SPEC CPU®2026 Floating Point Rate Result

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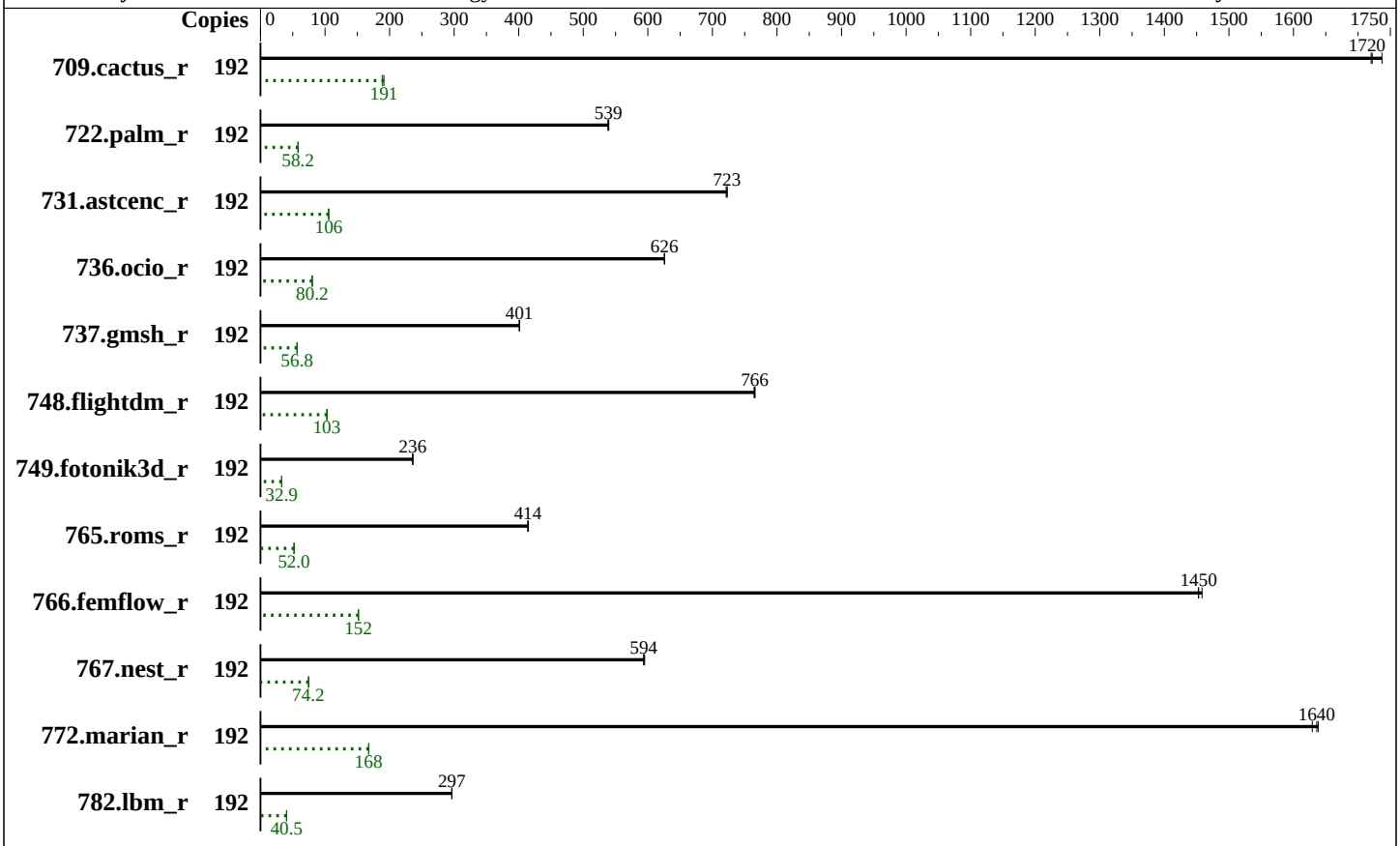
Lenovo Global Technology

ThinkSystem SR665 V3 (2.60 GHz, AMD EPYC 9655)

SPECrate®2026_fp_base =	646
SPECrate®2026_fp_energy_base =	80.3
SPECrate®2026_fp_peak =	646
SPECrate®2026_fp_energy_peak =	80.3

CPU2026 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Feb-2026
Hardware Availability: Jul-2025
Software Availability: Jan-2026



