



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_base = 16.0

SPECspeed®2017\_int\_peak = 16.2

CPU2017 License: 9017

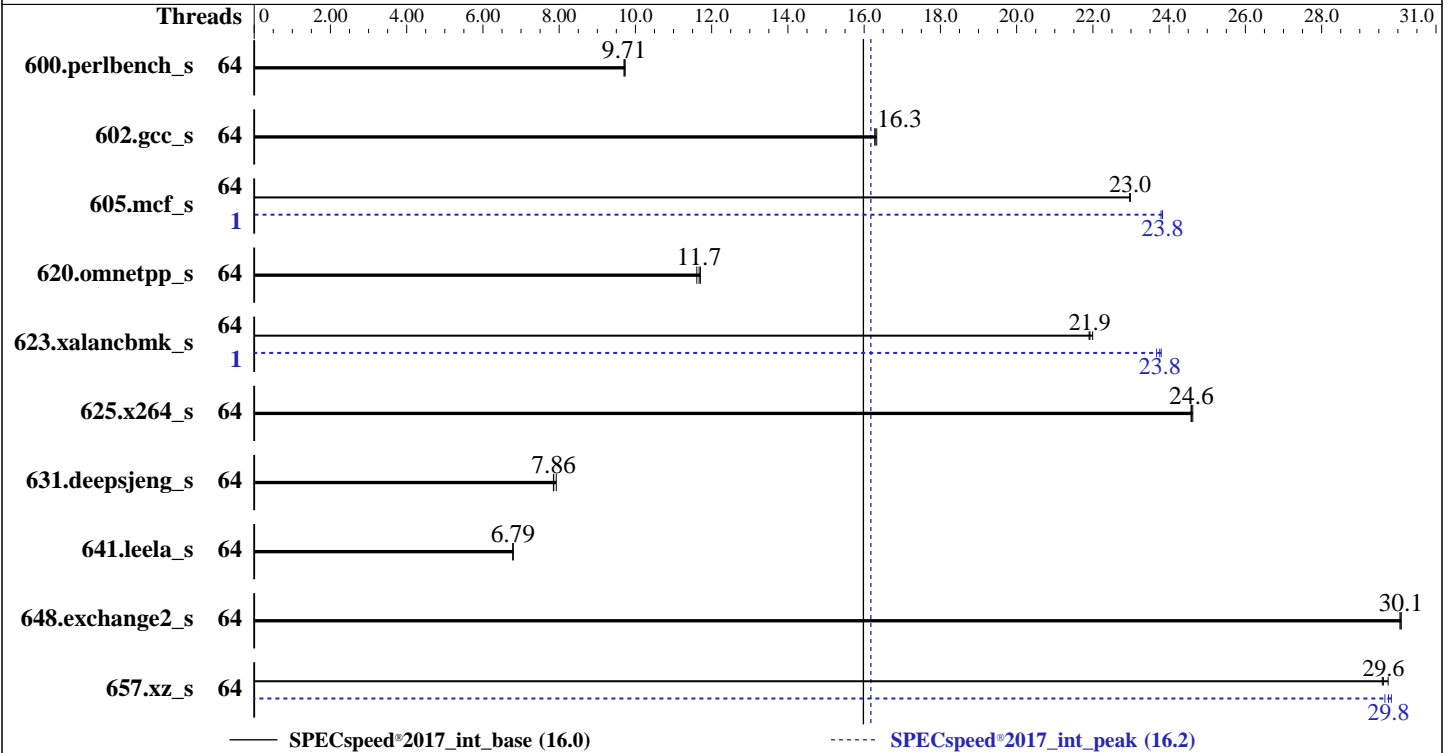
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Dec-2022

Hardware Availability: Feb-2023

Software Availability: Nov-2022



### Hardware

CPU Name: AMD EPYC 9374F  
 Max MHz: 4300  
 Nominal: 3850  
 Enabled: 64 cores, 2 chips  
 Orderable: 1,2 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 256 MB I+D on chip per chip,  
 32 MB shared / 4 cores  
 Other: None  
 Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-4800B-R)  
 Storage: 1 x 480 GB SATA SSD  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP4 (x86\_64)  
 Kernel 5.14.21-150400.22-default  
 Compiler: C/C++/Fortran: Version 4.0.0 of AOCC  
 Parallel: Yes  
 Firmware: Lenovo BIOS Version KAE105F 1.20 released Dec-2022  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: None  
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_base = 16.0

