SPEC CPU®2017 Integer Rate Result

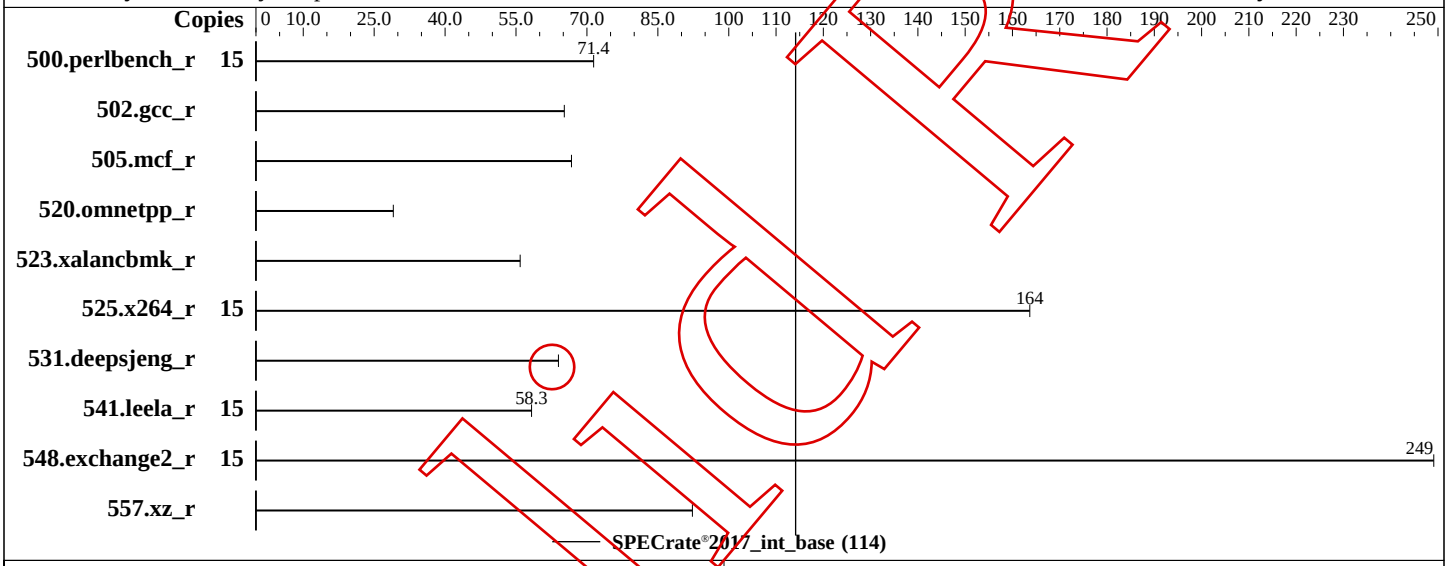
My Corporation

SPECrate®2017_int_base = 114

SPECrate®2017_int_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)
Test Sponsor: My Corporation
Tested by: My Corporation

Test Date: Nov-2024
Hardware Availability:
Software Availability:



Hardware

CPU Name: 06/8f
Max MHz:
Nominal:
Enabled: cores, 1 chip, threads/core
Orderable:
Cache L1:
L2:
L3:
Other:
Memory: 3.624 GB fixme: If using DDR4, the format is: 'N GB (N x N GB nRxn PC4-nnnnX-X)'
Storage: 66 GB add more disk info here
Other:

Software

OS: Ubuntu 24.04 LTS 6.8.0-35-generic
Compiler: C/C++/Fortran: Version 10.1.0 of GCC, the GNU Compiler Collection
Parallel: No
Firmware:
File System: ext4
System State: Run level 5 (add definition here)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other:
Power Management:

Errors

'reportable' flag not set during run
557.xz_r (base) did not have enough runs!
541.leela_r (base) did not have enough runs!
523.xalancbmk_r (base) did not have enough runs!
520.omnetpp_r (base) did not have enough runs!
505.mcf_r (base) did not have enough runs!
500.perlbench_r (base) did not have enough runs!
502.gcc_r (base) did not have enough runs!
531.deepsjeng_r (base) did not have enough runs!
548.exchange2_r (base) did not have enough runs!
525.x264_r (base) did not have enough runs!

