



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

( Tyrone Camarero SDA200A2R-424)

(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

CPU2017 License: 6042

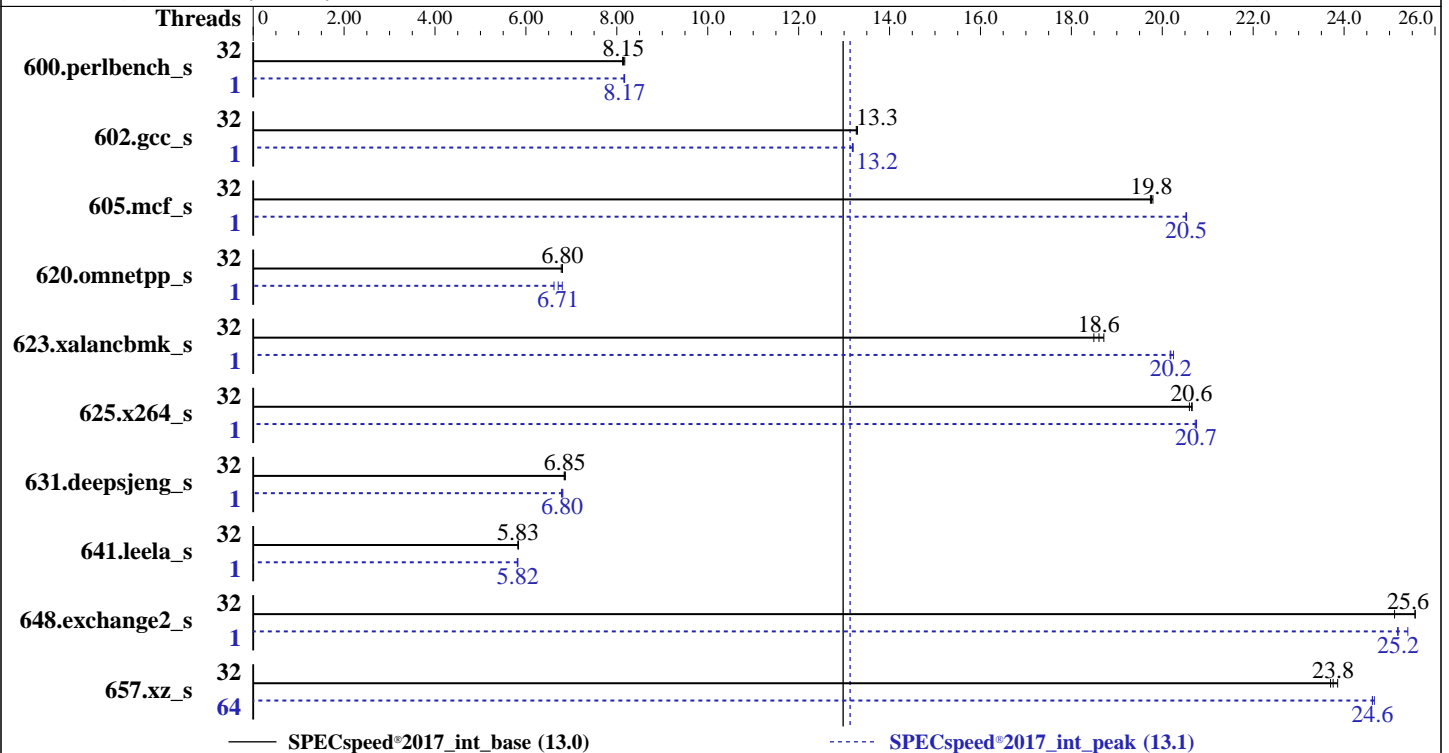
Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Jan-2024

Hardware Availability: Jun-2023

Software Availability: Nov-2023



### Hardware

CPU Name: AMD EPYC 9124  
 Max MHz: 3700  
 Nominal: 3000  
 Enabled: 32 cores, 2 chips, 2 threads/core  
 Orderable: 1,2 chips  
 Cache L1: 32 KB I + 32 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: 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R)  
 Storage: 1 x 1 TB NVMe  
 Other: None

### Software

OS: Ubuntu 20.04.4 LTS  
 kernel version 5.15.0-91-generic  
 Compiler: C/C++/Fortran: Version 4.0.0 of AOCC  
 Parallel: Yes  
 Firmware: Version 1.6 released Nov-2023  
 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.



