



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19

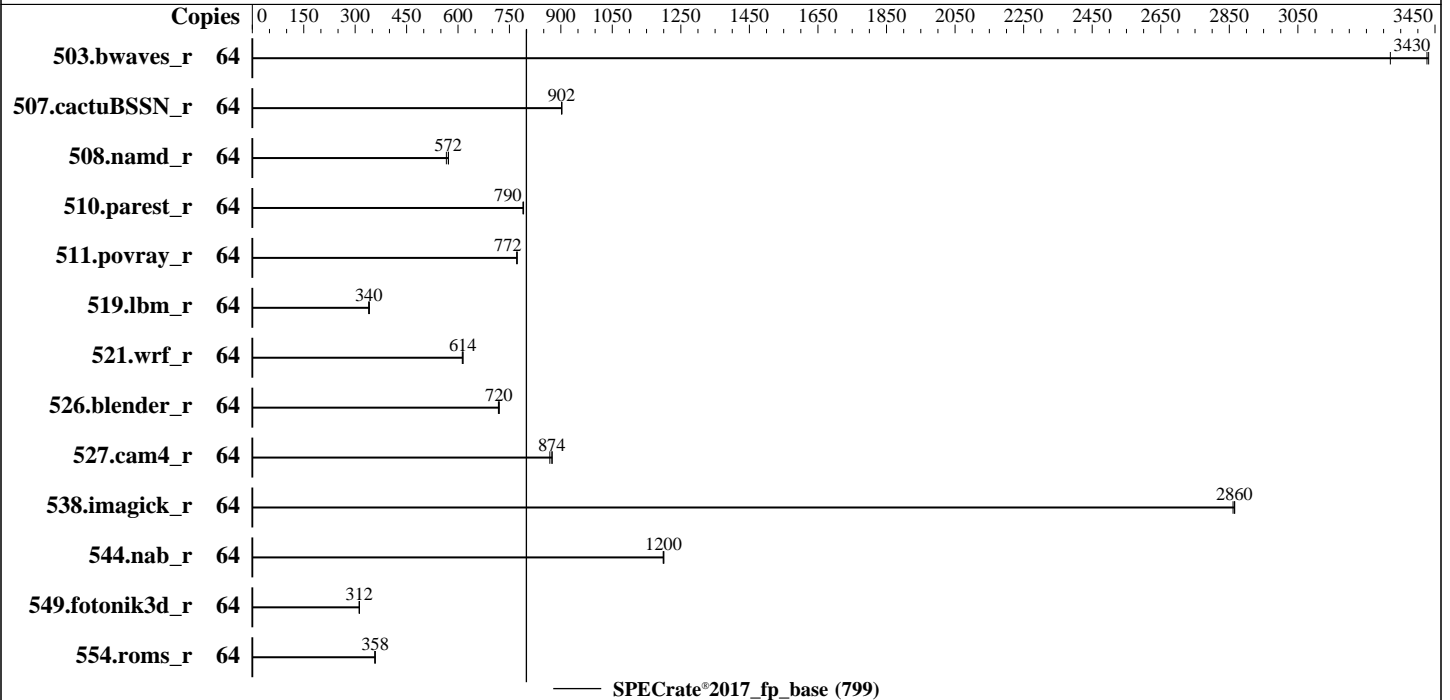
Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Jan-2025

Hardware Availability: Jan-2025

Software Availability: Sep-2024



Hardware

CPU Name: AMD EPYC 9555
 Max MHz: 4400
 Nominal: 3200
 Enabled: 64 cores, 1 chip
 Orderable: 1 chip
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 256 MB I+D on chip per chip, 32 MB shared / 8 cores
 Other: None
 Memory: 384 GB (12 x 32 GB 2Rx8 PC5-5600B-R, running at 4800)
 Storage: 1 x SATA SSD, 960 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: No
 Firmware: Fujitsu BIOS Version V5.0.0.35 R2.4.0 for D4130-A1x. Released Feb-2025 tested as V5.0.0.35 R2.3.0_PI-1003 for D4130-A1x Dec-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



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	64	<u>187</u>	<u>3430</u>	187	3430	193	3320							
507.cactuBSSN_r	64	89.7	903	<u>89.8</u>	<u>902</u>	89.8	902							
508.namd_r	64	106	572	<u>106</u>	<u>572</u>	107	566							
510.parest_r	64	212	791	212	790	<u>212</u>	<u>790</u>							
511.povray_r	64	193	772	<u>194</u>	<u>772</u>	194	771							
519.lbm_r	64	<u>198</u>	<u>340</u>	198	341	198	340							
521.wrf_r	64	<u>233</u>	<u>614</u>	233	614	234	612							
526.blender_r	64	135	720	136	718	<u>135</u>	<u>720</u>							
527.cam4_r	64	129	868	<u>128</u>	<u>874</u>	128	875							
538.imagick_r	64	55.6	2860	<u>55.6</u>	<u>2860</u>	55.5	2870							
544.nab_r	64	<u>89.8</u>	<u>1200</u>	89.9	1200	89.7	1200							
549.fotonik3d_r	64	798	312	<u>799</u>	<u>312</u>	800	312							
554.roms_r	64	284	358	<u>284</u>	<u>358</u>	285	357							

