



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

CloudDC A+ Server AS -1116CS-TN
(H14SHM , AMD EPYC 9755)

SPECspeed®2017_int_base = 17.7

SPECspeed®2017_int_peak = 17.9

CPU2017 License: 001176

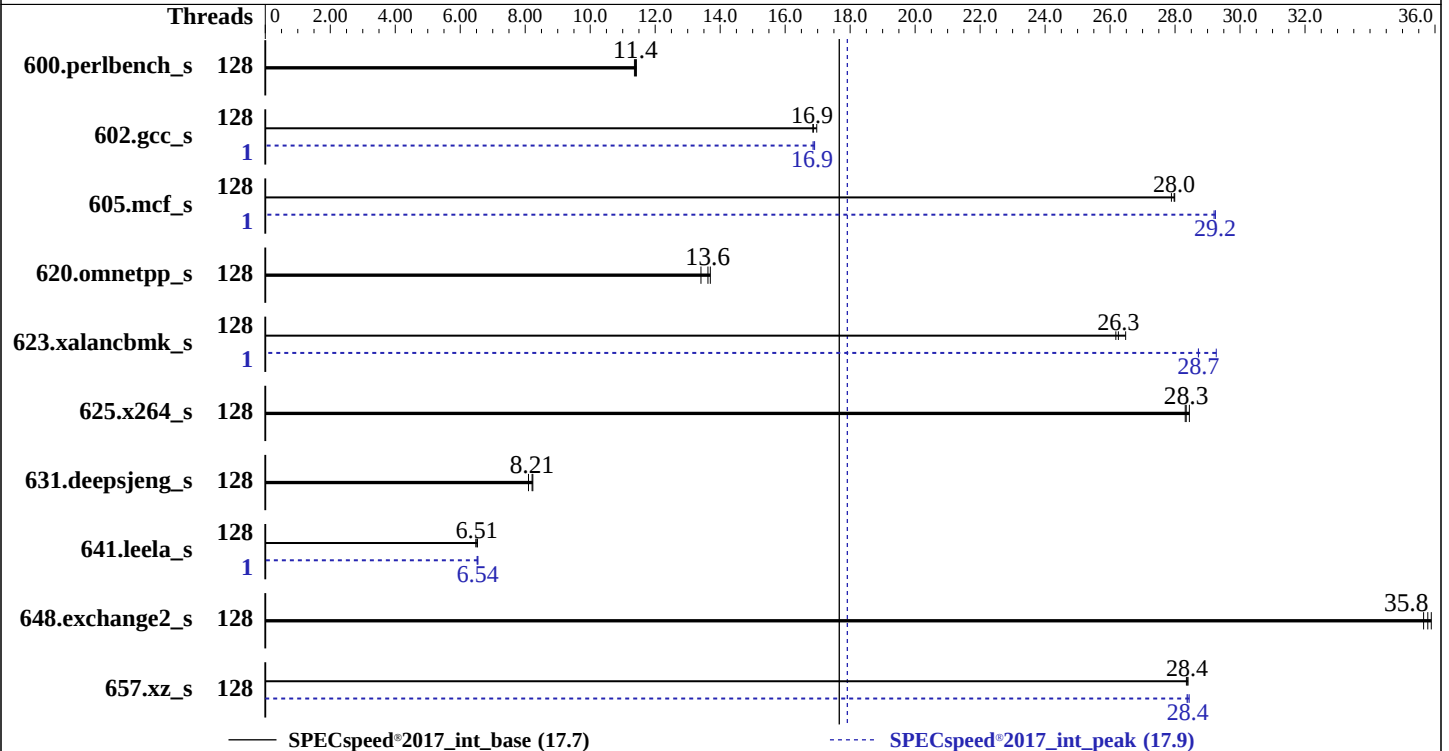
Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Nov-2025

Hardware Availability: Oct-2024

Software Availability: Sep-2025



Hardware

CPU Name: AMD EPYC 9755
Max MHz: 4100
Nominal: 2700
Enabled: 128 cores, 1 chip
Orderable: 1 chip
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 1 MB I+D on chip per core
L3: 512 MB I+D on chip per chip, 32 MB shared / 8 cores
Other: None
Memory: 768 GB (12 x 64 GB 2Rx4 PC5-6400B-R)
Storage: 1 x 6 TB NVMe SSD
Other: CPU Cooling: Air

Software

OS: Ubuntu 24.04.3 LTS
Kernel 6.8.0-86-generic
Compiler: C/C++/Fortran: Version 5.0.0 of AOCC
Parallel: Yes
Firmware: Version 1.7 released Oct-2025
File System: ext4
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.