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
( Tyrone Camarero SDA200A2R-424)  
(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Jan-2024  
**Hardware Availability:** Jun-2023  
**Software Availability:** Nov-2023

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	32	218	8.13	<b>218</b>	<b>8.15</b>	217	8.17	1	217	8.17	<b>217</b>	<b>8.17</b>	218	8.16
602.gcc_s	32	300	13.3	300	13.3	<b>300</b>	<b>13.3</b>	1	<b>302</b>	<b>13.2</b>	302	13.2	302	13.2
605.mcf_s	32	239	19.8	<b>239</b>	<b>19.8</b>	239	19.7	1	230	20.5	<b>230</b>	<b>20.5</b>	230	20.5
620.omnetpp_s	32	241	6.78	<b>240</b>	<b>6.80</b>	240	6.80	1	246	6.62	240	6.80	<b>243</b>	<b>6.71</b>
623.xalancbmk_s	32	76.6	18.5	75.7	18.7	<b>76.1</b>	<b>18.6</b>	1	70.2	20.2	70.0	20.2	<b>70.2</b>	<b>20.2</b>
625.x264_s	32	<b>85.4</b>	<b>20.6</b>	85.4	20.7	85.6	20.6	1	<b>85.0</b>	<b>20.7</b>	85.0	20.8	85.1	20.7
631.deepsjeng_s	32	209	6.87	209	6.84	<b>209</b>	<b>6.85</b>	1	<b>211</b>	<b>6.80</b>	211	6.78	210	6.81
641.leela_s	32	292	5.83	<b>293</b>	<b>5.83</b>	293	5.82	1	<b>293</b>	<b>5.82</b>	293	5.82	294	5.81
648.exchange2_s	32	117	25.1	115	25.6	<b>115</b>	<b>25.6</b>	1	117	25.2	<b>117</b>	<b>25.2</b>	116	25.4
657.xz_s	32	<b>260</b>	<b>23.8</b>	259	23.9	261	23.7	64	251	24.7	251	24.6	<b>251</b>	<b>24.6</b>

SPECspeed®2017\_int\_base = **13.0**

SPECspeed®2017\_int\_peak = **13.1**

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) only on request for base runs,  
'echo madvise > /sys/kernel/mm/transparent\_hugepage/enabled' run as root.  
To enable THP for all allocations for peak runs,  
'echo always > /sys/kernel/mm/transparent\_hugepage/enabled' and  
'echo always > /sys/kernel/mm/transparent\_hugepage/defrag' run as root.



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
( Tyrone Camarero SDA200A2R-424)  
(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Jan-2024  
**Hardware Availability:** Jun-2023  
**Software Availability:** Nov-2023

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
GOMP\_CPU\_AFFINITY = "0-63"  
LD\_LIBRARY\_PATH = "/home/cpu2017/amd\_speed\_aocc400\_znver4\_A\_lib/lib:"  
LIBOMP\_NUM\_HIDDEN\_HELPER\_THREADS = "0"  
MALLOC\_CONF = "oversize\_threshold:0,retain:true"  
OMP\_DYNAMIC = "false"  
OMP\_SCHEDULE = "static"  
OMP\_STACKSIZE = "128M"  
OMP\_THREAD\_LIMIT = "64"

Environment variables set by runcpu during the 600.perlbench\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 602.gcc\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 605.mcf\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 620.omnetpp\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 623.xalancbmk\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 625.x264\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 631.deepsjeng\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 641.leela\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 648.exchange2\_s peak run:  
GOMP\_CPU\_AFFINITY = "15"

Environment variables set by runcpu during the 657.xz\_s peak run:  
GOMP\_CPU\_AFFINITY = "0-63"  
LIBOMP\_NUM\_HIDDEN\_HELPER\_THREADS = "8"

