



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M2,  
AMD EPYC 9575F, 3.30 GHz

SPECspeed®2017\_int\_base = 21.3

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 19

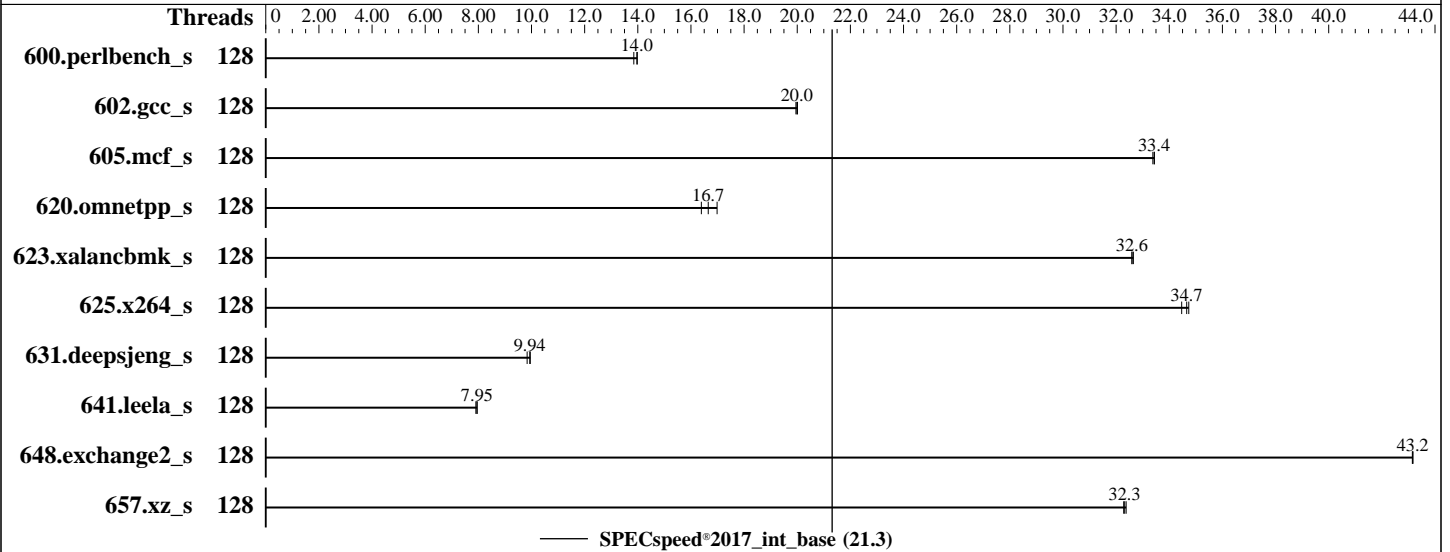
Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Oct-2024

Hardware Availability: Jan-2025

Software Availability: Sep-2024



### Hardware

CPU Name: AMD EPYC 9575F  
 Max MHz: 5000  
 Nominal: 3300  
 Enabled: 128 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: 256 MB I+D on chip per chip, 32 MB shared / 8 cores  
 Other: None  
 Memory: 768 GB (24 x 32 GB 2Rx8 PC5-6400B-R, running at 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 R2.2.0 for D4129-A1x. Released Jan-2025 tested as V5.0.0.35 R9.90.0 for D4129-A1x Sep-2024  
 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 | 128     | <b><u>127</u></b>  | <b><u>14.0</u></b> | 127                | 14.0               | 128                | 13.8               |         |         |       |         |       |         |       |
| 602.gcc_s       | 128     | <b><u>199</u></b>  | <b><u>20.0</u></b> | 200                | 20.0               | 199                | 20.0               |         |         |       |         |       |         |       |
| 605.mcf_s       | 128     | 141                | 33.4               | 141                | 33.4               | <b><u>141</u></b>  | <b><u>33.4</u></b> |         |         |       |         |       |         |       |
| 620.omnetpp_s   | 128     | 96.0               | 17.0               | <b><u>98.0</u></b> | <b><u>16.7</u></b> | 99.5               | 16.4               |         |         |       |         |       |         |       |
| 623.xalancbmk_s | 128     | 43.4               | 32.6               | 43.5               | 32.6               | <b><u>43.5</u></b> | <b><u>32.6</u></b> |         |         |       |         |       |         |       |
| 625.x264_s      | 128     | <b><u>50.9</u></b> | <b><u>34.7</u></b> | 51.2               | 34.5               | 50.8               | 34.7               |         |         |       |         |       |         |       |
| 631.deepsjeng_s | 128     | 146                | 9.84               | 144                | 9.95               | <b><u>144</u></b>  | <b><u>9.94</u></b> |         |         |       |         |       |         |       |
| 641.leela_s     | 128     | 216                | 7.91               | 215                | 7.95               | <b><u>215</u></b>  | <b><u>7.95</u></b> |         |         |       |         |       |         |       |
| 648.exchange2_s | 128     | 68.1               | 43.2               | <b><u>68.1</u></b> | <b><u>43.2</u></b> | 68.1               | 43.1               |         |         |       |         |       |         |       |
| 657.xz_s        | 128     | <b><u>191</u></b>  | <b><u>32.3</u></b> | 191                | 32.4               | 191                | 32.3               |         |         |       |         |       |         |       |

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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 = "0-255"

LD\_LIBRARY\_PATH =

"/home/Benchmark/speccpu2017s-Turin/amd\_speed\_aocc500\_znver5\_A\_lib/lib:/home/Benchmark/speccpu2017s-Tu  
rin/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 = "256"