Hardware

CPU Name:	AMD EPYC 9655
Max MHz:	4500
Nominal:	2600
Enabled:	192 cores, 2 chips, 2 threads/core
Orderable:	1,2 chips
Cache L1:	32 KB I + 48 KB D on chip per core
L2:	1 MB I+D on chip per core
L3:	384 MB I+D on chip per chip, 32 MB shared / 8 cores
Other:	None
Memory:	768 GB (24 x 32 GB 2Rx8 PC5-6400B-R, running at 5200)
Storage:	1 x 480 GB SATA SSD
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 SP7 Kernel 6.4.0-150700.51-default
Compiler:	C/C++/Fortran: Version 5.1.0 of AOCC
Compiler Category:	Vendor
Firmware:	Lenovo BIOS Version KAE141G 5.81 released Jan-2026
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 balance power and performance

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Power

Max. Power (W): 930.0
Idle Power (W): 148.26
Min. Temperature (C): 21.88
Elevation (m): 43
Line Standard: 220 V / 50 Hz / 1 phase / 3 wires
Provisioning: Line-powered

Power Settings

Management FW: Version 56.2 of KAX367O
Memory Mode: Normal

Power-Relevant Hardware

Power Supply: 1 x 1800 W (non-redundant)
Details: ThinkSystem 1800W 230V Platinum Hot-Swap Gen2 Power Supply v2 4P57A78362
Backplane: 8 x 2.5-inch HDD back plane
Other Storage: None
Storage Model #s: 4XB7A82259
NICs Installed: 1 x ThinkSystem Ethernet 4-port Adaptor @ 1 Gb
NICs Enabled (FW/OS): 4 / 1
NICs Connected/Speed: 1 @ 1 Gb
Other HW Model #s: 6 x Performance fans

Power Analyzer

Power Analyzer: WIN:9888
Hardware Vendor: YOKOGAWA, Inc.
Model: YokogawaWT310E
Serial Number: C3UD17023E
Input Connection: Default
Metrology Institute: CNAS
Calibration By: CEPREI Calibration and Testing Centre
Calibration Label: 1GA25011731-0005
Calibration Date: 15-Sep-2025
PTDaemon® Version: 1.11.1 (462c978e; 2024-09-07)
Setup Description: Connected to PSU1
Current Ranges Used: 5A
Voltage Range Used: 300V

Temperature Meter

Temperature Meter: WIN:9889
Hardware Vendor: Digi International, Inc.
Model: DigiWATCHPORT_H
Serial Number: W63181846
Input Connection: USB
PTDaemon Version: 1.11.1 (462c978e; 2024-09-07)
Setup Description: 50 mm in front of SUT main intake

Base Results Table

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
709.cactus_r	192	**95.7**	**1720**	**73.2**	**191**	**765**	**791**	95.8	1720	74.3	189	775	800	94.8	1740	73.9	190	779	805
722.palm_r	192	470	540	368	58.5	783	800	471	538	371	58.0	788	804	**470**	**539**	**370**	**58.2**	**786**	**802**
731.astcenc_r	192	**223**	**723**	**127**	**106**	**569**	**610**	224	721	128	105	571	608	223	723	127	106	571	610
736.ocio_r	192	**268**	**626**	**175**	**80.2**	**653**	**750**	268	626	176	80.1	654	750	269	626	175	80.2	653	746
737.gmsh_r	192	**220**	**401**	**130**	**56.8**	**592**	**684**	220	401	130	56.7	593	690	220	401	130	56.7	592	688
748.flightdm_r	192	180	765	112	103	622	637	**180**	**766**	**112**	**103**	**625**	**637**	179	766	112	103	625	636
749.fotonik3d_r	192	940	236	576	32.9	612	625	943	235	577	32.8	612	624	**941**	**236**	**577**	**32.9**	**613**	**625**
765.roms_r	192	730	414	508	52.1	695	718	**730**	**414**	**508**	**52.0**	**697**	**718**	729	415	507	52.1	696	719
766.femflow_r	192	**194**	**1450**	**157**	**152**	**811**	**837**	194	1450	158	151	813	836	193	1460	157	152	813	834
767.nest_r	192	**256**	**594**	**171**	**74.2**	**666**	**747**	257	593	170	74.6	663	748	256	595	170	74.7	664	746

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Base Results Table (Continued)