## General Notes

Binaries were compiled on a system with 2x AMD EPYC 9174F CPU + 1.5TiB Memory using RHEL 8.6

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

Sysinfo program /home/cpu2017/bin/sysinfo

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
( Tyrone Camarero SDA200A2R-424)  
(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Jan-2024  
**Hardware Availability:** Jun-2023  
**Software Availability:** Nov-2023

## Platform Notes (Continued)

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on amd2-Super-Server Tue Jan 23 10:20:10 2024

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

-----  
Table of contents  
-----

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 245 (245.4-4ubuntu3.20)
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. 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 amd2-Super-Server 5.15.0-91-generic #101~20.04.1-Ubuntu SMP Thu Nov 16 14:22:28 UTC 2023 x86\_64  
x86\_64 x86\_64 GNU/Linux  
-----

-----  
2. w  
10:20:10 up 17:09, 1 user, load average: 0.07, 0.02, 0.00  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - Mon17 10.00s 1.51s 0.35s /bin/bash ./amd\_speed\_aocc400\_znver4\_A1.sh  
-----

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

-----  
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 4126174  
nofiles 1024  
vmemory(kbytes) unlimited  
locks unlimited  
-----

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

( Tyrone Camarero SDA200A2R-424)

(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Jan-2024

**Hardware Availability:** Jun-2023

**Software Availability:** Nov-2023

## Platform Notes (Continued)

rtprio 0

### 5. sysinfo process ancestry

```

/sbin/init splash
/bin/login -p --
-bash
python3 ./run_amd_speed_aocc400_znver4_A1.py
/bin/bash ./amd_speed_aocc400_znver4_A1.sh
runcpu --configfile amd_speed_aocc400_znver4_A1.cfg --tune all --reportable --iterations 3 intspeed
runcpu --configfile amd_speed_aocc400_znver4_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/templogs/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 9124 16-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 25
model          : 17
stepping       : 1
microcode      : 0xa10113e
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
TLB size       : 3584 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 2.34:

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
Address sizes:         52 bits physical, 57 bits virtual
CPU(s):                64
On-line CPU(s) list:   0-63
Thread(s) per core:    2
Core(s) per socket:    16
Socket(s):              2
NUMA node(s):          2
Vendor ID:              AuthenticAMD
CPU family:             25
Model:                 17
Model name:             AMD EPYC 9124 16-Core Processor
Stepping:               1
Frequency boost:       enabled
CPU MHz:                1500.000
CPU max MHz:            3711.9141
CPU min MHz:            1500.0000

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

( Tyrone Camarero SDA200A2R-424)

(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

CPU2017 License: 6042

Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Jan-2024

Hardware Availability: Jun-2023

Software Availability: Nov-2023

## Platform Notes (Continued)

```

BogoMIPS:                    5999.73
Virtualization:              AMD-V
L1d cache:                   1 MiB
L1i cache:                   1 MiB
L2 cache:                    32 MiB
L3 cache:                    128 MiB
NUMA node0 CPU(s):          0-15,32-47
NUMA node1 CPU(s):          16-31,48-63
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 Retbleed:     Not affected
Vulnerability Spec rstack overflow: Mitigation; safe RET
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1:    Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:    Mitigation; Retpolines, IBPB conditional, IBRS_FW, STIBP always-on, RSB
                               filling, PBRSE-eIBRS Not affected
Vulnerability Srbds:        Not affected
Vulnerability Tsx async abort: Not affected
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 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 invpcid_single hw_pstate ssbd mba ibrs ibpb stibp vmmcall
                               fsgsbase 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 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 v_spec_ctrl avx512vbmi umip pku ospke avx512_vbmi2
                               gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpopcntdq la57
                               rdpid overflow_recov succor smca fsrm flush_l1d

```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL
L1d	32K	1M	8	Data	1
L1i	32K	1M	8	Instruction	1
L2	1M	32M	8	Unified	2
L3	16M	128M	16	Unified	3

8. numactl --hardware

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

