



# SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

## Supermicro

CloudDC A+ Server AS -1116CS-TN  
(H14SHM , AMD EPYC 9965)

SPECrate®2026\_fp\_base = 498

SPECrate®2026\_fp\_peak = 498

CPU2026 License: 001176

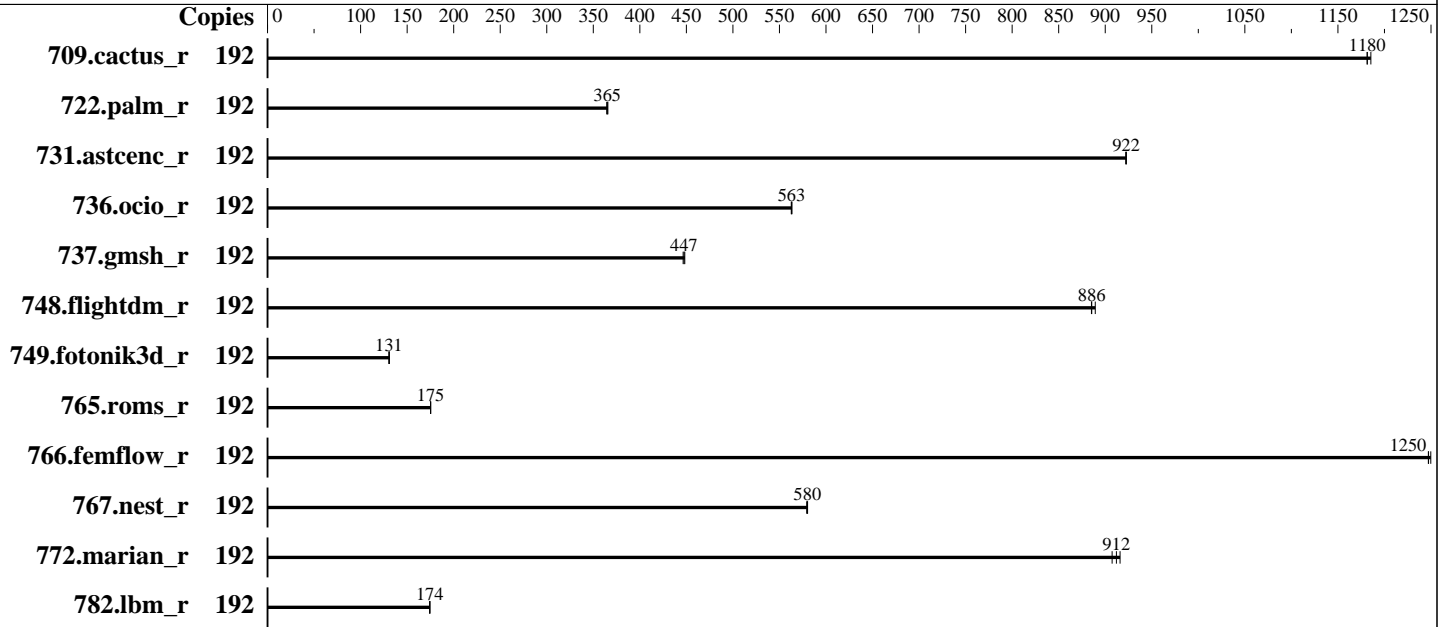
Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Jan-2026

Hardware Availability: Oct-2024

Software Availability: Jan-2026



### Hardware

CPU Name: AMD EPYC 9965  
 Max MHz: 3700  
 Nominal: 2250  
 Enabled: 192 cores, 1 chip, 2 threads/core  
 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: 384 MB I+D on chip per chip, 32 MB shared / 16 cores  
 Other: None  
 Memory: 768 GB (12 x 64 GB 2Rx4 PC5-6400B-R)  
 Storage: 1 x 480 GB NVMe SSD  
 Cooling: Air  
 Other: None