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
772.marian_r	192	186	1630	152	168	817	925	**185**	**1640**	**152**	**168**	**820**	**930**	185	1640	152	168	820	922
782.lbm_r	192	371	297	242	40.4	653	657	371	296	243	40.4	653	658	**371**	**297**	**242**	**40.5**	**651**	**655**
SPECrate®2026_fp_base =			**646**																
SPECrate®2026_fp_energy_base =					**80.3**														

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Peak Results Table

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
709.cactus_r	192	**95.7**	**1720**	**73.2**	**191**	**765**	**791**	95.8	1720	74.3	189	775	800	94.8	1740	73.9	190	779	805
722.palm_r	192	470	540	368	58.5	783	800	471	538	371	58.0	788	804	**470**	**539**	**370**	**58.2**	**786**	**802**
731.astcenc_r	192	**223**	**723**	**127**	**106**	**569**	**610**	224	721	128	105	571	608	223	723	127	106	571	610
736.ocio_r	192	**268**	**626**	**175**	**80.2**	**653**	**750**	268	626	176	80.1	654	750	269	626	175	80.2	653	746
737.gmsh_r	192	**220**	**401**	**130**	**56.8**	**592**	**684**	220	401	130	56.7	593	690	220	401	130	56.7	592	688
748.flightdm_r	192	180	765	112	103	622	637	**180**	**766**	**112**	**103**	**625**	**637**	179	766	112	103	625	636
749.fotonik3d_r	192	940	236	576	32.9	612	625	943	235	577	32.8	612	624	**941**	**236**	**577**	**32.9**	**613**	**625**
765.roms_r	192	730	414	508	52.1	695	718	**730**	**414**	**508**	**52.0**	**697**	**718**	729	415	507	52.1	696	719
766.femflow_r	192	**194**	**1450**	**157**	**152**	**811**	**837**	194	1450	158	151	813	836	193	1460	157	152	813	834
767.nest_r	192	**256**	**594**	**171**	**74.2**	**666**	**747**	257	593	170	74.6	663	748	256	595	170	74.7	664	746
772.marian_r	192	186	1630	152	168	817	925	**185**	**1640**	**152**	**168**	**820**	**930**	185	1640	152	168	820	922
782.lbm_r	192	371	297	242	40.4	653	657	371	296	243	40.4	653	658	**371**	**297**	**242**	**40.5**	**651**	**655**
SPECrate®2026_fp_peak =			**646**																
SPECrate®2026_fp_energy_peak =					**80.3**														

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>
```

(Continued on next page)

Operating System Notes (Continued)

```
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.
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:
LD_LIBRARY_PATH =
     "/home/cpu2026-0.902.0-amd_aocc510_znver5_A1/amd_rate_aocc510_znver5_A_l
     ib/lib:/home/cpu2026-0.902.0-amd_aocc510_znver5_A1/amd_rate_aocc510_znve
     r5_A_lib/lib32:"
MALLOC_CONF = "retain:true"
```

General Notes

```
Binaries were compiled on a system with 2x AMD EPYC Venice256 CPU + 2TiB Memory using Ubuntu 24.04
```

Platform Notes

```
BIOS configuration:
Choose Operating Mode set to Custom Mode
Core Performance Boost set to Disabled
NUMA Nodes per Socket set to NPS4
Memory Speed set to 5200MHz
BoostFmax set to Manual
BoostFmax Manual set to 2400
L2 Stream HW Prefetcher set to Disabled
L1 Stride Prefetcher set to Disabled

 Sysinfo program /home/cpu2026-0.902.0-amd_aocc510_znver5_A1/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f
 running on localhost Thu Feb  5 10:15:07 2026

 SUT (System Under Test) info as seen by some common utilities.
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
Table of contents
------------------------------------------------------------
 1. uname -srvm
 2. w
 3. Username
 4. ulimit -a
 5. sysinfo process ancestry
 6. /proc/cpuinfo
 7. lscpu
 8. numactl --hardware
 9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. sysctl
16. /sys/kernel/mm/transparent_hugepage
17. /sys/kernel/mm/transparent_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS
------------------------------------------------------------

------------------------------------------------------------
1. uname -srvm
  Linux 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64

------------------------------------------------------------
2. w
   10:15:07 up 4 min,  1 user,  load average: 0.26, 0.42, 0.23
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT

------------------------------------------------------------
3. Username
  From environment variable $USER:  root

------------------------------------------------------------
4. ulimit -a
  core file size          (blocks, -c) unlimited
  data seg size           (kbytes, -d) unlimited
```

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Platform Notes (Continued)

