



SPEC CPU®2017 Integer Speed Result

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Fujitsu

PRIMERGY RX2450 M2,
AMD EPYC 9135, 3.65 GHz

SPECspeed®2017_int_base = 17.3

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19

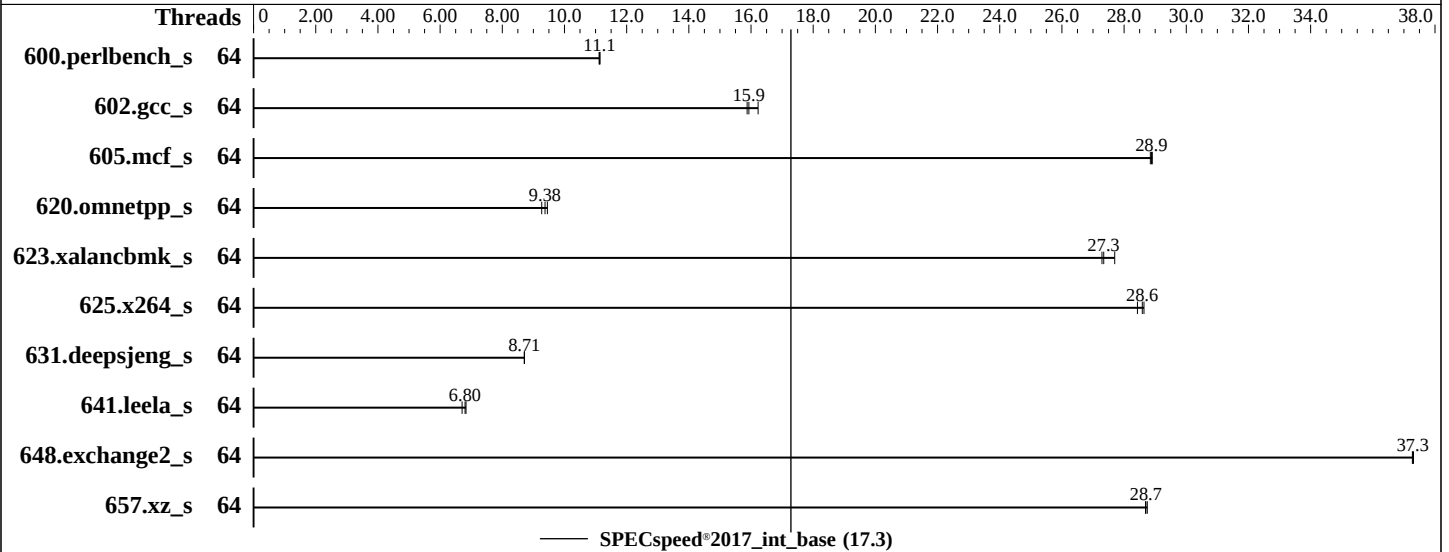
Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: May-2025

Hardware Availability: Nov-2024

Software Availability: Sep-2024



Hardware

CPU Name: AMD EPYC 9135
Max MHz: 4300
Nominal: 3650
Enabled: 32 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: 64 MB I+D on chip per chip, 16 MB shared / 4 cores
Other: None
Memory: 768 GB (24 x 32 GB 2Rx8 PC5-6400B-R, running at 6000)
Storage: 1 x SATA SSD, 3840 GB
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP6
kernel version 6.4.0-150600.21-default
Compiler: C/C++/Fortran: Version 5.0.0 of AOCC
Parallel: Yes
Firmware: Fujitsu BIOS Version V5.0.0.35 R2.5.0 for D4129-A1x. Released May-2025
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
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	64	159	11.1	<u>160</u>	<u>11.1</u>	160	11.1							
602.gcc_s	64	245	16.2	<u>250</u>	<u>15.9</u>	251	15.9							
605.mcf_s	64	164	28.8	163	28.9	<u>163</u>	<u>28.9</u>							
620.omnetpp_s	64	173	9.45	<u>174</u>	<u>9.38</u>	176	9.27							
623.xalancbmk_s	64	<u>51.8</u>	<u>27.3</u>	51.2	27.7	51.9	27.3							
625.x264_s	64	<u>61.7</u>	<u>28.6</u>	61.6	28.6	62.0	28.4							
631.deepsjeng_s	64	165	8.71	<u>164</u>	<u>8.71</u>	164	8.71							
641.leela_s	64	254	6.71	250	6.83	<u>251</u>	<u>6.80</u>							
648.exchange2_s	64	78.8	37.3	78.9	37.3	<u>78.8</u>	<u>37.3</u>							
657.xz_s	64	<u>215</u>	<u>28.7</u>	215	28.7	215	28.7							

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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 = "0-63"