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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	128	<u>156</u>	<u>11.4</u>	156	11.4	155	11.4	<u>128</u>	<u>156</u>	<u>11.4</u>	156	11.4	155	11.4
602.gcc_s	128	<u>236</u>	<u>16.9</u>	236	16.9	235	17.0	<u>1</u>	236	16.9	<u>236</u>	<u>16.9</u>	236	16.9
605.mcf_s	128	169	27.9	<u>169</u>	<u>28.0</u>	169	28.0	<u>1</u>	161	29.2	162	29.2	<u>161</u>	<u>29.2</u>
620.omnetpp_s	128	119	13.7	<u>120</u>	<u>13.6</u>	122	13.4	<u>128</u>	119	13.7	<u>120</u>	<u>13.6</u>	122	13.4
623.xalancbmk_s	128	54.1	26.2	53.5	26.5	<u>54.0</u>	<u>26.3</u>	<u>1</u>	49.3	28.7	<u>49.3</u>	<u>28.7</u>	48.4	29.3
625.x264_s	128	62.3	28.3	62.0	28.4	<u>62.2</u>	<u>28.3</u>	<u>128</u>	62.3	28.3	62.0	28.4	<u>62.2</u>	<u>28.3</u>
631.deepsjeng_s	128	177	8.10	174	8.23	<u>175</u>	<u>8.21</u>	<u>128</u>	177	8.10	174	8.23	<u>175</u>	<u>8.21</u>
641.leela_s	128	263	6.48	<u>262</u>	<u>6.51</u>	261	6.53	<u>1</u>	262	6.52	261	6.54	<u>261</u>	<u>6.54</u>
648.exchange2_s	128	<u>82.2</u>	<u>35.8</u>	82.5	35.6	81.9	35.9	<u>128</u>	<u>82.2</u>	<u>35.8</u>	82.5	35.6	81.9	35.9
657.xz_s	128	218	28.4	218	28.3	<u>218</u>	<u>28.4</u>	<u>128</u>	<u>218</u>	<u>28.4</u>	217	28.4	218	28.4

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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.

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.



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Environment Variables Notes

Environment variables set by runcpu before the start of the run:

GOMP_CPU_AFFINITY = "0-127"

LD_LIBRARY_PATH =

"/home/cpu2017/amd_speed_aocc500_znver5_A_lib/lib:/home/cpu2017/amd_speed_aocc500_znver5_A_lib/lib32:"

LIBOMP_NUM_HIDDEN_HELPER_THREADS = "0"

MALLOC_CONF = "retain:true"

OMP_DYNAMIC = "false"

OMP_SCHEDULE = "static"

OMP_STACKSIZE = "128M"

OMP_THREAD_LIMIT = "128"

Environment variables set by runcpu during the 602.gcc_s peak run:

GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 605.mcf_s peak run:

GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 623.xalancbmk_s peak run:

GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 641.leela_s peak run:

GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 657.xz_s peak run:

GOMP_CPU_AFFINITY = "0-127"

General Notes

Binaries were compiled on a system with 2x AMD EPYC 9D64 CPU + 500GiB Memory using Ubuntu 22.04

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.

Platform Notes

BIOS Settings:

Determinism Control = Manual

Determinism Enable = Power

TDP Control = Manual

TDP = 500

Package Power Limit Control = Manual

Package Power Limit = 500

Memory Target Speed = DDR6400

DRAM Scrub Time = Disabled

TSME = Disabled

SMT Control = Disabled

Sysinfo program /home/cpu2017/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on lab Sat Nov 1 01:53:29 2025

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

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Platform Notes (Continued)

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11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.11)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
16. tuned-adm active
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18. /sys/kernel/mm/transparent_hugepage
19. /sys/kernel/mm/transparent_hugepage/khugepaged
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22. /sys/devices/virtual/dmi/id
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24. BIOS

1. uname -a
Linux lab 6.8.0-86-generic #87-Ubuntu SMP PREEMPT_DYNAMIC Mon Sep 22 18:03:36 UTC 2025 x86_64 x86_64 x86_64 GNU/Linux

2. w
01:53:29 up 11 min, 1 user, load average: 0.23, 0.24, 0.23
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
lab tty1 - 01:45 9.00s 0.07s 0.06s sudo su -

3. Username
From environment variable \$USER: root
From the command 'logname': lab

4. ulimit -a
time(seconds) unlimited
file(blocks) unlimited
data(kbytes) unlimited
stack(kbytes) unlimited
coredump(blocks) 0
memory(kbytes) unlimited
locked memory(kbytes) 2097152
process 3092396
nofiles 1024
vmemory(kbytes) unlimited
locks unlimited
rtprio 0