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Errors (Continued)

557.xz_r (base) had invalid runs!
523.xalancbmk_r (base) had invalid runs!
520.omnetpp_r (base) had invalid runs!
505.mcf_r (base) had invalid runs!
502.gcc_r (base) had invalid runs!
531.deepsjeng_r (base) had invalid runs!
Run of 502.gcc_r (base) was not valid; status is RE
Run of 505.mcf_r (base) was not valid; status is RE
Run of 520.omnetpp_r (base) was not valid; status is RE
Run of 523.xalancbmk_r (base) was not valid; status is RE
Run of 531.deepsjeng_r (base) was not valid; status is RE
Run of 557.xz_r (base) was not valid; status is RE

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	15	**334**	**71.4**											
502.gcc_r	15	326	0.00											
505.mcf_r	15	363	0.00											
520.omnetpp_r	15	677	0.00											
523.xalancbmk_r	15	283	0.00											
525.x264_r	15	**160**	**164**											
531.deepsjeng_r	15	269	0.00											
541.leela_r	15	**426**	**58.3**											
548.exchange2_r	15	**158**	**249**											
557.xz_r	15	176	0.00											

SPECrate®2017_int_base = 114

SPECrate®2017_int_peak = Not Run

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/usr/lib64/:/usr/lib/:/lib64"
```

Platform Notes

```
Sysinfo program /home/tdx/speccpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on tdx-guest Fri Nov  1 03:41:59 2024
```

(Continued on next page)

Platform Notes (Continued)

```
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 255 (255.4-1ubuntu8.1)
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 tdx-guest 6.8.0-35-generic #35-Ubuntu SMP PREEMPT_DYNAMIC Mon May 20 15:51:52 UTC 2024 x86_64 x86_64
  x86_64 GNU/Linux

------------------------------------------------------------
2. w
   03:41:59 up 2 min,  1 user,  load average: 0.01, 0.01, 0.00
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     hvc0     -                03:40    3.00s  2.35s   ?    sh -c w 2>/dev/null

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

------------------------------------------------------------
4. ulimit -a
  time(seconds)        unlimited
  file(blocks)         unlimited
  data(kbytes)         unlimited
  stack(kbytes)        8192
  coredump(blocks)     0
  memory(kbytes)       unlimited
  locked memory(kbytes) 474996
  process              14641
  nofiles              1024
  vmemory(kbytes)      unlimited
  locks                unlimited
  rtprio               0

------------------------------------------------------------
```

(Continued on next page)

Platform Notes (Continued)

```
5. sysinfo process ancestry
 /sbin/init
 /bin/login -p --
 -bash
 runcpu --config=tdx4.cfg --tune=base --size=ref intrate --copies=15
 runcpu --configfile tdx4.cfg --tune base --size ref --copies 15 --noreportable --nopower --runmode rate
   --tune base --size refrate intrate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.002/templogs/preenv.intrate.002.0.log --lognum 002.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/tdx/speccpu2017

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : 06/8f
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 143
    stepping        : 8
    microcode       : 0x2b0005d1
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi
    cpu cores       : 16
    siblings        : 16
    1 physical ids (chips)
    16 processors (hardware threads)
    physical id 0: core ids 0-15
    physical id 0: apicids 0-15
  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):                               16
  On-line CPU(s) list:                  0-15
  Vendor ID:                            GenuineIntel
  BIOS Vendor ID:                       QEMU
  Model name:                           06/8f
  BIOS Model name:                      pc-q35-8.2  CPU @ 2.0GHz
  BIOS CPU family:                      1
  CPU family:                           6
  Model:                                143
  Thread(s) per core:                   1
  Core(s) per socket:                   16
  Socket(s):                            1
  Stepping:                             8
  BogoMIPS:                             4800.00
  Flags:                                fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
                                        clflush dts mmx fxsr sse sse2 ss ht tm syscall nx pdpe1gb rdtscp lm
                                        constant_tsc bts rep_good nopl tsc_reliable nonstop_tsc cpuid
                                        tsc_known_freq pni pclmulqdq dtes64 ds_cpl ssse3 fma cx16 pdcm pcid
                                        sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx
                                        f16c rdrand hypervisor lahf_lm abm 3dnowprefetch cpuid_fault ssbd
                                        ibrs ibpb stibp ibrs_enhanced tdx_guest fsgsbase bmi1 avx2 smep bmi2
                                        erms invpcid avx512f avx512dq rdseed adx smap avx512ifma clflushopt
                                        clwb avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves
```


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Platform Notes (Continued)