LD_LIBRARY_PATH =

"/home/Benchmark/speccpu2017s/amd_speed_aocc500_znver5_A_lib/lib:/home/Benchmark/speccpu2017s/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 = "64"

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 configuration:

Determinism Slider = Power

TDP Control = Manual

TDP Limit = 240

Package Power Limit Control = Manual

Package Power Limit = 240

Power Profile Selection = High Performance

NUMA nodes per socket = NPS4

FAN Control = Full

Sysinfo program /home/Benchmark/speccpu2017s/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Thu May 15 02:27:57 2025

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

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1. uname -a
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 (254.10+suse.84.ge8d77af424)

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Platform Notes (Continued)

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 -a
Linux localhost 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)
x86_64 x86_64 x86_64 GNU/Linux

2. w
02:27:57 up 8:41, 2 users, load average: 6.16, 5.54, 3.37
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 17:56 8:26m 0.89s 0.05s /bin/bash ./amd_speed_aocc500_znver5_A1.sh
root pts/0 192.168.10.106 17:57 8:28m 0.10s 0.10s -bash

3. Username
From environment variable \$USER: root

4. ulimit -a
core file size (blocks, -c) unlimited
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited
pending signals (-i) 3090869
max locked memory (kbytes, -l) 2097152
max memory size (kbytes, -m) unlimited
open files (-n) 65536
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) 3090869
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited

5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize=42
login -- root
-bash
python3 ./run_amd_intspeed_aocc500_znver5_A1_3l.py
/bin/bash ./amd_speed_aocc500_znver5_A1.sh
runcpu --config amd_speed_aocc500_znver5_A1.cfg --tune base --reportable --iterations 3 intspeed
runcpu --configfile amd_speed_aocc500_znver5_A1.cfg --tune base --reportable --iterations 3 --nopower
--runmode speed --tune base --size test:train:refspeed intspeed --nopreenv --note-preenv --logfile
\$SPEC/tmp/CPU2017.001/templogs/preenv.intspeed.001.0.log --lognum 001.0 --from_runcpu 2
specperl \$SPEC/bin/sysinfo

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Platform Notes (Continued)

\$SPEC = /home/Benchmark/speccpu2017s

6. /proc/cpuinfo

```
model name      : AMD EPYC 9135 16-Core Processor
vendor_id       : AuthenticAMD
cpu family      : 26
model           : 2
stepping        : 1
microcode       : 0xb002147
bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size        : 192 4K pages
cpu cores       : 16
siblings        : 32
2 physical ids (chips)
64 processors (hardware threads)
physical id 0:  core ids 0-3,8-11,16-19,24-27
physical id 1:  core ids 0-3,8-11,16-19,24-27
physical id 0:  apicids 0-7,16-23,32-39,48-55
physical id 1:  apicids 64-71,80-87,96-103,112-119
```

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):            64
On-line CPU(s) list: 0-63
Vendor ID:         AuthenticAMD
BIOS Vendor ID:    Advanced Micro Devices, Inc.
Model name:        AMD EPYC 9135 16-Core Processor
BIOS Model name:   AMD EPYC 9135 16-Core Processor
BIOS CPU family:   107
CPU family:        26
Model:             2
Thread(s) per core: 2
Core(s) per socket: 16
Socket(s):         2
Stepping:          1
Frequency boost:    enabled
CPU(s) scaling MHz: 82%
CPU max MHz:       4305.8589
CPU min MHz:       1500.0000
BogoMIPS:          7288.50
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 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
```

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Platform Notes (Continued)

xsavc 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 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_l1d debug_swap

AMD-V

Virtualization:

L1d cache:

L1i cache:

L2 cache:

L3 cache:

NUMA node(s):

NUMA node0 CPU(s):

NUMA node1 CPU(s):

NUMA node2 CPU(s):

NUMA node3 CPU(s):

NUMA node4 CPU(s):

NUMA node5 CPU(s):

NUMA node6 CPU(s):

NUMA node7 CPU(s):

Vulnerability Gather data sampling:

Vulnerability Itlb multihit:

Vulnerability L1tf:

Vulnerability Mds:

Vulnerability Meltdown:

Vulnerability Mmio stale data:

Vulnerability Reg file data sampling:

Vulnerability Retbleed:

Vulnerability Spec rstack overflow:

Vulnerability Spec store bypass:

Vulnerability Spectre v1:

Vulnerability Spectre v2:

Vulnerability Srbds:

Vulnerability Tsx async abort:

1.5 MiB (32 instances)

1 MiB (32 instances)

32 MiB (32 instances)

128 MiB (8 instances)

8

0-3,32-35

4-7,36-39

8-11,40-43

12-15,44-47

16-19,48-51

20-23,52-55

24-27,56-59

28-31,60-63

Not affected

Not affected

Not affected

Not affected

Not affected

Not affected

Not affected

Not affected

Not affected

Mitigation; Speculative Store Bypass disabled via prctl

Mitigation; usercopy/swaps barriers and __user pointer sanitization

Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP

always-on; RSB filling; PBRBS-eIBRS Not affected; BHI Not affected

Not affected

Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	1.5M	12	Data	1	64	1	64
L1i	32K	1M	8	Instruction	1	64	1	64
L2	1M	32M	16	Unified	2	1024	1	64
L3	16M	128M	16	Unified	3	16384	1	64

8. numactl --hardware

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

available: 8 nodes (0-7)

node 0 cpus: 0-3,32-35

node 0 size: 95878 MB

node 0 free: 95490 MB

node 1 cpus: 4-7,36-39

node 1 size: 96765 MB

node 1 free: 96539 MB

node 2 cpus: 8-11,40-43

node 2 size: 96765 MB

node 2 free: 96457 MB

node 3 cpus: 12-15,44-47

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Platform Notes (Continued)

