



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

CPU2017 License: 19

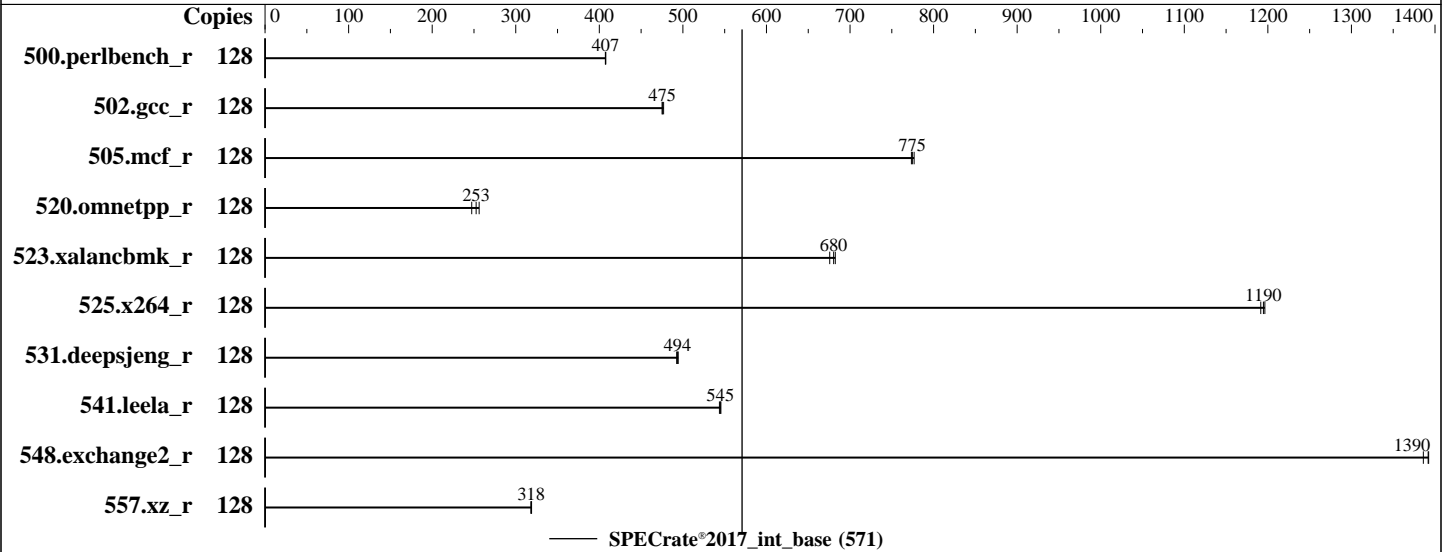
Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Oct-2021

Hardware Availability: Oct-2021

Software Availability: Mar-2021



### Hardware

CPU Name: AMD EPYC 75F3  
 Max MHz: 4000  
 Nominal: 2950  
 Enabled: 64 cores, 2 chips, 2 threads/core  
 Orderable: 2 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 512 KB I+D on chip per core  
 L3: 256 MB I+D on chip per chip, 32 MB shared / 4 cores  
 Other: None  
 Memory: 2 TB (32 x 64 GB 2Rx4 PC4-3200V-L)  
 Storage: 1 x PCIe SSD, 2TB  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP2 (x86\_64)  
 kernel version 5.3.18-22-default  
 Compiler: C/C++/Fortran: Version 3.0.0 of AOCC  
 Parallel: No  
 Firmware: Fujitsu BIOS Version 2.1.V2 Released Oct-2021  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: Not Applicable  
 Other: jemalloc: jemalloc memory allocator library v5.2.0  
 Power Management: BIOS set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

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

Test Date: Oct-2021  
Hardware Availability: Oct-2021  
Software Availability: Mar-2021