SPECspeed®2017\_int\_peak = 16.2

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

**Test Date:** Dec-2022  
**Hardware Availability:** Feb-2023  
**Software Availability:** Nov-2022

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	64	183	9.70	182	9.73	<b>183</b>	<b>9.71</b>	64	183	9.70	182	9.73	<b>183</b>	<b>9.71</b>
602.gcc_s	64	244	16.3	<b>244</b>	<b>16.3</b>	245	16.3	64	244	16.3	<b>244</b>	<b>16.3</b>	245	16.3
605.mcf_s	64	<b>205</b>	<b>23.0</b>	206	23.0	205	23.0	1	<b>198</b>	<b>23.8</b>	198	23.8	198	23.8
620.omnetpp_s	64	139	11.7	140	11.6	<b>140</b>	<b>11.7</b>	64	139	11.7	140	11.6	<b>140</b>	<b>11.7</b>
623.xalancbmk_s	64	64.7	21.9	<b>64.6</b>	<b>21.9</b>	64.4	22.0	1	59.6	23.8	<b>59.7</b>	<b>23.8</b>	59.9	23.7
625.x264_s	64	71.8	24.6	<b>71.7</b>	<b>24.6</b>	71.6	24.6	64	71.8	24.6	<b>71.7</b>	<b>24.6</b>	71.6	24.6
631.deepsjeng_s	64	181	7.92	<b>182</b>	<b>7.86</b>	183	7.85	64	181	7.92	<b>182</b>	<b>7.86</b>	183	7.85
641.leela_s	64	251	6.79	251	6.79	<b>251</b>	<b>6.79</b>	64	251	6.79	251	6.79	<b>251</b>	<b>6.79</b>
648.exchange2_s	64	<b>97.7</b>	<b>30.1</b>	97.7	30.1	97.8	30.1	64	<b>97.7</b>	<b>30.1</b>	97.7	30.1	97.8	30.1
657.xz_s	64	208	29.7	209	29.6	<b>209</b>	<b>29.6</b>	64	<b>208</b>	<b>29.8</b>	207	29.8	208	29.7

SPECspeed®2017\_int\_base = **16.0**

SPECspeed®2017\_int\_peak = **16.2**

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

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

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty\_ratio=8' run as root.  
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.  
To free node-local memory and avoid remote memory usage,  
'sysctl -w vm.zone\_reclaim\_mode=1' run as root.  
To clear filesystem caches, 'sync; sysctl -w vm.drop\_caches=3' run as root.  
To disable address space layout randomization (ASLR) to reduce run-to-run  
variability, 'sysctl -w kernel.randomize\_va\_space=0' run as root.

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECspeed®2017\_int\_base = 16.0

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_peak = 16.2

CPU2017 License: 9017

Test Date: Dec-2022

Test Sponsor: Lenovo Global Technology

Hardware Availability: Feb-2023

Tested by: Lenovo Global Technology

Software Availability: Nov-2022

## Operating System Notes (Continued)

To enable Transparent Hugepages (THP) for all allocations,  
'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 =

"/home/cpu2017-1.1.8-amd-aocc400-genoa-B1b/amd\_speed\_aocc400\_genoa\_B\_lib  
/lib:"

LIBOMP\_NUM\_HIDDEN\_HELPER\_THREADS = "0"

MALLOC\_CONF = "oversize\_threshold:0,retain:true"

OMP\_DYNAMIC = "false"

OMP\_SCHEDULE = "static"

OMP\_STACKSIZE = "128M"

OMP\_THREAD\_LIMIT = "64"

Environment variables set by runcpu during the 605.mcf\_s peak run:

GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 623.xalancbmk\_s peak run:

GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 657.xz\_s peak run:

GOMP\_CPU\_AFFINITY = "0-63"

LIBOMP\_NUM\_HIDDEN\_HELPER\_THREADS = "8"

## General Notes

Binaries were compiled on a system with 2x AMD EPYC 9174F CPU + 1.5TiB Memory using RHEL 8.6

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.