```
   scheduling priority             (-e) 0
   file size                 (blocks, -f) unlimited
   pending signals                 (-i) 3093392
   max locked memory         (kbytes, -l) 2097152
   max memory size           (kbytes, -m) unlimited
   open files                      (-n) 1024
   pipe size              (512 bytes, -p) 8
   POSIX message queues       (bytes, -q) 819200
   real-time priority              (-r) 0
   stack size                (kbytes, -s) unlimited
   cpu time                 (seconds, -t) unlimited
   max user processes              (-u) 3093392
   virtual memory            (kbytes, -v) unlimited
   file locks                      (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: root [priv]
 sshd: root@notty
 /bin/bash ./02.remote_local_SPECcpu_1.02.sh
 /bin/bash ./Run023-compliant-amd-ratefp_base.sh
 python3 ./run_amd_rate_aocc510_znver5_A1.py
 /bin/bash ./amd_rate_aocc510_znver5_A1.sh
 runcpu --power --config amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 fprate
 runcpu --power --configfile amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 --runmode
   rate --tune base --size test:train:refrate fprate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2026.024/templogs/preenv.fprate.024.0.log --lognum 024.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026-0.902.0-amd_aocc510_znver5_A1

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : AMD EPYC 9655 96-Core Processor
    vendor_id       : AuthenticAMD
    cpu family      : 26
    model           : 2
    stepping        : 1
    microcode       : 0xb002152
    bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
    TLB size        : 192 4K pages
    cpu cores       : 96
    siblings        : 192
    2 physical ids (chips)
```

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Platform Notes (Continued)

```
     384 processors (hardware threads)
     physical id 0: core ids 0-95
     physical id 1: core ids 0-95
     physical id 0: apicids 0-191
     physical id 1: apicids 256-447
  Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
   virtualized systems.  Use the above data carefully.

------------------------------------------------------------
7. lscpu

From lscpu from util-linux 2.40.4:
  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):                                  384
  On-line CPU(s) list:                     0-383
  Vendor ID:                               AuthenticAMD
  Model name:                              AMD EPYC 9655 96-Core Processor
  CPU family:                              26
  Model:                                   2
  Thread(s) per core:                      2
  Core(s) per socket:                      96
  Socket(s):                               2
  Stepping:                                1
  CPU(s) scaling MHz:                      58%
  CPU max MHz:                             2600.0000
  CPU min MHz:                             1500.0000
  BogoMIPS:                                5191.84
  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 amd_lbr_v2 nopl nonstop_tsc cpuid
                                           extd_apicid aperfmperf 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 cat_l3 cdp_l3 hw_pstate ssbd mba perfmon_v2 ibrs
                                            ibpb stibp ibrs_enhanced vmmcall fsgsbase tsc_adjust 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 user_shstk avx_vnni avx512_bf16 clzero irperf
                                            xsaveerptr rdpru wbnoinvd amd_ppin cppc amd_ibpb_ret arat npt lbrv
                                            svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists
```

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Platform Notes (Continued)

```
                                    pausefilter pfthreshold avic v_vmsave_vmload vgif x2avic v_spec_ctrl
                                      vnmi avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
                                    avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdpid bus_lock_detect
                                    movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect
                                       flush_l1d debug_swap hv_inuse_wr_allowed srso_user_kernel_no
                                           amd_lbr_pmc_freeze
  Virtualization:                          AMD-V
  L1d cache:                               9 MiB (192 instances)
  L1i cache:                               6 MiB (192 instances)
  L2 cache:                                192 MiB (192 instances)
  L3 cache:                                768 MiB (24 instances)
  NUMA node(s):                            8
  NUMA node0 CPU(s):                       0-23,192-215
  NUMA node1 CPU(s):                       24-47,216-239
  NUMA node2 CPU(s):                       48-71,240-263
  NUMA node3 CPU(s):                       72-95,264-287
  NUMA node4 CPU(s):                       96-119,288-311
  NUMA node5 CPU(s):                       120-143,312-335
  NUMA node6 CPU(s):                       144-167,336-359
  NUMA node7 CPU(s):                       168-191,360-383
  Vulnerability Gather data sampling:   Not affected
  Vulnerability Itlb multihit:          Not affected
  Vulnerability L1tf:                   Not affected
  Vulnerability Mds:                    Not affected
  Vulnerability Meltdown:               Not affected
  Vulnerability Mmio stale data:        Not affected
  Vulnerability Reg file data sampling: Not affected
  Vulnerability Retbleed:               Not affected
  Vulnerability Spec rstack overflow:   Mitigation; IBPB on VMEXIT only
  Vulnerability Spec store bypass:      Mitigation; Speculative Store Bypass disabled via prctl
  Vulnerability Spectre v1:             Mitigation; usercopy/swapgs barriers and __user pointer sanitization
  Vulnerability Spectre v2:             Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
                                    always-on; RSB filling; PBRSB-eIBRS Not affected; BHI Not affected
  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       48K       9M   12 Data            1    64        1             64
     L1i       32K       6M    8 Instruction     1    64        1             64
     L2         1M     192M   16 Unified         2  1024        1             64
     L3        32M     768M   16 Unified         3 32768        1             64