## Results Table

| Benchmark       | Base   |            |            |            |             |            |            | Peak   |         |       |         |       |         |       |
|-----------------|--------|------------|------------|------------|-------------|------------|------------|--------|---------|-------|---------|-------|---------|-------|
|                 | Copies | Seconds    | Ratio      | Seconds    | Ratio       | Seconds    | Ratio      | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 500.perlbench_r | 128    | 500        | 408        | <b>500</b> | <b>407</b>  | 500        | 407        |        |         |       |         |       |         |       |
| 502.gcc_r       | 128    | 380        | 477        | 381        | 475         | <b>381</b> | <b>475</b> |        |         |       |         |       |         |       |
| 505.mcf_r       | 128    | 266        | 777        | <b>267</b> | <b>775</b>  | 267        | 773        |        |         |       |         |       |         |       |
| 520.omnetpp_r   | 128    | <b>665</b> | <b>253</b> | 656        | 256         | 679        | 247        |        |         |       |         |       |         |       |
| 523.xalancbmk_r | 128    | <b>199</b> | <b>680</b> | 200        | 676         | 198        | 682        |        |         |       |         |       |         |       |
| 525.x264_r      | 128    | 188        | 1190       | <b>188</b> | <b>1190</b> | 187        | 1200       |        |         |       |         |       |         |       |
| 531.deepsjeng_r | 128    | 298        | 493        | <b>297</b> | <b>494</b>  | 297        | 494        |        |         |       |         |       |         |       |
| 541.leela_r     | 128    | 389        | 545        | 390        | 544         | <b>389</b> | <b>545</b> |        |         |       |         |       |         |       |
| 548.exchange2_r | 128    | 242        | 1390       | <b>241</b> | <b>1390</b> | 241        | 1390       |        |         |       |         |       |         |       |
| 557.xz_r        | 128    | 433        | 319        | 435        | 318         | <b>434</b> | <b>318</b> |        |         |       |         |       |         |       |

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_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.

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

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

**Test Date:** Oct-2021  
**Hardware Availability:** Oct-2021  
**Software Availability:** Mar-2021

## Operating System Notes (Continued)

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.

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH =  
"/home/benchmark/speccpu-milan/amd\_rate\_aocc300\_milan\_B\_lib/lib;/home/benchmark/speccpu-milan/amd\_rate\_aocc300\_milan\_B\_lib/lib32:"  
MALLOC\_CONF = "retain:true"

## General Notes

Binaries were compiled on a system with 2x AMD EPYC 7742 CPU + 1TiB Memory using OpenSUSE 15.2

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.

jemalloc: configured and built with GCC v4.8.2 in RHEL 7.4 (No options specified)  
jemalloc 5.2.0 is available here:  
<https://github.com/jemalloc/jemalloc/releases/download/5.2.0/jemalloc-5.2.0.tar.bz2>

## Platform Notes

BIOS configuration:  
ACPI SRAT L3 Cache As NUMA Domain = Enabled  
APBDIS = 1  
cTDP Control = Manual  
cTDP = 280  
Determinism Slider = Power  
DRAM Scrub Time = Disabled  
EDC Control = Manual  
EDC = 300  
EDC Platform Limit = 300

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

CPU2017 License: 19

Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Oct-2021

Hardware Availability: Oct-2021

Software Availability: Mar-2021

## Platform Notes (Continued)

```

Fix SOC P-state = P0
IOMMU = Enabled
L1 Stream HW Prefetcher = Enabled
L2 Stream HW Prefetcher = Enabled
NUMA Nodes Per Socket = NPS4
Package Power Limit = 280
Package Power Limit Control = Manual
SVM Mode = Disabled
SMT Control = Enabled
xGMI Link Max Speed = 18Gbps

```

```

Sysinfo program /home/benchmark/speccpu-milan/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
running on localhost Tue Aug 3 06:08:32 2021

```

SUT (System Under Test) info as seen by some common utilities.  
 For more information on this section, see  
<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

```

From /proc/cpuinfo
model name : AMD EPYC 75F3 32-Core Processor
 2 "physical id"s (chips)
128 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following
excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 32
siblings  : 64
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31

```

```

From lscpu from util-linux 2.33.1:
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
Address sizes:          48 bits physical, 48 bits virtual
CPU(s):                 128
On-line CPU(s) list:   0-127
Thread(s) per core:    2
Core(s) per socket:    32
Socket(s):              2
NUMA node(s):          16
Vendor ID:              AuthenticAMD
CPU family:             25
Model:                  1
Model name:             AMD EPYC 75F3 32-Core Processor

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

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

Test Date: Oct-2021  
Hardware Availability: Oct-2021  
Software Availability: Mar-2021

### Platform Notes (Continued)