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed®2017\_int\_base = 16.0

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_peak = 16.2

**CPU2017 License:** 9017

**Test Date:** Dec-2022

**Test Sponsor:** Lenovo Global Technology

**Hardware Availability:** Feb-2023

**Tested by:** Lenovo Global Technology

**Software Availability:** Nov-2022

## Platform Notes

BIOS configuration:

Operating Mode set to Maximum Performance and then set it to Custom Mode

NUMA Nodes per Socket set to NPS4

SMT Mode set to Disabled

Sysinfo program /home/cpu2017-1.1.8-amd-aocc400-genoa-Blb/bin/sysinfo  
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d  
running on localhost Sun Dec 11 09:39:44 2022

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 9374F 32-Core Processor

2 "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 : 32

physical 0: cores 0 1 2 3 16 17 18 19 32 33 34 35 48 49 50 51 64 65 66 67 80 81 82  
83 96 97 98 99 112 113 114 115

physical 1: cores 0 1 2 3 16 17 18 19 32 33 34 35 48 49 50 51 64 65 66 67 80 81 82  
83 96 97 98 99 112 113 114 115

From lscpu from util-linux 2.37.2:

Architecture: x86\_64

CPU op-mode(s): 32-bit, 64-bit

Address sizes: 52 bits physical, 57 bits virtual

Byte Order: Little Endian

CPU(s): 64

On-line CPU(s) list: 0-63

Vendor ID: AuthenticAMD

Model name: AMD EPYC 9374F 32-Core Processor

CPU family: 25

Model: 17

Thread(s) per core: 1

Core(s) per socket: 32

Socket(s): 2

Stepping: 1

Frequency boost: enabled

CPU max MHz: 4304.9312

CPU min MHz: 1500.0000

BogoMIPS: 7688.46

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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed®2017\_int\_base = 16.0

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_peak = 16.2

CPU2017 License: 9017

Test Date: Dec-2022

Test Sponsor: Lenovo Global Technology

Hardware Availability: Feb-2023

Tested by: Lenovo Global Technology

Software Availability: Nov-2022

### Platform Notes (Continued)

```

pdpelgb rdtscp lm constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid
aperfmpperf rapl pni pclmulqdq monitor ssse3 fma cx16 pcid sse4_1 sse4_2 x2apic 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
ibpb stibp vmmcall fsgsbase bmi1 avx2 smep bmi2 erms invpcid cqm rdt_a avx512f
avx512dq rdseed adx smap avx512ifma clflushopt clwb avx512cd sha_ni avx512bw
avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
cqm_mbm_local avx512_bf16 clzero irperf xsaveerptr rdpru wbnoinvd amd_ppin arat npt
lbrv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter
pfthreshold avic v_vmsave_vmload vgif v_spec_ctrl avx512vbmi umip pku ospke
avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpopcntdq la57
rdpid overflow_recov succor smca fsrm flush_lld

```

```

Virtualization: AMD-V
L1d cache: 2 MiB (64 instances)
L1i cache: 2 MiB (64 instances)
L2 cache: 64 MiB (64 instances)
L3 cache: 512 MiB (16 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0-7
NUMA node1 CPU(s): 8-15
NUMA node2 CPU(s): 16-23
NUMA node3 CPU(s): 24-31
NUMA node4 CPU(s): 32-39
NUMA node5 CPU(s): 40-47
NUMA node6 CPU(s): 48-55
NUMA node7 CPU(s): 56-63
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Retpolines, IBPB conditional, IBRS_FW, STIBP disabled, RSB filling
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected

```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	32K	2M	8	Data	1	64	1	64
L1i	32K	2M	8	Instruction	1	64	1	64
L2	1M	64M	8	Unified	2	2048	1	64
L3	32M	512M	16	Unified	3	32768	1	64