------------------------------------------------------------
8. numactl --hardware
```

(Continued on next page)

Platform Notes (Continued)

```
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 8 nodes (0-7)
  node 0 cpus: 0-23,192-215
  node 0 size: 96272 MB
  node 0 free: 95897 MB
  node 1 cpus: 24-47,216-239
  node 1 size: 96755 MB
  node 1 free: 96310 MB
  node 2 cpus: 48-71,240-263
  node 2 size: 96755 MB
  node 2 free: 96376 MB
  node 3 cpus: 72-95,264-287
  node 3 size: 96755 MB
  node 3 free: 96325 MB
  node 4 cpus: 96-119,288-311
  node 4 size: 96716 MB
  node 4 free: 96350 MB
  node 5 cpus: 120-143,312-335
  node 5 size: 96755 MB
  node 5 free: 96406 MB
  node 6 cpus: 144-167,336-359
  node 6 size: 96755 MB
  node 6 free: 96367 MB
  node 7 cpus: 168-191,360-383
  node 7 size: 96609 MB
  node 7 free: 96230 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

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       791935972 kB

------------------------------------------------------------
10. who -r
  run-level 3 Feb 5 10:11
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE             UNIT FILES
  enabled           YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron getty@ irqbalance issue-generator
                    kbdsettings klog lvm2-monitor nscd postfix purge-kernels rollback rsyslog smartd sshd
                    systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
  enabled-runtime   systemd-remount-fs
  disabled          autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
                    chronyd console-getty cups cups-browsed debug-shell ebtables exchange-bmc-os-info
                    firewalld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievd issue-add-ssh-keys
                    kexec-load lunmask man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd
                    serial-getty@ smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures
                    systemd-confext systemd-network-generator systemd-sysext systemd-time-wait-sync
                    systemd-timesyncd
  generated         ntp_sync
  indirect          systemd-userdbd wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
  root=UUID=6b4a02b3-a7c2-4def-af3d-b12e11842422
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 270:
    current policy: frequency should be within 1.50 GHz and 2.60 GHz.
                    The governor "ondemand" may decide which speed to use
                    within this range.
    boost state support:
      Supported: no
      Active: no

------------------------------------------------------------
15. sysctl
  kernel.numa_balancing               1
  kernel.randomize_va_space           0
```

(Continued on next page)

Platform Notes (Continued)

```
  vm.compaction_proactiveness        20
  vm.dirty_background_bytes           0
  vm.dirty_background_ratio          10
  vm.dirty_bytes                      0
  vm.dirty_expire_centisecs        3000
  vm.dirty_ratio                      8
  vm.dirty_writeback_centisecs      500
  vm.dirtytime_expire_seconds     43200
  vm.extfrag_threshold              500
  vm.min_unmapped_ratio               1
  vm.nr_hugepages                     0
  vm.nr_hugepages_mempolicy           0
  vm.nr_overcommit_hugepages          0
  vm.swappiness                       1
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                1

------------------------------------------------------------
16. /sys/kernel/mm/transparent_hugepage
  defrag          [always] defer defer+madvise madvise never
  enabled         [always] madvise never
  hpage_pmd_size  2097152
  shmem_enabled   always within_size advise [never] deny force

------------------------------------------------------------
17. /sys/kernel/mm/transparent_hugepage/khugepaged
  alloc_sleep_millisecs   60000
  defrag                      1
  max_ptes_none             511
  max_ptes_shared           256
  max_ptes_swap              64
  pages_to_scan            4096
  scan_sleep_millisecs    10000

------------------------------------------------------------
18. OS release
  From /etc/*-release /etc/*-version
  os-release SUSE Linux Enterprise Server 15 SP7