```
Stepping: 1
CPU MHz: 3035.319
CPU max MHz: 2950.0000
CPU min MHz: 1500.0000
BogoMIPS: 5899.80
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K
L2 cache: 512K
L3 cache: 32768K
NUMA node0 CPU(s): 0-3,64-67
NUMA node1 CPU(s): 4-7,68-71
NUMA node2 CPU(s): 8-11,72-75
NUMA node3 CPU(s): 12-15,76-79
NUMA node4 CPU(s): 16-19,80-83
NUMA node5 CPU(s): 20-23,84-87
NUMA node6 CPU(s): 24-27,88-91
NUMA node7 CPU(s): 28-31,92-95
NUMA node8 CPU(s): 32-35,96-99
NUMA node9 CPU(s): 36-39,100-103
NUMA node10 CPU(s): 40-43,104-107
NUMA node11 CPU(s): 44-47,108-111
NUMA node12 CPU(s): 48-51,112-115
NUMA node13 CPU(s): 52-55,116-119
NUMA node14 CPU(s): 56-59,120-123
NUMA node15 CPU(s): 60-63,124-127
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 pni pclmulqdq
monitor ssse3 fma cx16 pcid sse4_1 sse4_2 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 rdseed adx mbae clflushopt clwb sha_ni
xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
clzero irperf xsaveerptr wbnoinvd arat npt lbrv svm_lock nrip_save tsc_scale
vmcb_clean flushbyasid decodeassists pausefilter pfthreshold v_vmsave_vmload vgif
umip pku ospke vaes vpclmulqdq rdpid overflow_recov succor smca
```

```
/proc/cpuinfo cache data
cache size : 512 KB
```

```
From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 16 nodes (0-15)
node 0 cpus: 0 1 2 3 64 65 66 67
node 0 size: 128753 MB
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

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

**Test Date:** Oct-2021  
**Hardware Availability:** Oct-2021  
**Software Availability:** Mar-2021

### Platform Notes (Continued)

```

node 0 free: 128454 MB
node 1 cpus: 4 5 6 7 68 69 70 71
node 1 size: 129019 MB
node 1 free: 128735 MB
node 2 cpus: 8 9 10 11 72 73 74 75
node 2 size: 129021 MB
node 2 free: 128750 MB
node 3 cpus: 12 13 14 15 76 77 78 79
node 3 size: 129019 MB
node 3 free: 128739 MB
node 4 cpus: 16 17 18 19 80 81 82 83
node 4 size: 129021 MB
node 4 free: 128726 MB
node 5 cpus: 20 21 22 23 84 85 86 87
node 5 size: 129019 MB
node 5 free: 128716 MB
node 6 cpus: 24 25 26 27 88 89 90 91
node 6 size: 128988 MB
node 6 free: 128719 MB
node 7 cpus: 28 29 30 31 92 93 94 95
node 7 size: 129007 MB
node 7 free: 128572 MB
node 8 cpus: 32 33 34 35 96 97 98 99
node 8 size: 129021 MB
node 8 free: 128757 MB
node 9 cpus: 36 37 38 39 100 101 102 103
node 9 size: 129019 MB
node 9 free: 128765 MB
node 10 cpus: 40 41 42 43 104 105 106 107
node 10 size: 129021 MB
node 10 free: 128765 MB
node 11 cpus: 44 45 46 47 108 109 110 111
node 11 size: 129019 MB
node 11 free: 128763 MB
node 12 cpus: 48 49 50 51 112 113 114 115
node 12 size: 129021 MB
node 12 free: 128763 MB
node 13 cpus: 52 53 54 55 116 117 118 119
node 13 size: 129019 MB
node 13 free: 128766 MB
node 14 cpus: 56 57 58 59 120 121 122 123
node 14 size: 129021 MB
node 14 free: 128769 MB
node 15 cpus: 60 61 62 63 124 125 126 127
node 15 size: 128779 MB
node 15 free: 128520 MB
node distances:

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

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

**Test Date:** Oct-2021  
**Hardware Availability:** Oct-2021  
**Software Availability:** Mar-2021

### Platform Notes (Continued)

| node | 0  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0:   | 10 | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 1:   | 11 | 10 | 12 | 12 | 12 | 12 | 12 | 12 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 2:   | 12 | 12 | 10 | 11 | 12 | 12 | 12 | 12 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 3:   | 12 | 12 | 11 | 10 | 12 | 12 | 12 | 12 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 4:   | 12 | 12 | 12 | 12 | 10 | 11 | 12 | 12 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 5:   | 12 | 12 | 12 | 12 | 11 | 10 | 12 | 12 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 6:   | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 11 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 7:   | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 10 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 8:   | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 10 | 11 | 12 | 12 | 12 | 12 | 12 | 12 |
| 9:   | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 11 | 10 | 12 | 12 | 12 | 12 | 12 | 12 |
| 10:  | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | 12 | 10 | 11 | 12 | 12 | 12 | 12 |
| 11:  | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | 12 | 11 | 10 | 12 | 12 | 12 | 12 |
| 12:  | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | 12 | 12 | 12 | 10 | 11 | 12 | 12 |
| 13:  | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | 12 | 12 | 12 | 11 | 10 | 12 | 12 |
| 14:  | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 11 |
| 15:  | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 12 | 12 | 12 | 12 | 12 | 12 | 11 | 10 |

From /proc/meminfo

MemTotal: 2113309080 kB  
HugePages\_Total: 0  
Hugepagesize: 2048 kB

/sys/devices/system/cpu/cpu\*/cpufreq/scaling\_governor has performance

From /etc/\*release\* /etc/\*version\*