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed®2017\_int\_base = 16.0

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_peak = 16.2

CPU2017 License: 9017

Test Date: Dec-2022

Test Sponsor: Lenovo Global Technology

Hardware Availability: Feb-2023

Tested by: Lenovo Global Technology

Software Availability: Nov-2022

### Platform Notes (Continued)

```
/proc/cpuinfo cache data
cache size : 1024 KB
```

From numactl --hardware

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

```
available: 8 nodes (0-7)
node 0 cpus: 0 1 2 3 4 5 6 7
node 0 size: 193147 MB
node 0 free: 192581 MB
node 1 cpus: 8 9 10 11 12 13 14 15
node 1 size: 193519 MB
node 1 free: 192807 MB
node 2 cpus: 16 17 18 19 20 21 22 23
node 2 size: 193519 MB
node 2 free: 193336 MB
node 3 cpus: 24 25 26 27 28 29 30 31
node 3 size: 193519 MB
node 3 free: 193002 MB
node 4 cpus: 32 33 34 35 36 37 38 39
node 4 size: 193485 MB
node 4 free: 192933 MB
node 5 cpus: 40 41 42 43 44 45 46 47
node 5 size: 193519 MB
node 5 free: 192976 MB
node 6 cpus: 48 49 50 51 52 53 54 55
node 6 size: 193519 MB
node 6 free: 192766 MB
node 7 cpus: 56 57 58 59 60 61 62 63
node 7 size: 193321 MB
node 7 free: 192748 MB
```

```
node distances:
node 0 1 2 3 4 5 6 7
0: 10 12 12 12 32 32 32 32
1: 12 10 12 12 32 32 32 32
2: 12 12 10 12 32 32 32 32
3: 12 12 12 10 32 32 32 32
4: 32 32 32 32 10 12 12 12
5: 32 32 32 32 12 10 12 12
6: 32 32 32 32 12 12 10 12
7: 32 32 32 32 12 12 12 10
```

From /proc/meminfo

```
MemTotal: 1584695480 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_base = 16.0

SPECspeed®2017\_int\_peak = 16.2

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

**Test Date:** Dec-2022  
**Hardware Availability:** Feb-2023  
**Software Availability:** Nov-2022

### Platform Notes (Continued)

performance

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

```
os-release:
  NAME="SLES"
  VERSION="15-SP4"
  VERSION_ID="15.4"
  PRETTY_NAME="SUSE Linux Enterprise Server 15 SP4"
  ID="sles"
  ID_LIKE="suse"
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:suse:sles:15:sp4"
```

uname -a:

```
Linux localhost 5.14.21-150400.22-default #1 SMP PREEMPT_DYNAMIC Wed May 11 06:57:18
UTC 2022 (49db222) 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/swapgs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):	Mitigation: Retpolines, IBPB: conditional, IBRS_FW, STIBP: disabled, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling):	Not affected
CVE-2019-11135 (TSX Asynchronous Abort):	Not affected

run-level 3 Dec 11 00:47

SPEC is set to: /home/cpu2017-1.1.8-amd-aocc400-genoa-B1b

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	xfs	446G	31G	416G	7%	/

From /sys/devices/virtual/dmi/id

Vendor:	Lenovo
Product:	ThinkSystem SR665 V3 MB,Genoa,Kauai,DDR5,Kauai,2U
Product Family:	ThinkSystem
Serial:	1234567890

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_base = 16.0

SPECspeed®2017\_int\_peak = 16.2

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

**Test Date:** Dec-2022  
**Hardware Availability:** Feb-2023  
**Software Availability:** Nov-2022

### Platform Notes (Continued)

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:

24x SK Hynix HMCG94AEBRA102N 64 GB 2 rank 4800

BIOS:

BIOS Vendor: Lenovo  
BIOS Version: KAE105F-1.20  
BIOS Date: 12/01/2022  
BIOS Revision: 1.20  
Firmware Revision: 1.20

(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 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/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 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin  
=====

=====  
Fortran | 648.exchange2\_s(base, peak)  
=====

AMD clang version 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu

(Continued on next page)





# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_base = 16.0

SPECspeed®2017\_int\_peak = 16.2

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Dec-2022

Hardware Availability: Feb-2023

Software Availability: Nov-2022

## Compiler Version Notes (Continued)

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/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