### Software

OS: Ubuntu 24.04.3 LTS  
 6.8.0-90-generic  
 Compiler: C/C++/Fortran: Version 5.1.0 of AOCC  
 Compiler Category: Vendor  
 Firmware: Version 1.5a released Aug-2025  
 File System: ext4  
 System State: Run level 5 (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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
709.cactus_r	192	<b><u>139</u></b>	<b><u>1180</u></b>	139	1190	139	1180	192	<b><u>139</u></b>	<b><u>1180</u></b>	139	1190	139	1180
722.palm_r	192	695	364	693	366	<b><u>694</u></b>	<b><u>365</u></b>	192	695	364	693	366	<b><u>694</u></b>	<b><u>365</u></b>
731.ascenc_r	192	175	922	<b><u>175</u></b>	<b><u>922</u></b>	175	923	192	175	922	<b><u>175</u></b>	<b><u>922</u></b>	175	923
736.ocio_r	192	299	563	<b><u>298</u></b>	<b><u>563</u></b>	298	563	192	299	563	<b><u>298</u></b>	<b><u>563</u></b>	298	563
737.gmsh_r	192	197	448	<b><u>197</u></b>	<b><u>447</u></b>	197	447	192	197	448	<b><u>197</u></b>	<b><u>447</u></b>	197	447
748.flightdm_r	192	<b><u>155</u></b>	<b><u>886</u></b>	155	889	155	885	192	<b><u>155</u></b>	<b><u>886</u></b>	155	889	155	885
749.fotonik3d_r	192	1696	131	1701	130	<b><u>1700</u></b>	<b><u>131</u></b>	192	1696	131	1701	130	<b><u>1700</u></b>	<b><u>131</u></b>
765.roms_r	192	1725	175	1727	175	<b><u>1725</u></b>	<b><u>175</u></b>	192	1725	175	1727	175	<b><u>1725</u></b>	<b><u>175</u></b>
766.femflow_r	192	225	1250	226	1250	<b><u>226</u></b>	<b><u>1250</u></b>	192	225	1250	226	1250	<b><u>226</u></b>	<b><u>1250</u></b>
767.nest_r	192	263	579	262	580	<b><u>262</u></b>	<b><u>580</u></b>	192	263	579	262	580	<b><u>262</u></b>	<b><u>580</u></b>
772.marian_r	192	<b><u>332</u></b>	<b><u>912</u></b>	334	907	331	916	192	<b><u>332</u></b>	<b><u>912</u></b>	334	907	331	916
782.lbm_r	192	<b><u>631</u></b>	<b><u>174</u></b>	631	174	632	174	192	<b><u>631</u></b>	<b><u>174</u></b>	631	174	632	174

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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.

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### Operating System Notes (Continued)

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 =  
"/spec/speccpu2026rc2bsub/amd\_rate\_aocc510\_znver5\_A\_lib/lib:/spec/speccpu2026rc2bsub/amd\_rate\_aocc510\_znver5\_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 settings:  
SEV Control = Disabled  
SMEE = Disabled  
Memory Target Speed = DDR6400  
Determinism Control = Manual  
Determinism Enable = Power  
TDP control = Manual  
TDP = 500  
Package Power Limit Control = Manual  
Package Power Limit = 500  
TSME = Disabled  
NUMA nodes per socket = NPS4

Sysinfo program /spec/speccpu2026rc2bsub/bin/sysinfo  
Rev: 069f95da7e7f5d81b2ce48a82150e54f  
running on smc2347turin-os Sat Jan 31 08:26:35 2026

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

-----  
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-----

1. uname -srvm

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### Platform Notes (Continued)

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 255 (255.4-1ubuntu8.10)
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 6.8.0-90-generic #91-Ubuntu SMP PREEMPT_DYNAMIC Tue Nov 18 14:14:30 UTC 2025 x86_64
-----
```

```
-----
2. w
08:26:35 up 13:08,  2 users,  load average: 0.14, 0.03, 0.01
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU      WHAT
amd       tty1    172.31.137.186 21:14      8:52m      0.00s     0.02s    sshd: amd [priv]
amd       tty1    -              Fri19     12:31m     0.08s     0.01s    -bash
-----
```

```
-----
3. Username
From environment variable $USER:  root
From the command 'logname':      amd
-----
```

```
-----
4. ulimit -a
time(seconds)      unlimited
file(blocks)       unlimited
data(kbytes)       unlimited
stack(kbytes)      unlimited
coredump(blocks)   0
memory(kbytes)     unlimited
-----
```

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### Platform Notes (Continued)

```
locked memory(kbytes) 2097152
process                3093218
nofiles                1024
vmemory(kbytes)       unlimited
locks                  unlimited
rtprio                 0
```

-----  
5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --system --deserialize=69
SCREEN -S cpu
/bin/bash
python3 ./run_amd_rate_aocc510_znver5_A1.py
/bin/bash ./amd_rate_aocc510_znver5_A1.sh
runcpu --config amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 fprate
runcpu --configfile amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 --nopower
--runmode rate --tune base --size test:train:refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2026.003/templogs/preenv.fprate.003.0.log --lognum 003.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /spec/speccpu2026rc2bsub
```

-----  
6. /proc/cpuinfo

```
model name      : AMD EPYC 9965 192-Core Processor
vendor_id       : AuthenticAMD
cpu family      : 26
model           : 17
stepping        : 0
microcode       : 0xb101047
bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size        : 192 4K pages
cpu cores       : 192
siblings        : 384
1 physical ids (chips)
384 processors (hardware threads)
physical id 0:  core ids 0-191
physical id 0:  apicids 0-383
```

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
```

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### Platform Notes (Continued)

Byte Order:	Little Endian
CPU(s):	384
On-line CPU(s) list:	0-383
Vendor ID:	AuthenticAMD
BIOS Vendor ID:	Advanced Micro Devices, Inc.
Model name:	AMD EPYC 9965 192-Core Processor
BIOS Model name:	AMD EPYC 9965 192-Core Processor
BIOS CPU family:	107
CPU family:	26
Model:	17
Thread(s) per core:	2
Core(s) per socket:	192
Socket(s):	1
Stepping:	0
Frequency boost:	enabled
CPU(s) scaling MHz:	101%
CPU max MHz:	2250.0000
CPU min MHz:	1500.0000
BogoMIPS:	4500.26

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 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 cppc 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
vnni 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
```

