>
<td>25.5</td>
<td>115</td>
<td>25.5</td>
<td>115</td>
<td>25.6</td>
<td>1</td>
<td>25.7</td>
<td>115</td>
<td>25.6</td>
<td>114</td>
<td>25.7</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>
'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/enabled' and

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR665
3.20 GHz, AMD EPYC 74F3

SPECspeed®2017_int_base = 13.6
SPECspeed®2017_int_peak = 13.7

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 = "0-95"
LD_LIBRARY_PATH =
"/home/cpu2017-1.1.5-amd-aocc300-milan-B1/amd_speed_aocc300_milan_B_lib/
64;/home/cpu2017-1.1.5-amd-aocc300-milan-B1/amd_speed_aocc300_milan_B_lib/
32;"
MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "96"

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 623.xalancbmk_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"

Environment variables set by runcpu during the 657.xz_s peak run:
GOMP_CPU_AFFINITY = "0-47"
Lenovo Global Technology
ThinkSystem SR665
3.20 GHz, AMD EPYC 74F3

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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

Platform Notes

BIOS configuration:
Operating Mode set to Maximum Performance and then set it to Custom Mode
4-Link xGMI Max Speed set to 16Gbps
SOC P-States set to P0
NUMA nodes per socket set to NPS2

Sysinfo program /home/cpu2017-1.1.5-amd-aocc300-milan-B1/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on localhost.localdomain Thu Apr 15 19:45:15 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 74F3 24-Core Processor
   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 4 5 6 8 9 10 12 13 14 16 17 18 20 21 22 24 25 26 28 29 30
physical 1: cores 0 1 2 4 5 6 8 9 10 12 13 14 16 17 18 20 21 22 24 25 26 28 29 30

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 96
On-line CPU(s) list: 0-95

(Continued on next page)
Lenovo Global Technology

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

SPECspeed®2017_int_base = 13.6
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Platform Notes (Continued)

Thread(s) per core: 2
Core(s) per socket: 24
Socket(s): 2
NUMA node(s): 4
Vendor ID: AuthenticAMD
CPU family: 25
Model: 1
Model name: AMD EPYC 74F3 24-Core Processor
Stepping: 1
CPU MHz: 1796.026
CPU max MHz: 3200.0000
CPU min MHz: 1500.0000
BogoMIPS: 6388.49
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K
L2 cache: 512K
L3 cache: 32768K
NUMA node0 CPU(s): 0-11,48-59
NUMA node1 CPU(s): 12-23,60-71
NUMA node2 CPU(s): 24-35,72-83
NUMA node3 CPU(s): 36-47,84-95
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 apic sm mmlinux rdtscp dtes64 mce attended mce_l1i_mce_l1d nonstop_tsc vtiommu pbebug pse36 Clippers

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 4 5 6 7 8 9 10 11 48 49 50 51 52 53 54 55 56 57 58 59
node 0 size: 128738 MB
node 0 free: 128398 MB
node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23 60 61 62 63 64 65 66 67 68 69 70 71
node 1 size: 128882 MB
node 1 free: 128505 MB

(Continued on next page)
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| CPU2017 License: | 9017 |
| Test Date: | Apr-2021 |
| Test Sponsor: | Lenovo Global Technology |
| Tested by: | Lenovo Global Technology |
| Hardware Availability: | Apr-2021 |
| Software Availability: | Mar-2021 |

### Platform Notes (Continued)

```
node 2 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 72 73 74 75 76 77 78 79 80 81 82 83
node 2 size: 128908 MB
node 2 free: 128695 MB
node 3 cpus: 36 37 38 39 40 41 42 44 45 46 47 84 85 86 87 88 89 90 91 92 93 94 95
node 3 size: 128933 MB
node 3 free: 128766 MB
node distances:
  node 0   1   2   3
  0:  10  12  32  32
  1:  12  10  32  32
  2:  32  32  10  12
  3:  32  32  12  10
```

From /proc/meminfo
- MemTotal: 528207748 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