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

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,

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Operating System Notes (Continued)

```
'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 =
"/home/Benchmark/speccpu2017r-Turin/amd_rate_aocc500_znver5_A_lib/lib:/home/Benchmark/speccpu2017r-Turin/amd_rate_aocc500_znver5_A_lib/lib32:"
MALLOC_CONF = "retain:true"

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

BIOS configuration:
SMT control = Disabled
SVM Mode = Disabled
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/speccpu2017r-Turin/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Fri Jan 24 10:24:08 2025

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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19

Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Jan-2025

Hardware Availability: Jan-2025

Software Availability: Sep-2024

Platform Notes (Continued)

```

9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
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
10:24:08 up 6 min, 1 user, load average: 0.11, 0.19, 0.13
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 10:19 16.00s 0.88s 0.07s /bin/bash ./amd_rate_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) 1542887
max locked memory (kbytes, -l) 2097152
max memory size (kbytes, -m) unlimited
open files (-n) 1024
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) 1542887
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_fprate_aocc500_znver5_A1_31.py
/bin/bash ./amd_rate_aocc500_znver5_A1.sh
runcpu --config amd_rate_aocc500_znver5_A1.cfg --tune base --reportable --iterations 3 fprate
runcpu --configfile amd_rate_aocc500_znver5_A1.cfg --tune base --reportable --iterations 3 --nopower
--runmode rate --tune base --size test:train:refrate fprate --nopreenv --note-preenv --logfile

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Platform Notes (Continued)

```
$SPEC/tmp/CPU2017.001/templogs/preenv.fprate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/Benchmark/speccpu2017r-Turin
```

```
-----
6. /proc/cpuinfo
model name      : AMD EPYC 9555 64-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 26
model          : 2
stepping       : 1
microcode      : 0xb00211e
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size       : 192 4K pages
cpu cores      : 64
siblings       : 64
1 physical ids (chips)
64 processors (hardware threads)
physical id 0: core ids 0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119
physical id 0: apicids 0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119
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 9555 64-Core Processor
BIOS Model name:      AMD EPYC 9555 64-Core Processor
BIOS CPU family:      107
CPU family:            26
Model:                 2
Thread(s) per core:   1
Core(s) per socket:   64
Socket(s):             1
Stepping:              1
Frequency boost:      enabled
CPU(s) scaling MHz:   73%
CPU max MHz:           4409.3750
CPU min MHz:           1500.0000
BogoMIPS:              6390.45
Flags:                 fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb
rdtscp lm constant_tsc rep_good amd_lbr_v2 nopl nonstop_tsc cpuid
extd_apicid aperfmperf rapl pni pclmulqdq monitor ssse3 fma cx16 pcid
sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx f16c rdrand lahf_lm
cmp_legacy extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate ssbd mba perfmon_v2
ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase tsc_adjust bmi1 avx2
smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
avx512ifma clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

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 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: 3 MiB (64 instances)
L1i cache: 2 MiB (64 instances)
L2 cache: 64 MiB (64 instances)
L3 cache: 256 MiB (8 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-15
NUMA node1 CPU(s): 16-31
NUMA node2 CPU(s): 32-47
NUMA node3 CPU(s): 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 Reg file data sampling: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec rstack overflow: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
disabled; RSB filling; PBRSE-eIBRS Not affected; BHI Not affected
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected

```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	3M	12	Data	1	64	1	64
L1i	32K	2M	8	Instruction	1	64	1	64
L2	1M	64M	16	Unified	2	1024	1	64
L3	32M	256M	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: 0-15
node 0 size: 95897 MB
node 0 free: 95397 MB
node 1 cpus: 16-31
node 1 size: 96763 MB
node 1 free: 96091 MB
node 2 cpus: 32-47
node 2 size: 96763 MB
node 2 free: 96355 MB
node 3 cpus: 48-63
node 3 size: 96323 MB
node 3 free: 95930 MB
node distances:
node  0  1  2  3
0:  10  12  12  12

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Platform Notes (Continued)

1: 12 10 12 12
2: 12 12 10 12
3: 12 12 12 10

9. /proc/meminfo
MemTotal: 395005920 kB

10. who -r
run-level 3 Jan 24 10:18

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	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 firewallld 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 nfsserver 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-sysexit systemd-time-wait-sync systemd-timesyncd tcsd udisks2 virtinterfaced virtlockd virtlogd virtnetworkd virtnodeudev virtnwfilterd virtsecret d virtstoraged vncserver@
indirect	pcscd systemd-userdbd tftp wickedd