```

available: 2 nodes (0-1)
node 0 cpus: 0-15,32-47
node 0 size: 515621 MB
node 0 free: 514021 MB
node 1 cpus: 16-31,48-63
node 1 size: 515996 MB
node 1 free: 514570 MB
node distances:
node  0  1
 0:  10  32

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

( Tyrone Camarero SDA200A2R-424)

(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

CPU2017 License: 6042

Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Jan-2024

Hardware Availability: Jun-2023

Software Availability: Nov-2023

## Platform Notes (Continued)

1: 32 10

9. /proc/meminfo

MemTotal: 1056377596 kB

10. who -r

run-level 3 Jan 22 17:10

11. Systemd service manager version: systemd 245 (245.4-4ubuntu3.20)

Default Target Status  
multi-user degraded

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

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
* fwupd-refresh.service	loaded	failed	failed	Refresh fwupd metadata and update motd

13. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon anacron apparmor autovt@ avahi-daemon bluetooth console-setup cron cups cups-browsed dmesg e2scrub_reap getty@ gpu-manager grub-common grub-initrd-fallback irqbalance kerneloops keyboard-setup network-manager networkd-dispatcher ondemand openvpn pppd-dns rsync rsyslog secureboot-db setvtrgb snapd ssh sshd switcheroo-control syslog systemd-pstore systemd-resolved systemd-timesyncd thermald ua-reboot-cmds udisks2 ufw unattended-upgrades whoopsie wpa_supplicant
enabled-runtime	netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled	acpid brltty console-getty debug-shell ipmievd openvpn-client@ openvpn-server@ openvpn@ rtkit-daemon serial-getty@ speech-dispatcher speech-dispatcherd systemd-boot-check-no-failures systemd-network-generator systemd-networkd systemd-networkd-wait-online systemd-time-wait-sync upower wpa_supplicant-nl80211@ wpa_supplicant-wired@ wpa_supplicant@
generated	apport ipmidrv openipmi
indirect	display-manager lightdm saned@ spice-vdagent spice-vdagentd uidd
masked	alsa-utils cryptdisks cryptdisks-early hwclock pulseaudio-enable-autospawn rc rcS saned sudo x11-common

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

BOOT\_IMAGE=/boot/vmlinuz-5.15.0-91-generic  
root=UUID=1ae71a13-cac0-48f6-b6e6-e15e5e687f57  
ro  
quiet  
splash  
vt.handoff=7

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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
( Tyrone Camarero SDA200A2R-424)  
(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Jan-2024  
**Hardware Availability:** Jun-2023  
**Software Availability:** Nov-2023

## Platform Notes (Continued)

```

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
From /etc/*-release /etc/*-version
os-release Ubuntu 20.04.4 LTS

```

```

-----
19. Disk information
SPEC is set to: /home/cpu2017
Filesystem  Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p2 ext4  938G  20G  871G   3% /

```

```

-----
20. /sys/devices/virtual/dmi/id
Vendor:      Tyrone Systems
Product:     Tyrone Camarero SDA200A2R-424
Product Family: SMC H13
Serial:      A509935X3C01325

```

```

-----
21. dmidecode
Additional information from dmidecode 3.2 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:
 8x NO DIMM NO DIMM
16x Samsung M321R8GA0BB0-CQKZJ 64 GB 2 rank 4800

```

22. BIOS

(Continued on next page)





# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
( Tyrone Camarero SDA200A2R-424)  
(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Jan-2024  
**Hardware Availability:** Jun-2023  
**Software Availability:** Nov-2023

## Platform Notes (Continued)

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

BIOS Vendor: American Megatrends International, LLC.  
BIOS Version: 1.6  
BIOS Date: 11/16/2023  
BIOS Revision: 5.27

## 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 14.0.6 (CLANG: AOCC\_4.0.0-Build#434 2022\_10\_28) (based on LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-4.0.0/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 14.0.6 (CLANG: AOCC\_4.0.0-Build#434 2022\_10\_28) (based on LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-4.0.0/bin  
=====