/sbin/tuned-adm active
- Current active profile: throughput-performance

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

From /etc/*release*, /etc/*version*
```
os-release:
- NAME="Red Hat Enterprise Linux"
- VERSION="8.3 (Ootpa)"
- ID="rhel"
- ID_LIKE="fedora"
- VERSION_ID="8.3"
- PLATFORM_ID="platform:el8"
- PRETTY_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"
- ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.3:ga
```

uname -a:
```
Linux localhost.localdomain 4.18.0-240.el8.x86_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020
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

(Continued on next page)
Lenovo Global Technology
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CPU2017 License: 9017
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Software Availability: Mar-2021

Platform Notes (Continued)

CVE-2017-5754 (Meltdown): Not affected
Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2018-3639 (Speculative Store Bypass): Mitigation: usercopy/swapsgs barriers and __user pointer sanitization
CVE-2017-5753 (Spectre variant 1): Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: always-on, RSB filling
CVE-2017-5715 (Spectre variant 2):
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 Apr 15 19:43
SPEC is set to: /home/cpu2017-1.1.5-amd-aocc300-milan-B1

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:
16x Samsung M393A4K40DB3-CWE 32 GB 2 rank 3200
16x Unknown Unknown

BIOS:
BIOS Vendor: Lenovo
BIOS Version: D8E115E-2.01
BIOS Date: 03/04/2021
BIOS Revision: 2.1
Firmware Revision: 3.1

Compiler Version Notes

C | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base,

(Continued on next page)
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Software Availability: Mar-2021

Compiler Version Notes (Continued)
| 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

Base Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang
Lenovo Global Technology
ThinkSystem SR665
3.20 GHz, AMD EPYC 74F3

### 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

### 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
- -freemap-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
- -lflang -lflangrti

**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 -lflang
- -lflangrti

(Continued on next page)
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Lenovo Global Technology
ThinkSystem SR665
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<th>Specification Details</th>
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<tr>
<td>Hardware Availability:</td>
</tr>
<tr>
<td>Software Availability:</td>
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</tbody>
</table>

**Base Optimization Flags (Continued)**

Fortran benchmarks:
- `-m64 -mno-adx -mno-sse4a -Wl,-mllvm -Wl,-inline-recursion=4`
- `-Wl,-mllvm -Wl,-lsr-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`
- `-Wl,-mllvm -Wl,-fveclib=AMDLIBM -ffast-math -flto -z muldefs`
- `-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -DSPEC_OPENMP`
- `-fopenmp -fopenmp=libomp -lomp -lamdllibm -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`

C++ benchmarks:
- `clang++`

Fortran benchmarks:
- `flang`

**Peak Portability Flags**

Same as Base Portability Flags
Lenovo Global Technology
ThinkSystem SR665
3.20 GHz, AMD EPYC 74F3

SPECspeed®2017_int_base = 13.6
SPECspeed®2017_int_peak = 13.7

Peak Optimization Flags

C benchmarks:
- m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition
- Wl,-mllvm -Wl,-enable-lcm-vrp -Wl,-mllvm -Wl,-function-specialize
- Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
- Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast -march=znver3
- fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
- mllvm -unroll-threshold=50 -fremap-arrays -f1v-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
- lflang

C++ benchmarks:
620.omnetpp_s: m64 -std=c++98 -mno-adx -mno-sse4a
- Wl,-mllvm -Wl,-do-block-reorder=aggressive
- Wl,-mllvm -Wl,-function-specialize
- Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
- Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
- march=znver3 -fveclib=AMDLIBM -ffast-math -flto
- finline-aggressive -mllvm -unroll-threshold=100
- f1v-function-specialization -mllvm -enable-lcm-vrp
- mllvm -reroll-loops -mllvm -aggressive-loop-unswitch
- mllvm -reduce-array-computations=3
- mllvm -global-vectorize-slp=true
- mllvm -do-block-reorder=aggressive
- fvirtual-function-elimination -fvisibility=hidden
- DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm
- ljemalloc -lflang

623.xalancbmk_s: Same as 620.omnetpp_s

631.deepsjeng_s: basepeak = yes

641.leela_s: Same as 620.omnetpp_s

Fortran benchmarks:
- m64 -mno-adx -mno-sse4a -Wl,-mllvm -Wl,-inline-recursion=4
- Wl,-mllvm -Wl,-lsr-in-nested-loop -Wl,-mllvm -Wl,-enable-iv-split
- 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 -unroll-aggressive
- mllvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -fopenmp=libomp
- lomp -lamdlibm -ljemalloc -lflang
### Lenovo Global Technology

**ThinkSystem SR665**  
3.20 GHz, AMD EPYC 74F3

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### SPEC CPU®2017 Integer Speed Result

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</table>

### 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:


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


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