## 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 = 400

Package Power Limit Control = Manual

Package Power Limit = 400

Power Profile Selection = High Performance

NUMA nodes per socket = NPS4

FAN Control = Full

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

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Fri Oct 11 23:16:23 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 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
23:16:23 up 7 min, 1 user, load average: 0.29, 0.56, 0.46
USER      TTY      FROM          LOGIN@      IDLE        JCPU        PCPU        WHAT
root      tty1    -             23:15      15.00s     0.87s     0.15s /bin/bash ./amd_speed_aocc500_znver5_A1.sh
```

```
-----
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) 3090437
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) 3090437
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 intspeer
runcpu --configfile amd_speed_aocc500_znver5_A1.cfg --tune base --reportable --iterations 3 --nopower
--runmode speed --tune base --size test:train:refspeed intspeer --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.001/tempslogs/preenv.intspeer.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/Benchmark/speccpu2017s-Turin
```

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## Platform Notes (Continued)

```

-----
6. /proc/cpuinfo
model name      : AMD EPYC 9575F 64-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 26
model          : 2
stepping       : 1
microcode      : 0xb002116
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size      : 192 4K pages
cpu cores     : 64
siblings      : 128
2 physical ids (chips)
256 processors (hardware threads)
physical id 0: core ids 0-63
physical id 1: core ids 0-63
physical id 0: apicids 0-127
physical id 1: apicids 128-255

```

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):                256
On-line CPU(s) list:  0-255
Vendor ID:             AuthenticAMD
BIOS Vendor ID:       Advanced Micro Devices, Inc.
Model name:            AMD EPYC 9575F 64-Core Processor
BIOS Model name:       AMD EPYC 9575F 64-Core Processor
BIOS CPU family:      107
CPU family:            26
Model:                 2
Thread(s) per core:   2
Core(s) per socket:   64
Socket(s):             2
Stepping:              1
Frequency boost:      enabled
CPU(s) scaling MHz:   66%
CPU max MHz:           5008.0068
CPU min MHz:           1500.0000
BogoMIPS:              6590.03
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
xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total

```

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### Platform Notes (Continued)

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 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

**Virtualization:**

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): 8  
NUMA node0 CPU(s): 0-15,128-143  
NUMA node1 CPU(s): 16-31,144-159  
NUMA node2 CPU(s): 32-47,160-175  
NUMA node3 CPU(s): 48-63,176-191  
NUMA node4 CPU(s): 64-79,192-207  
NUMA node5 CPU(s): 80-95,208-223  
NUMA node6 CPU(s): 96-111,224-239  
NUMA node7 CPU(s): 112-127,240-255

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; userscopy/swaps barriers and \_\_user pointer sanitization  
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP  
always-on; RSB filling; PBRBSB-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.

available: 8 nodes (0-7)  
node 0 cpus: 0-15,128-143  
node 0 size: 95877 MB  
node 0 free: 95417 MB  
node 1 cpus: 16-31,144-159  
node 1 size: 96721 MB  
node 1 free: 96235 MB  
node 2 cpus: 32-47,160-175  
node 2 size: 96759 MB  
node 2 free: 96295 MB  
node 3 cpus: 48-63,176-191  
node 3 size: 96759 MB

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## Platform Notes (Continued)

```

node 3 free: 96217 MB
node 4 cpus: 64-79,192-207
node 4 size: 96759 MB
node 4 free: 96393 MB
node 5 cpus: 80-95,208-223
node 5 size: 96759 MB
node 5 free: 96348 MB
node 6 cpus: 96-111,224-239
node 6 size: 96759 MB
node 6 free: 96377 MB
node 7 cpus: 112-127,240-255
node 7 size: 96239 MB
node 7 free: 95819 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:      791178680 kB

```

```

10. who -r
    run-level 3 Oct 11 23:08

```

```

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 nscd
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 autofsd 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 ipmievd iscsi-init iscsid
issue-add-ssh-keys kexec-load ksm kvm_stat libvirt-guests lunmask man-db-create multipathd
nfs nfs-blkmap nfs-server nfserver rpccbind 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 tcsd udisks2 virtinterfaced
virtlockd virtlogd virtnetworkd virtnodevdev virtnwfilterd virtsecret d virtstoraged
vncserver@
indirect pcsd systemd-userdbd tftpd wickedd

```

```

13. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default

```

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### Platform Notes (Continued)

```
root=UUID=dlf4aaab-d342-4148-a01a-ae0d7fed3534
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=384M,high
crashkernel=72M,low
```

```
-----
14. cpupower frequency-info
analyzing CPU 144:
  current policy: frequency should be within 1.50 GHz and 3.30 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
From /etc/*-release /etc/*-version
```

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## Platform Notes (Continued)

os-release SUSE Linux Enterprise Server 15 SP6

### 19. Disk information

SPEC is set to: /home/Benchmark/speccpu2017s-Turin  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sdb3 xfs 3.5T 326G 3.2T 10% /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:

7x Micron Technology MTC20F2085S1RC64BD2 MWFF 32 GB 2 rank 6400, configured at 6000  
5x Micron Technology MTC20F2085S1RC64BD2 UXCC 32 GB 2 rank 6400, configured at 6000  
12x Samsung M321R4GA3EB2-CCPKC 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 R9.90.0 for D4129-Alx  
BIOS Date: 09/13/2024  
BIOS Revision: 9.90  
Firmware Revision: 2.45

## 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 9575F, 3.30 GHz

SPECspeed®2017\_int\_base = 21.3

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 19

Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Oct-2024

Hardware Availability: Jan-2025

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.gc\_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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

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## Fujitsu

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SPECspeed®2017\_int\_base = 21.3

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CPU2017 License: 19

Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Oct-2024

Hardware Availability: Jan-2025

Software Availability: Sep-2024

## 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/aocc500-flags.2024-10-10.00.html>

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

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

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

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

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