------------------------------------------------------------
19. Disk information
SPEC is set to: /home/cpu2026-0.902.0-amd_aocc510_znver5_A1
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/sda3      xfs   444G  130G  315G  30% /
```

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Platform Notes (Continued)

```
------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         Lenovo
    Product:        ThinkSystem SR665 V3
    Product Family: ThinkSystem
    Serial:         1234567890

------------------------------------------------------------
21. dmidecode
  Additional information from dmidecode 3.6 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:
    10x Samsung M321R4GA3PB2-CCPEC 32 GB 2 rank 6400, configured at 5200
    5x Samsung M321R4GA3PB2-CCPKC 32 GB 2 rank 6400, configured at 5200
    9x Samsung M321R4GA3PB2-CCPPC 32 GB 2 rank 6400, configured at 5200


------------------------------------------------------------
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       Lenovo
   BIOS Version:      KAE141G-5.81
   BIOS Date:         01/22/2026
   BIOS Revision:     5.81
   Firmware Revision: 56.20
```

Compiler Version Notes

```
==============================================================================
C       | 782.lbm_r(base)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
------------------------------------------------------------------------------

==============================================================================
C++     | 731.astcenc_r(base) 736.ocio_r(base) 748.flightdm_r(base)
        | 766.femflow_r(base) 767.nest_r(base) 772.marian_r(base)
------------------------------------------------------------------------------
```

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Compiler Version Notes (Continued)

```
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
------------------------------------------------------------------------------

==============================================================================
C++, C  | 709.cactus_r(base) 737.gmsh_r(base)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
------------------------------------------------------------------------------

==============================================================================
Fortran | 722.palm_r(base) 749.fotonik3d_r(base) 765.roms_r(base)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.1.0-Build#1994 2025_12_23)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.1.0/bin
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`clang`

C++ benchmarks:
`clang++`

Fortran benchmarks:
`flang`

Benchmarks using both C and C++:
`clang++ clang`

Base Portability Flags

709.cactus_r: -DSPEC_LP64
722.palm_r: -DSPEC_LP64
731.astcenc_r: -DSPEC_LP64
736.ocio_r: -fno-finite-math-only -DSPEC_LP64
737.gmsh_r: -fno-fast-math -DSPEC_LP64
748.flightdm_r: -fno-reciprocal-math -DSPEC_LP64
749.fotonik3d_r: -DSPEC_LP64
765.roms_r: -DSPEC_LP64
766.femflow_r: -DSPEC_LP64
767.nest_r: -fno-finite-math-only -DSPEC_LP64
772.marian_r: -DSPEC_LP64
782.lbm_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie
-flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang

C++ benchmarks:
-m64 -std=c++17 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -flto
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang

Fortran benchmarks:
-m64 -Mstandard -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching
-Wl,-mllvm -Wl,-enable-aggressive-gather=true
-Wl,-mllvm -Wl,-enable-masked-gather-sequence=false -ffast-math -O3
-march=znver5 -fveclib=AMDLIBM -flto -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3

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Base Optimization Flags (Continued)

Fortran benchmarks (continued):
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang

Benchmarks using both C and C++:
-m64 -std=c++17 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-ffast-math -O3 -march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie
-flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000 -lamdlibm -lamdalloc -lflang

Peak Optimization Flags

C benchmarks:

782.lbm_r: basepeak = yes

C++ benchmarks:

731.astcenc_r: basepeak = yes

736.ocio_r: basepeak = yes

748.flightdm_r: basepeak = yes

766.femflow_r: basepeak = yes

767.nest_r: basepeak = yes

772.marian_r: basepeak = yes

Fortran benchmarks:

722.palm_r: basepeak = yes

749.fotonik3d_r: basepeak = yes

765.roms_r: basepeak = yes

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Peak Optimization Flags (Continued)

Benchmarks using both C and C++:

709.cactus_r: `basepeak = yes`

737.gmsh_r: `basepeak = yes`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2026/results/flags/Lenovo-Platform-SPECcpu-Flags-V1.2-Turin-M.html
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/Lenovo-Platform-SPECcpu-Flags-V1.2-Turin-M.xml
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.xml

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Tested with SPEC CPU®2026 v0.902.0 on 2026-02-04 21:15:06-0500.
Report generated on 2026-08-11 15:18:02 by CPU2026 PDF formatter (unknown).
Originally published on 2026-05-05.