## Base Optimization Flags

C benchmarks:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

-Wl,-mllvm -Wl,-reduce-array-computations=3

-Wl,-allow-multiple-definition -O3 -march=znver4 -fveclib=AMDLIBM

-ffast-math -fopenmp -flto -fstruct-layout=7

-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000

-fremap-arrays -fstrip-mining -mllvm -reduce-array-computations=3

-DSPEC\_OPENMP -zopt -fopenmp=libomp -lomp -lamdlibm -lflang

-lamdalloc

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed®2017\_int\_base = 16.0

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_peak = 16.2

**CPU2017 License:** 9017

**Test Date:** Dec-2022

**Test Sponsor:** Lenovo Global Technology

**Hardware Availability:** Feb-2023

**Tested by:** Lenovo Global Technology

**Software Availability:** Nov-2022

## Base Optimization Flags (Continued)

C++ benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver4
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-mllvm -unroll-threshold=100 -finline-aggressive
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
-fvirtual-function-elimination -fvisibility=hidden -fopenmp=libomp
-lomp -lamdlibm -lflang -lamdalloc-ext
```

Fortran benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop
-Wl,-mllvm -Wl,-enable-iv-split -O3 -march=znver4 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -mllvm -optimize-strided-mem-cost
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -fopenmp=libomp
-lomp -lamdlibm -lflang -lamdalloc
```

## Base Other Flags

C benchmarks:

```
-Wno-return-type -Wno-unused-command-line-argument
```

C++ benchmarks:

```
-Wno-unused-command-line-argument
```

Fortran benchmarks:

```
-Wno-unused-command-line-argument
```

## Peak Compiler Invocation

C benchmarks:

```
clang
```

C++ benchmarks:

```
clang++
```

Fortran benchmarks:

```
flang
```



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_base = 16.0

SPECspeed®2017\_int\_peak = 16.2

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** Dec-2022

**Hardware Availability:** Feb-2023

**Software Availability:** Nov-2022

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

600.perlbench\_s: basepeak = yes

602.gcc\_s: basepeak = yes

605.mcf\_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-allow-multiple-definition -Ofast -march=znver4  
-fveclib=AMDLIBM -ffast-math -fopenmp -flto  
-fstruct-layout=9 -mllvm -unroll-threshold=50  
-fremap-arrays -fstrip-mining  
-mllvm -inline-threshold=1000  
-mllvm -reduce-array-computations=3 -DSPEC\_OPENMP -zopt  
-fopenmp=libomp -lomp -lamdlibm -lamdalloc -lflang

625.x264\_s: basepeak = yes

657.xz\_s: Same as 605.mcf\_s

C++ benchmarks:

620.omnetpp\_s: basepeak = yes

623.xalancbmk\_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-do-block-reorder=aggressive -Ofast  
-march=znver4 -fveclib=AMDLIBM -ffast-math -fopenmp  
-flto -finline-aggressive -mllvm -unroll-threshold=100  
-mllvm -reduce-array-computations=3 -DSPEC\_OPENMP -zopt  
-mllvm -do-block-reorder=aggressive  
-fvirtual-function-elimination -fvisibility=hidden  
-fopenmp=libomp -lomp -lamdlibm -lamdalloc-ext -lflang

631.deepsjeng\_s: basepeak = yes

641.leela\_s: basepeak = yes

Fortran benchmarks:

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR665 V3  
(3.85 GHz,AMD EPYC 9374F)

SPECspeed®2017\_int\_base = 16.0

SPECspeed®2017\_int\_peak = 16.2

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** Dec-2022

**Hardware Availability:** Feb-2023

**Software Availability:** Nov-2022

## Peak Optimization Flags (Continued)

648.exchange2\_s:basepeak = yes

## Peak Other Flags

C benchmarks:

-Wno-return-type -Wno-unused-command-line-argument

C++ benchmarks:

-Wno-unused-command-line-argument

Fortran benchmarks:

-Wno-unused-command-line-argument

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-Genoa-0.html>

<http://www.spec.org/cpu2017/flags/aocc400-flags.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-Genoa-0.xml>

<http://www.spec.org/cpu2017/flags/aocc400-flags.xml>

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.8 on 2022-12-10 20:39:43-0500.

Report generated on 2023-01-17 18:40:44 by CPU2017 PDF formatter v6442.

Originally published on 2023-01-17.