```
                                avx_vnni avx512_bf16 wbnoinvd avx512vbmi umip pku ospke avx512_vbmi2
                                gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpopcntdq la57
                                rdpid bus_lock_detect cldemote movdiri movdir64b fsrm md_clear
                                serialize tsxldtrk amx_bf16 avx512_fp16 amx_tile amx_int8 flush_l1d
                                arch_capabilities
  Hypervisor vendor:            KVM
  Virtualization type:          full
  L1d cache:                    512 KiB (16 instances)
  L1i cache:                    512 KiB (16 instances)
  L2 cache:                     64 MiB (16 instances)
  L3 cache:                     16 MiB (1 instance)
  NUMA node(s):                 1
  NUMA node0 CPU(s):            0-15
  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; RSB filling;
                                PBRSB-eIBRS SW sequence; BHI BHI_DIS_S
  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       32K     512K    8 Data            1    64        1             64
     L1i       32K     512K    8 Instruction     1    64        1             64
     L2         4M      64M   16 Unified         2  4096        1             64
     L3        16M      16M   16 Unified         3 16384        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 1 nodes (0)
  node 0 cpus: 0-15
  node 0 size: 3710 MB
  node 0 free: 3084 MB
  node distances:
  node   0
    0:  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:        3799984 kB

------------------------------------------------------------
10. who -r
  run-level 5 Nov 1 03:40

------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.1)
  Default Target  Status
  graphical       running
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE             UNIT FILES
  enabled           ModemManager apparmor apport blk-availability cloud-config cloud-final cloud-init
                    cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ grub-common
                    grub-initrd-fallback keyboard-setup lvm2-monitor multipathd networkd-dispatcher open-iscsi
                    open-vm-tools rsyslog secureboot-db setvtrgb snapd ssh sysstat systemd-networkd
                    systemd-networkd-wait-online systemd-pstore systemd-resolved systemd-timesyncd
                    ua-reboot-cmds ubuntu-advantage udisks2 ufw unattended-upgrades vgauth
  enabled-runtime   netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
  disabled          console-getty debug-shell iscsid nftables rsync systemd-boot-check-no-failures
                    systemd-confext systemd-network-generator systemd-networkd-wait-online@
                    systemd-pcrlock-file-system systemd-pcrlock-firmware-code systemd-pcrlock-firmware-config
                    systemd-pcrlock-machine-id systemd-pcrlock-make-policy
                    systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysext
                    systemd-time-wait-sync
  indirect          serial-getty@ systemd-sysupdate systemd-sysupdate-reboot uuidd
  masked            cryptdisks cryptdisks-early hwclock multipath-tools-boot pollinate screen-cleanup sudo
                    x11-common

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/vmlinuz-6.8.0-35-generic
  root=UUID=41106c9c-97fc-4396-8622-4f692c8c5bb1
  ro
  console=tty1
  console=ttyS0

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 0:
    Unable to determine current policy
    boost state support:
      Supported: no
      Active: no

------------------------------------------------------------
15. sysctl
  kernel.numa_balancing              0
  kernel.randomize_va_space          2
  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                    20
  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                      60
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                0

------------------------------------------------------------
16. /sys/kernel/mm/transparent_hugepage
```

(Continued on next page)

Platform Notes (Continued)

```
  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 Ubuntu 24.04 LTS

------------------------------------------------------------
19. Disk information
SPEC is set to: /home/tdx/speccpu2017
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/vda1      ext4   66G   52G   14G  80% /

------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         QEMU
    Product:        Standard PC (Q35 + ICH9, 2009)

------------------------------------------------------------
21. dmidecode
  Additional information from dmidecode 3.5 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:
    1x QEMU Not Specified 4 GB


------------------------------------------------------------
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       Ubuntu distribution of EDK II
   BIOS Version:      2024.02-3+tdx1.0
   BIOS Date:         07/03/2024
   BIOS Revision:     0.0
```

Compiler Version Notes

```
==============================================================================================================
C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base) 557.xz_r(base)
--------------------------------------------------------------------------------------------------------------
gcc (Ubuntu 13.2.0-23ubuntu4) 13.2.0
Copyright (C) 2023 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
--------------------------------------------------------------------------------------------------------------
```

(Continued on next page)

Compiler Version Notes (Continued)

```
==============================================================================================================
C++     | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_r(base)
--------------------------------------------------------------------------------------------------------------
g++ (Ubuntu 13.2.0-23ubuntu4) 13.2.0
Copyright (C) 2023 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
--------------------------------------------------------------------------------------------------------------

==============================================================================================================
Fortran | 548.exchange2_r(base)
--------------------------------------------------------------------------------------------------------------
GNU Fortran (Ubuntu 13.2.0-23ubuntu4) 13.2.0
Copyright (C) 2023 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
--------------------------------------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
gcc

C++ benchmarks:
g++

Fortran benchmarks:
gfortran

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
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 -std=c99 -g -O3 -march=native -fno-strict-aliasing
-fno-unsafe-math-optimizations -fno-finite-math-only -fgnu89-inline
```

C++ benchmarks:
```
-m64 -std=c++03 -g -O3 -march=native
```

Fortran benchmarks:
```
-m64 -g -O3 -march=native
```

Base Other Flags

C benchmarks:
```
-fcommon
```


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 2024-11-01 03:41:58+0000.
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