```
node 3 size: 96765 MB
node 3 free: 96557 MB
node 4 cpus: 16-19,48-51
node 4 size: 96765 MB
node 4 free: 96428 MB
node 5 cpus: 20-23,52-55
node 5 size: 96765 MB
node 5 free: 96542 MB
node 6 cpus: 24-27,56-59
node 6 size: 96765 MB
node 6 free: 96593 MB
node 7 cpus: 28-31,60-63
node 7 size: 96270 MB
node 7 free: 95852 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:      791289172 kB
```

```
-----
10. who -r
    run-level 3 May 14 17:46
```

```
-----
11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
    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 display-manager getty@ irqbalance
iscsi issue-generator kbdsettings kdump kdump-early kdump-notify klog lvm2-monitor nsd
postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore virtqemud 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 dnsmasq ebttables exchange-bmc-os-info
firewalld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievdev iscsi-init iscsid
issue-add-ssh-keys kexec-load ksm kvm_stat libvirt-guests lunmask man-db-create multipathd
nfs nfs-blkmap nfs-server nfs-server rpcbind rpmconfigcheck rsyncd serial-getty@
smartd_generate_opts snmpd snmptrapd strongswan strongswan-starter svnservice
systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-nspawn@
systemd-sysext systemd-time-wait-sync systemd-timesyncd tcsh udisks2 virtinterfaced
virtlockd virtlogd virtnetworkd virtnodevdev virtnwfilterd virtsecretvdev virtstoraged
vncserver@
indirect pcsd systemd-userdbd tftpd wickedd
```

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

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Platform Notes (Continued)

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=d1f4aaab-d342-4148-a01a-ae0d7fed3534
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=384M,high
crashkernel=72M,low
```

14. cpupower frequency-info

analyzing CPU 12:

current policy: frequency should be within 1.50 GHz and 3.65 GHz.

The governor "performance" may decide which speed to use within this range.

boost state support:

Supported: yes

Active: yes

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+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

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Platform Notes (Continued)

From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP6

19. Disk information

SPEC is set to: /home/Benchmark/speccpu2017s

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda3	xfs	3.5T	238G	3.3T	7%	/home

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

Vendor: FUJITSU
Product: PRIMERGY RX2450 M2
Product Family: SERVER
Serial: xxxxxxxxxx

21. dmidecode

Additional information from dmidecode 3.4 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 Micron Technology MTC20F2085S1RC64BD2 MWFF 32 GB 2 rank 6400, configured at 6000
12x SK Hynix HMC888AHBRA478N 32 GB 2 rank 6400, configured at 6000

22. BIOS

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

BIOS Vendor: FUJITSU // American Megatrends Inc.
BIOS Version: V5.0.0.35 R2.5.0 for D4129-A1x
BIOS Date: 04/28/2025
BIOS Revision: 2.5
Firmware Revision: 2.49

Compiler Version Notes

C | 600.perlbench_s(base) 602.gcc_s(base) 605.mcf_s(base) 625.x264_s(base) 657.xz_s(base)

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) 623.xalancbmk_s(base) 631.deepsjeng_s(base) 641.leela_s(base)

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

Fortran | 648.exchange2_s(base)

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

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Fujitsu

PRIMERGY RX2450 M2,
AMD EPYC 9135, 3.65 GHz

SPECspeed®2017_int_base = 17.3

SPECspeed®2017_int_peak = Not Run

CPU2017 License: 19

Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: May-2025

Hardware Availability: Nov-2024

Software Availability: Sep-2024

Compiler Version Notes (Continued)

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

-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3

-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp -lamdlibm

-lflang -lamdalloc

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Base Optimization Flags (Continued)

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
```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.0-Turin-RevC.html>

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.00.html>

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

<http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.0-Turin-RevC.xml>

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.00.xml>

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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