13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=803d1916-887f-4e1e-bc36-alab2542d352
splash=silent
resume=/dev/disk/by-uuid/ff08e126-00b4-4583-943a-09584dbe7c67
mitigations=auto
quiet
security=apparmor
crashkernel=369M,high
crashkernel=72M,low

14. cpupower frequency-info
analyzing CPU 9:
current policy: frequency should be within 1.50 GHz and 3.20 GHz.
The governor "performance" may decide which speed to use within this range.
boost state support:
Supported: yes
Active: yes

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Platform Notes (Continued)

```

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+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 SUSE Linux Enterprise Server 15 SP6

-----
19. Disk information
   SPEC is set to: /home/Benchmark/speccpu2017r-Turin
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda3       xfs   476G  33G  444G   7% /home

-----
20. /sys/devices/virtual/dmi/id
   Vendor:      FUJITSU
   Product:     PRIMERGY RX1440 M2
   Product Family: SERVER
   Serial:      XXXXXXXXXXXX

-----
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

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Platform Notes (Continued)

determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

Memory:

12x Samsung M321R4GA3PB0-CWMKH 32 GB 2 rank 5600, configured at 4800

22. BIOS

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

BIOS Vendor: FUJITSU // American Megatrends Inc.
BIOS Version: V5.0.0.35 R2.3.0_PI-1003 for D4130-Alx
BIOS Date: 12/24/2024
BIOS Revision: 2.3
Firmware Revision: 2.47

Compiler Version Notes

=====
C | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(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++ | 508.namd_r(base) 510.parest_r(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++, C | 511.povray_r(base) 526.blender_r(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
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++, C, Fortran | 507.cactuBSSN_r(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
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
=====

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
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

Fortran | 503.bwaves_r(base) 549.fotonik3d_r(base) 554.roms_r(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, C | 521.wrf_r(base) 527.cam4_r(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
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

Benchmarks using both Fortran and C:
flang clang

Benchmarks using both C and C++:
clang++ clang

Benchmarks using Fortran, C, and C++:
clang++ clang flang



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Base Portability Flags

```
503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_CASE_FLAG -Mbyteswapio -DSPEC_LP64
526.blender_r: -funsigned-char -DSPEC_LP64
527.cam4_r: -DSPEC_CASE_FLAG -DSPEC_LP64
538.imagick_r: -DSPEC_LP64
544.nab_r: -DSPEC_LP64
549.fotonik3d_r: -DSPEC_LP64
554.roms_r: -DSPEC_LP64
```

Base Optimization Flags

C benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather -O3
-march=znver5 -fveclib=AMDLIBM -ffast-math -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 -ldl
```

C++ benchmarks:

```
-m64 -std=c++14 -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
-O3 -march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang -ldl
```

Fortran benchmarks:

```
-m64 -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 -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -flto -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

-lflang -ldl

Benchmarks using both Fortran and C:

-m64 -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 -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -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 -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -fepilog-vectorization-of-inductions
-lamdlibm -lamdalloc -lflang -ldl

Benchmarks using both C and C++:

-m64 -std=c++14 -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
-O3 -march=znver5 -fveclib=AMDLIBM -ffast-math -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
-ldl

Benchmarks using Fortran, C, and C++:

-m64 -std=c++14 -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
-O3 -march=znver5 -fveclib=AMDLIBM -ffast-math -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 -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -fepilog-vectorization-of-inductions
-lamdlibm -lamdalloc -lflang -ldl

Base Other Flags

C benchmarks:

-Wno-unused-command-line-argument

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX1440 M2,
AMD EPYC 9555, 3.20 GHz

SPECrate®2017_fp_base = 799

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 19
Test Sponsor: Fujitsu
Tested by: Fujitsu

Test Date: Jan-2025
Hardware Availability: Jan-2025
Software Availability: Sep-2024

Base Other Flags (Continued)

C++ benchmarks:

-Wno-unused-command-line-argument

Fortran benchmarks:

-Wno-unused-command-line-argument

Benchmarks using both Fortran and C:

-Wno-unused-command-line-argument

Benchmarks using both C and C++:

-Wno-unused-command-line-argument

Benchmarks using Fortran, C, and C++:

-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-RevB.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-RevB.xml>

SPEC CPU and SPECrate 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.

Tested with SPEC CPU®2017 v1.1.9 on 2025-01-23 20:24:08-0500.

Report generated on 2025-02-11 17:15:56 by CPU2017 PDF formatter v6716.

Originally published on 2025-02-11.