L1d cache:	9 MiB (192 instances)
L1i cache:	6 MiB (192 instances)
L2 cache:	192 MiB (192 instances)
L3 cache:	384 MiB (12 instances)
NUMA node(s):	4
NUMA node0 CPU(s):	0-47,192-239
NUMA node1 CPU(s):	48-95,240-287
NUMA node2 CPU(s):	96-143,288-335

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### Platform Notes (Continued)

```

NUMA node3 CPU(s):                144-191,336-383
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: 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
                                   always-on; RSB filling; PBRSE-eIBRS Not affected; BHI Not affected
Vulnerability Srbds:              Not affected
Vulnerability Tsx async abort:    Not affected
Vulnerability Vmscape:            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	384M	16	Unified	3	32768	1	64

8. numactl --hardware

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

```

available: 4 nodes (0-3)
node 0 cpus: 0-47,192-239
node 0 size: 192953 MB
node 0 free: 191595 MB
node 1 cpus: 48-95,240-287
node 1 size: 193503 MB
node 1 free: 191724 MB
node 2 cpus: 96-143,288-335
node 2 size: 193503 MB
node 2 free: 192434 MB
node 3 cpus: 144-191,336-383
node 3 size: 193422 MB
node 3 free: 192263 MB
node distances:
node  0  1  2  3
0:  10 12 12 12
1:  12 10 12 12
2:  12 12 10 12
3:  12 12 12 10

```

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### Platform Notes (Continued)

-----  
9. /proc/meminfo  
MemTotal: 791943520 kB

-----  
10. who -r  
run-level 5 Jan 30 19:18

-----  
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.10)  
Default Target Status  
graphical running

-----  
12. Services, from systemctl list-unit-files  
STATE UNIT FILES  
enabled ModemManager apparmor appport blk-availability cloud-config cloud-final cloud-init cloud-init-local console-setup cron dmesg e2scrub\_reap finalrd getty@ gpu-manager grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog secureboot-db setvtrgb snapd sysstat systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved systemd-timesyncd thermald ua-reboot-cmds ubuntu-advantage udisks2 ufw unattended-upgrades vgauth  
enabled-runtime netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs  
disabled console-getty debug-shell ipmievd iscsid nftables rsync serial-getty@ ssh 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-sysext systemd-time-wait-sync upower  
generated openipmi  
indirect systemd-sysupdate systemd-sysupdate-reboot uidd  
masked cryptdisks cryptdisks-early hwclock multipath-tools-boot screen-cleanup sudo x11-common

-----  
13. Linux kernel boot-time arguments, from /proc/cmdline  
BOOT\_IMAGE=/vmlinuz-6.8.0-90-generic  
root=/dev/mapper/ubuntu--vg-ubuntu--lv  
ro

-----  
14. cpupower frequency-info  
analyzing CPU 55:  
current policy: frequency should be within 1.50 GHz and 2.25 GHz.  
The governor "performance" may decide which speed to use within this range.

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### Platform Notes (Continued)

boost state support:  
Supported: yes  
Active: yes  
Boost States: 0  
Total States: 3  
Pstate-P0: 2250MHz

-----  
15. sysctl

```
kernel.numa_balancing          1
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
```

-----  
16. /sys/kernel/mm/transparent\_hugepage

```
defrag          [always] defer defer+madvice madvice never
enabled        [always] madvice 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
```

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(Continued on next page)



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### Platform Notes (Continued)

#### 18. OS release

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

#### 19. Disk information

SPEC is set to: /spec/speccpu2026rc2bsub

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/ubuntu--vg-ubuntu--lv	ext4	437G	25G	393G	6%	/

#### 20. /sys/devices/virtual/dmi/id

Vendor: Supermicro  
Product: AS -1116CS-TN  
Product Family: SMC H14  
Serial: S931316X4B12347

#### 21. 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 SK Hynix HMC94AHBRA277N 64 GB 2 rank 6400

#### 22. BIOS

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

BIOS Vendor: American Megatrends International, LLC.  
BIOS Version: 1.5a  
BIOS Date: 08/11/2025  
BIOS Revision: 5.35

### 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

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# SPEC CPU®2026 Floating Point Rate Result

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## Supermicro

CloudDC A+ Server AS -1116CS-TN  
(H14SHM , AMD EPYC 9965)

SPECrate®2026\_fp\_base = 498

SPECrate®2026\_fp\_peak = 498

**CPU2026 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Jan-2026  
**Hardware Availability:** Oct-2024  
**Software Availability:** Jan-2026

### Compiler Version Notes (Continued)

=====  
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)  
=====

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
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang
```

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## Base Optimization Flags (Continued)

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.ascenc\_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

Benchmarks using both C and C++:

709.cactus\_r: basepeak = yes

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## Peak Optimization Flags (Continued)

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/aocc-flags.2026-05-04.html>

<http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-Turin-revG.html>

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

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.xml>

<http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-Turin-revG.xml>

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

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