



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

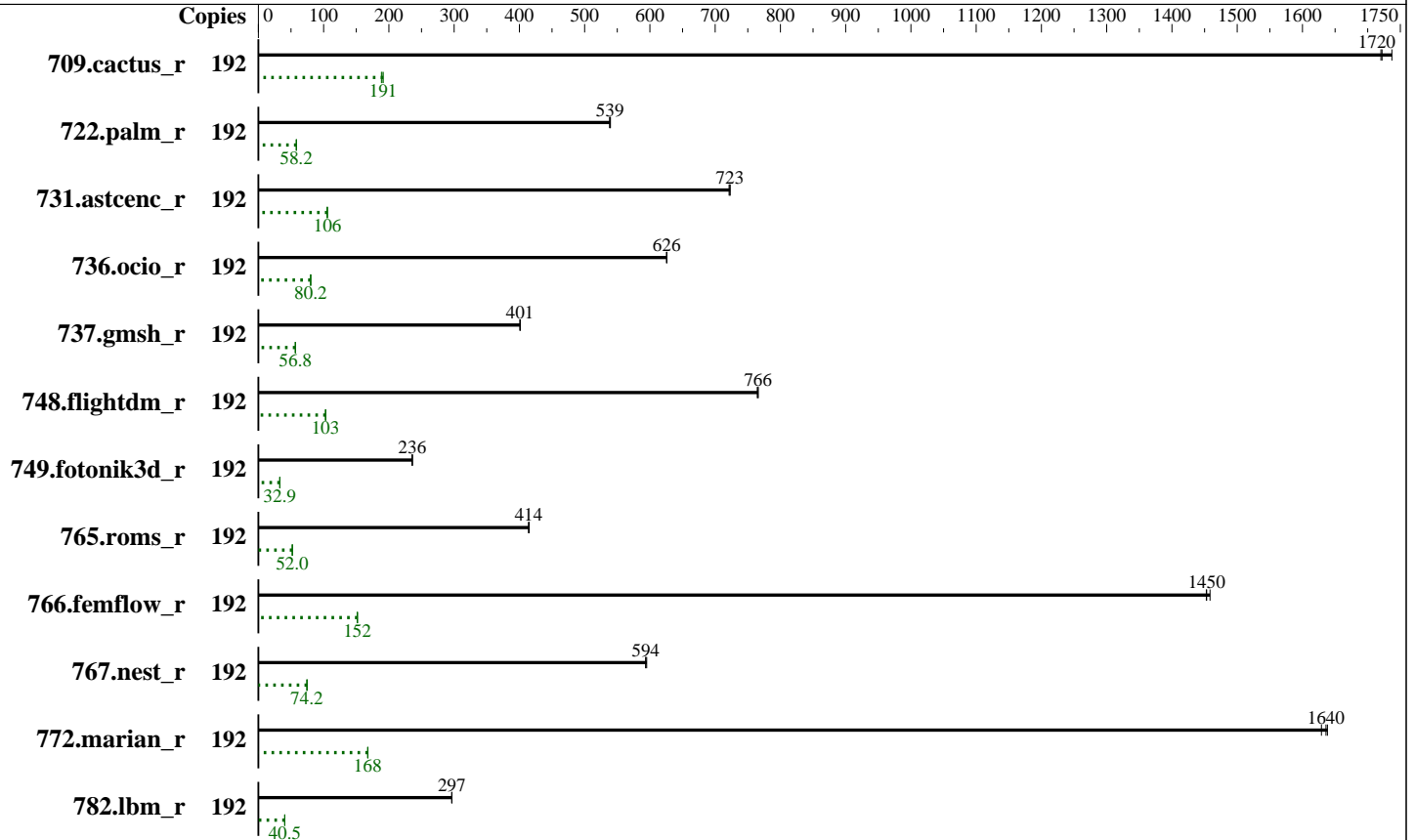
Test Sponsor: Lenovo Global Technology

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 KAX3670
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	<u>95.7</u>	<u>1720</u>	<u>73.2</u>	<u>191</u>	<u>765</u>	<u>791</u>	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	<u>470</u>	<u>539</u>	<u>370</u>	<u>58.2</u>	<u>786</u>	<u>802</u>
731.astcenc_r	192	<u>223</u>	<u>723</u>	<u>127</u>	<u>106</u>	<u>569</u>	<u>610</u>	224	721	128	105	571	608	223	723	127	106	571	610
736.ocio_r	192	<u>268</u>	<u>626</u>	<u>175</u>	<u>80.2</u>	<u>653</u>	<u>750</u>	268	626	176	80.1	654	750	269	626	175	80.2	653	746
737.gmsh_r	192	<u>220</u>	<u>401</u>	<u>130</u>	<u>56.8</u>	<u>592</u>	<u>684</u>	220	401	130	56.7	593	690	220	401	130	56.7	592	688
748.flightdm_r	192	180	765	112	103	622	637	<u>180</u>	<u>766</u>	<u>112</u>	<u>103</u>	<u>625</u>	<u>637</u>	179	766	112	103	625	636
749.fotonik3d_r	192	940	236	576	32.9	612	625	943	235	577	32.8	612	624	<u>941</u>	<u>236</u>	<u>577</u>	<u>32.9</u>	<u>613</u>	<u>625</u>
765.roms_r	192	730	414	508	52.1	695	718	<u>730</u>	<u>414</u>	<u>508</u>	<u>52.0</u>	<u>697</u>	<u>718</u>	729	415	507	52.1	696	719
766.femflow_r	192	<u>194</u>	<u>1450</u>	<u>157</u>	<u>152</u>	<u>811</u>	<u>837</u>	194	1450	158	151	813	836	193	1460	157	152	813	834
767.nest_r	192	<u>256</u>	<u>594</u>	<u>171</u>	<u>74.2</u>	<u>666</u>	<u>747</u>	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.



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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	<u>185</u>	<u>1640</u>	<u>152</u>	<u>168</u>	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	<u>371</u>	<u>297</u>	<u>242</u>	<u>40.5</u>	651	655

SPECrate®2026_fp_base = 646

SPECrate®2026_fp_energy_base = 80.3

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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	<u>95.7</u>	<u>1720</u>	<u>73.2</u>	<u>191</u>	<u>765</u>	<u>791</u>	95.8	1720	74.3	189	775	800	94.8	1740	73.9	190	779	805
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731.ascenc_r	192	<u>223</u>	<u>723</u>	<u>127</u>	<u>106</u>	<u>569</u>	<u>610</u>	224	721	128	105	571	608	223	723	127	106	571	610
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782.lbm_r	192	371	297	242	40.4	653	657	371	296	243	40.4	653	658	<u>371</u>	<u>297</u>	<u>242</u>	<u>40.5</u>	651	655

SPECrate®2026_fp_peak = 646

SPECrate®2026_fp_energy_peak = 80.3

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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>

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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_1
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.

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4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
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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 sse3 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 nrrip_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_llid 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/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
always-on; RSB filling; PBRSE-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

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

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Hardware Availability: Jul-2025
Software Availability: Jan-2026

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

```

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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 wickedd 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 ebttables exchange-bmc-os-info firewallld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievdev 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
```

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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% /

```

(Continued on next page)



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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



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Base Portability Flags

709.cactus_r: -DSPEC_LP64
722.palm_r: -DSPEC_LP64
731.ascenc_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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