```
os-release:
NAME="SLES"
VERSION="15-SP2"
VERSION_ID="15.2"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP2"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp2"
```

uname -a:

Linux localhost 5.3.18-22-default #1 SMP Wed Jun 3 12:16:43 UTC 2020  
(720aeba/lp-1a956f1) x86\_64 x86\_64 x86\_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit): Not affected  
CVE-2018-3620 (L1 Terminal Fault): Not affected  
Microarchitectural Data Sampling: Not affected  
CVE-2017-5754 (Meltdown): Not affected

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

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

**Test Date:** Oct-2021  
**Hardware Availability:** Oct-2021  
**Software Availability:** Mar-2021

### Platform Notes (Continued)

|  |   |
|--|---|
| CVE-2018-3639 (Speculative Store Bypass):              | Mitigation: Speculative Store Bypass disabled via prctl and seccomp                       |
| CVE-2017-5753 (Spectre variant 1):                     | Mitigation: usercopy/swapgs barriers and __user pointer sanitization                      |
| CVE-2017-5715 (Spectre variant 2):                     | Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: always-on, RSB filling |
| CVE-2020-0543 (Special Register Buffer Data Sampling): | Not affected  |
| CVE-2019-11135 (TSX Asynchronous Abort):               | Not affected  |

run-level 3 Aug 3 04:56

```

SPEC is set to: /home/benchmark/speccpu-milan
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p3 xfs   1.3T  46G  1.3T   4% /home

```

```

From /sys/devices/virtual/dmi/id
Vendor:          FUJITSU
Product:         PRIMERGY RX2450 M1
Serial:          MACUxxxxxxx

```

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:
  32x Samsung M393A8G40AB2-CWE 64 GB 2 rank 3200

```

```

BIOS:
  BIOS Vendor:      American Megatrends Inc.
  BIOS Version:     2.1.V2
  BIOS Date:        08/02/2021
  BIOS Revision:    5.22

```

(End of data from sysinfo program)

### Compiler Version Notes

```

=====
C          | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base)
          | 525.x264_r(base) 557.xz_r(base)
-----

```

AMD clang version 12.0.0 (CLANG: AOCC\_3.0.0-Build#78 2020\_12\_10) (based on LLVM Mirror.Version.12.0.0)

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

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

Test Date: Oct-2021  
Hardware Availability: Oct-2021  
Software Availability: Mar-2021