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Platform Notes (Continued)

```
-----
5. sysinfo process ancestry
/sbin/init splash
/bin/login -p --
-bash
sudo su -
sudo su -
su -
-bash
python3 ./run_amd_speed_aocc500_znver5_A1.py
/bin/bash ./amd_speed_aocc500_znver5_A1.sh
runcpu --config amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 intspeed
runcpu --configfile amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
--runmode speed --tune base:peak --size test:train:refspeed intspeed --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.001/temlogs/preenv.intspeed.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017

-----
6. /proc/cpuinfo
model name      : AMD EPYC 9755 128-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
TLB size       : 192 4K pages
cpu cores      : 128
siblings       : 128
1 physical ids (chips)
128 processors (hardware threads)
physical id 0: core ids
0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
240-247
physical id 0: apicids
0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
240-247
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 2.39.3:
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):                      128
On-line CPU(s) list:         0-127
Vendor ID:                   AuthenticAMD
BIOS Vendor ID:              Advanced Micro Devices, Inc.
Model name:                  AMD EPYC 9755 128-Core Processor
BIOS Model name:             AMD EPYC 9755 128-Core Processor
BIOS CPU family:             107
CPU family:                  26
Model:                       2
Thread(s) per core:          1
Unknown CPU @ 2.7GHz
```

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Platform Notes (Continued)

Core(s) per socket: 128
Socket(s): 1
Stepping: 1
Frequency boost: enabled
CPU(s) scaling MHz: 98%
CPU max MHz: 2700.0000
CPU min MHz: 1500.0000
BogoMIPS: 5399.95
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 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 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 cpgc amd_ibpb_ret arat npt lbrv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists 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_lld debug_swap
L1d cache: 6 MiB (128 instances)
L1i cache: 4 MiB (128 instances)
L2 cache: 128 MiB (128 instances)
L3 cache: 512 MiB (16 instances)
NUMA node(s): 1
NUMA node0 CPU(s): 0-127
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: Not affected
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 disabled; 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	6M	12	Data	1	64	1	64
L1i	32K	4M	8	Instruction	1	64	1	64
L2	1M	128M	16	Unified	2	1024	1	64
L3	32M	512M	16	Unified	3	32768	1	64

8. numactl --hardware

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

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Platform Notes (Continued)

available: 1 nodes (0)
node 0 cpus: 0-127
node 0 size: 773185 MB
node 0 free: 771267 MB
node distances:
node 0:
0: 10

9. /proc/meminfo
MemTotal: 791741796 kB

10. who -r
run-level 3 Nov 1 01:45 last=5

11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.11)
Default Target Status
graphical degraded

12. Failed units, from systemctl list-units --state=failed

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
* systemd-networkd-wait-online.service	loaded	failed	failed	Wait for Network to be Configured

Legend: LOAD -> Reflects whether the unit definition was properly loaded.
ACTIVE -> The high-level unit activation state, i.e. generalization of SUB.
SUB -> The low-level unit activation state, values depend on unit type.
1 loaded units listed.

13. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon anacron apparmor apport avahi-daemon blk-availability bluetooth cloud-config cloud-final cloud-init cloud-init-local console-setup cron cups cups-browsed dmesg e2scrub_reap finalrd getty@ gnome-remote-desktop gpu-manager grub-common grub-initrd-fallback kerneloops keyboard-setup lvm2-monitor multipathd networkd-dispatcher open-iscsi open-vm-tools openvpn pollinate power-profiles-daemon rsyslog secureboot-db setvtrgb snapd ssl-cert sssd switcheroo-control sysstat systemd-networkd systemd-networkd-wait-online systemd-oomd systemd-pstore systemd-resolved systemd-timesyncd tuned ua-reboot-cmds ubuntu-advantage udisks2 unattended-upgrades vgauth vsftpd wpa_supplicant
enabled-runtime	netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled	brltty console-getty debug-shell iscsid nftables openvpn-client@ openvpn-server@ openvpn@ rsync rtkit-daemon serial-getty@ speech-dispatcherd systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-networkd-wait-online@ systemd-pcrlock-file-system systemd-pcrlock-firmware-code systemd-pcrlock-firmware-config systemd-pcrlock-machine-id systemd-pcrlock-make-policy systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysex systemd-time-wait-sync thermald ufw upower wpa_supplicant-nl80211@ wpa_supplicant-wired@ wpa_supplicant@ speech-dispatcher
generated	saned@ spice-vdagentd sssd-autofs sssd-autofs sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo
indirect	systemd-sysupdate systemd-sysupdate-reboot uidd
masked	alsa-utils cryptdisks cryptdisks-early hwclock multipath-tools-boot saned screen-cleanup sudo x11-common