=====  
Fortran | 648.exchange2\_s(base, peak)  
=====

AMD clang version 14.0.6 (CLANG: AOCC\_4.0.0-Build#434 2022\_10\_28) (based on LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-4.0.0/bin  
=====

## Base Compiler Invocation

C benchmarks:  
clang

C++ benchmarks:  
clang++

Fortran benchmarks:  
flang



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

( Tyrone Camarero SDA200A2R-424)

(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Jan-2024

**Hardware Availability:** Jun-2023

**Software Availability:** Nov-2023

## 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 -O3 -march=znver4 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -fstruct-layout=7
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -fstrip-mining -mllvm -reduce-array-computations=3
-DSPEC_OPENMP -zopt -fopenmp=libomp -lomp -lamdlibm -lflang
-lamdalloc
```

C++ benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver4
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-mllvm -unroll-threshold=100 -finline-aggressive
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -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,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop
-Wl,-mllvm -Wl,-enable-iv-split -O3 -march=znver4 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -mllvm -optimize-strided-mem-cost
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -fopenmp=libomp
-lomp -lamdlibm -lflang -lamdalloc
```



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

( Tyrone Camarero SDA200A2R-424)

(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Jan-2024

**Hardware Availability:** Jun-2023

**Software Availability:** Nov-2023

## 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++

Fortran benchmarks:

flang

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
600.perlbench_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-allow-multiple-definition -Ofast -march=znver4
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-fstruct-layout=9 -mllvm -unroll-threshold=50
-fremap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
-fopenmp=libomp -lomp -lamdlibm -lamdalloc -lflang
```

```
602.gcc_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

( Tyrone Camarero SDA200A2R-424)

(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Jan-2024

**Hardware Availability:** Jun-2023

**Software Availability:** Nov-2023

## Peak Optimization Flags (Continued)

602.gcc\_s (continued):

```
-Wl,-allow-multiple-definition -z muldefs -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math -fopenmp
-flto -fstruct-layout=9 -mllvm -unroll-threshold=50
-fremap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
-fopenmp=libomp -lomp -lamdlibm -lamdalloc -lflang
```

605.mcf\_s: Same as 600.perlbench\_s

625.x264\_s: Same as 600.perlbench\_s

657.xz\_s: Same as 600.perlbench\_s

C++ benchmarks:

620.omnetpp\_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

```
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math -fopenmp
-flto -finline-aggressive -mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
-fvirtual-function-elimination -fvisibility=hidden
-fopenmp=libomp -lomp -lamdlibm -lamdalloc-ext -lflang
```

623.xalancbmk\_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

```
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-do-block-reorder=aggressive -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math -fopenmp
-flto -finline-aggressive -mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
-mllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden
-fopenmp=libomp -lomp -lamdlibm -lamdalloc-ext -lflang
```

631.deepsjeng\_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

```
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math -fopenmp
-flto -finline-aggressive -mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
-fvirtual-function-elimination -fvisibility=hidden
-fopenmp=libomp -lomp -lamdlibm -lamdalloc -lflang
```

641.leela\_s: Same as 631.deepsjeng\_s

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
( Tyrone Camarero SDA200A2R-424)  
(3.00 GHz, AMD EPYC 9124)

SPECspeed®2017\_int\_base = 13.0

SPECspeed®2017\_int\_peak = 13.1

**CPU2017 License:** 6042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Jan-2024  
**Hardware Availability:** Jun-2023  
**Software Availability:** Nov-2023

## Peak Optimization Flags (Continued)

Fortran benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop
-Wl,-mllvm -Wl,-enable-iv-split -O3 -march=znver4 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -mllvm -optimize-strided-mem-cost
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -fopenmp=libomp
-lomp -lamdlibm -lamdalloc -lflang
```

## 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/aocc400-flags.html>  
<http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-Genoa-revC.html>

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

<http://www.spec.org/cpu2017/flags/aocc400-flags.xml>  
<http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-Genoa-revC.xml>

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU®2017 v1.1.9 on 2024-01-22 23:50:09-0500.  
Report generated on 2024-03-12 10:27:16 by CPU2017 PDF formatter v6716.  
Originally published on 2024-03-11.