### Compiler Version Notes (Continued)

Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin

=====  
C++ | 520.omnetpp\_r(base) 523.xalancbmk\_r(base) 531.deepsjeng\_r(base)  
| 541.leela\_r(base)

=====  
AMD clang version 12.0.0 (CLANG: AOCC\_3.0.0-Build#78 2020\_12\_10) (based on  
LLVM Mirror.Version.12.0.0)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin

=====  
Fortran | 548.exchange2\_r(base)

=====  
AMD clang version 12.0.0 (CLANG: AOCC\_3.0.0-Build#78 2020\_12\_10) (based on  
LLVM Mirror.Version.12.0.0)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin

### Base Compiler Invocation

C benchmarks:  
clang

C++ benchmarks:  
clang++

Fortran benchmarks:  
flang

### Base Portability Flags

500.perlbench\_r: -DSPEC\_LINUX\_X64 -DSPEC\_LP64  
502.gcc\_r: -DSPEC\_LP64  
505.mcf\_r: -DSPEC\_LP64  
520.omnetpp\_r: -DSPEC\_LP64

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Fujitsu

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

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

**Test Date:** Oct-2021  
**Hardware Availability:** Oct-2021  
**Software Availability:** Mar-2021

## Base Portability Flags (Continued)

523.xalancbmk\_r: -DSPEC\_LINUX -DSPEC\_LP64  
525.x264\_r: -DSPEC\_LP64  
531.deepsjeng\_r: -DSPEC\_LP64  
541.leela\_r: -DSPEC\_LP64  
548.exchange2\_r: -DSPEC\_LP64  
557.xz\_r: -DSPEC\_LP64

## Base Optimization Flags

### C benchmarks:

```
-m64 -Wl,-allow-multiple-definition -Wl,-mllvm -Wl,-enable-licm-vrp
-flto -Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
-march=znver3 -fveclib=AMDLIBM -fstruct-layout=5
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -mllvm -function-specialize -flv-function-specialization
-mllvm -enable-gvn-hoist -mllvm -global-vectorize-slp=true
-mllvm -enable-licm-vrp -mllvm -reduce-array-computations=3 -z muldefs
-lamdlIBM -ljemalloc -lflang -lflangrti
```

### C++ benchmarks:

```
-m64 -std=c++98 -Wl,-mllvm -Wl,-do-block-reorder=aggressive -flto
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
-march=znver3 -fveclib=AMDLIBM -mllvm -enable-partial-unswitch
-mllvm -unroll-threshold=100 -finline-aggressive
-flv-function-specialization -mllvm -loop-unswitch-threshold=200000
-mllvm -reroll-loops -mllvm -aggressive-loop-unswitch
-mllvm -extra-vectorizer-passes -mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp=true -mllvm -convert-pow-exp-to-int=false
-z muldefs -mllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden -lamdlIBM
-ljemalloc -lflang -lflangrti
```

### Fortran benchmarks:

```
-m64 -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,-mllvm -Wl,-lsr-in-nested-loop -Wl,-mllvm -Wl,-enable-iv-split
-flto -Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Fujitsu**

PRIMERGY RX2450 M1, AMD EPYC 75F3  
2.95 GHz

SPECrate®2017\_int\_base = 571

SPECrate®2017\_int\_peak = Not Run

CPU2017 License: 19

Test Sponsor: Fujitsu

Tested by: Fujitsu

Test Date: Oct-2021

Hardware Availability: Oct-2021

Software Availability: Mar-2021

## Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-march=znver3 -fveclib=AMDLIBM -z muldefs -mllvm -unroll-aggressive  
-mllvm -unroll-threshold=500 -lamdlibm -ljemalloc -lflang -lflangrti
```

## Base Other Flags

C benchmarks:

```
-Wno-unused-command-line-argument
```

C++ 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/aocc300-flags-B2.html>

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

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

<http://www.spec.org/cpu2017/flags/aocc300-flags-B2.xml>

<http://www.spec.org/cpu2017/flags/Fujitsu-Platform-Settings-V1.0-MILAN-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](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.8 on 2021-08-02 17:08:32-0400.

Report generated on 2021-11-24 11:18:16 by CPU2017 PDF formatter v6442.

Originally published on 2021-11-23.