14. Linux kernel boot-time arguments, from /proc/cmdline

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Platform Notes (Continued)

```
BOOT_IMAGE=/boot/vmlinuz-6.8.0-86-generic
root=UUID=0263fb39-25a0-493b-8d80-c82422be8aef
ro
quiet
splash
transparent_hugepage=always
numa_balancing=disable
```

```
-----
15. cpupower frequency-info
analyzing CPU 103:
  current policy: frequency should be within 1.50 GHz and 2.70 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.
  boost state support:
    Supported: yes
    Active: yes
    Boost States: 0
    Total States: 3
    Pstate-P0: 2700MHz
```

```
-----
16. tuned-adm active
  Current active profile: throughput-performance
```

```
-----
17. sysctl
kernel.numa_balancing          0
kernel.randomize_va_space      0
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
```

```
-----
18. /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
```

```
-----
19. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs 60000
defrag                1
max_ptes_none         511
max_ptes_shared       256
```

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Platform Notes (Continued)

max_ptes_swap 64
pages_to_scan 4096
scan_sleep_millisecs 10000

20. OS release

From /etc/*-release /etc/*-version
os-release Ubuntu 24.04.3 LTS

21. Disk information

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	ext4	5.8T	25G	5.5T	1%	/

22. /sys/devices/virtual/dmi/id

Vendor: Supermicro
Product: H14SHM
Product Family: SMC H14
Serial: UA246S016580

23. dmidecode

Additional information from dmidecode 3.5 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:

12x Samsung M321R8GA0EB2-CCPKF 64 GB 2 rank 6400

24. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 1.7
BIOS Date: 10/09/2025
BIOS Revision: 5.35

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 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)

Target: x86_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/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 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)

Target: x86_64-unknown-linux-gnu

Thread model: posix

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SPECspeed®2017_int_base = 17.7

SPECspeed®2017_int_peak = 17.9

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

Test Date: Nov-2025
Hardware Availability: Oct-2024
Software Availability: Sep-2025

Compiler Version Notes (Continued)

InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

Fortran | 648.exchange2_s(base, peak)

AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/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 -Wl,-mllvm -Wl,-extra-inliner -O3
-march=znver5 -fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC_OPENMP
-flto -fremap-arrays -fstrip-mining -fstruct-layout=7

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Base Optimization Flags (Continued)

C benchmarks (continued):

-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp -lamdlibm
-lflang -lamdalloc

C++ benchmarks:

-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC_OPENMP -flto
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=100 -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,-enable-iv-split -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,-mllvm -Wl,-lsr-in-nested-loop -O3 -march=znver5 -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++

(Continued on next page)



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Peak Compiler Invocation (Continued)

Fortran benchmarks:
flang

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

600.perlbench_s: basepeak = yes

602.gcc_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-allow-multiple-definition
-Wl,-mllvm -Wl,-extra-inliner -Ofast -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-DSPEC_OPENMP -fremap-arrays -fstrip-mining
-fstruct-layout=9 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp
-lamdlibm -lamdalloc -lflang

605.mcf_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-extra-inliner -Ofast -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-DSPEC_OPENMP -fremap-arrays -fstrip-mining
-fstruct-layout=9 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp
-lamdlibm -lamdalloc -lflang

625.x264_s: basepeak = yes

657.xz_s: Same as 602.gcc_s

C++ benchmarks:

620.omnetpp_s: basepeak = yes

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Peak Optimization Flags (Continued)

```
623.xalancbmk_s: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-do-block-reorder=advanced -Ofast
-march=znver5 -fvecLib=AMDLibm -ffast-math -fopenmp
-flto -DSPEC_OPENMP -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=100 -zopt
-fvirtual-function-elimination -fvisibility=hidden
-mllvm -do-block-reorder=advanced -fopenmp=libomp -lomp
-lamdlibm -lamdalloc-ext -lflang
```

631.deepsjeng_s: basepeak = yes

```
641.leela_s: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fvecLib=AMDLibm -ffast-math -fopenmp
-flto -DSPEC_OPENMP -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=100 -zopt
-fvirtual-function-elimination -fvisibility=hidden
-fopenmp=libomp -lomp -lamdlibm -lamdalloc -lflang
```

Fortran benchmarks:

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/aocc500-flags.html>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-Turin-revE.html>



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

<http://www.spec.org/cpu2017/flags/aocc500-flags.xml>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-Turin-revE.xml>

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