SPEC CPU®2017 Integer Rate Result

My Corporation

SPECrate®2017_int_base =   6.42

SPECrate®2017_int_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)   **Test Date:**   Oct-2024
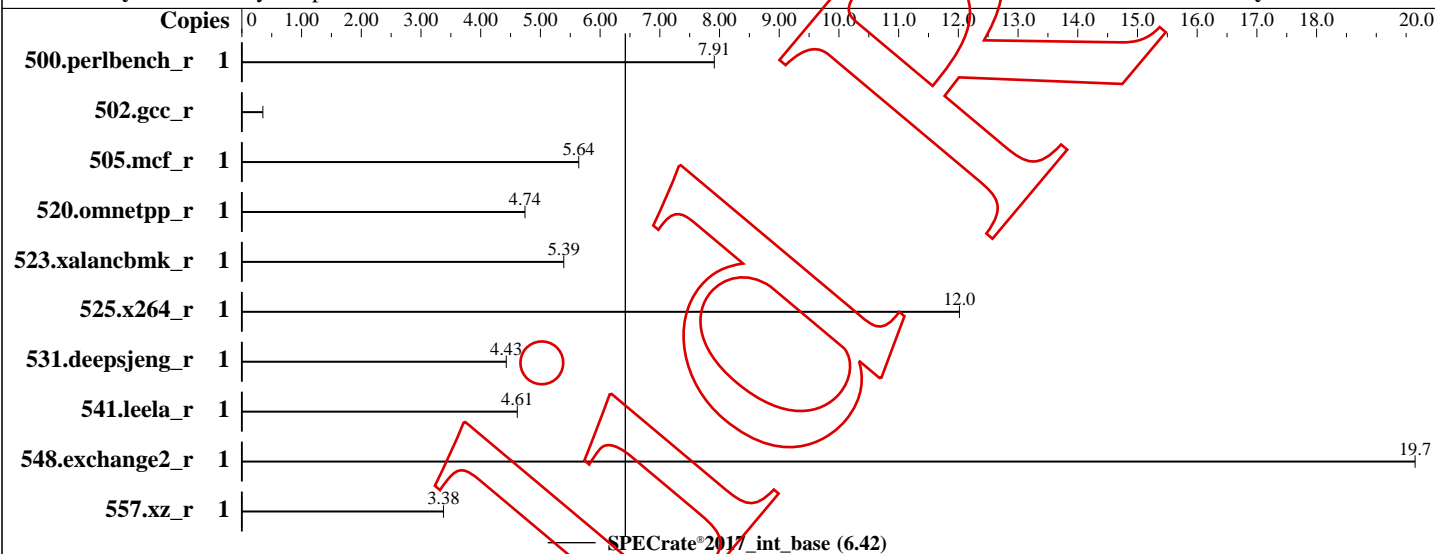**Test Sponsor:**   My Corporation   **Hardware Availability:**
Tested by: My Corporation   **Software Availability:**

Copies		Result
500.perlbench_r	1	7.91
502.gcc_r		
505.mcf_r	1	5.64
520.omnetpp_r	1	4.74
523.xalancbmk_r	1	5.39
525.x264_r	1	12.0
531.deepsjeng_r	1	4.43
541.leela_r	1	4.61
548.exchange2_r	1	19.7
557.xz_r	1	3.38

SPECrate®2017_int_base (6.42)

Hardware

CPU Name: 06/8f
 Max MHz:
 Nominal:
Enabled: cores, 1 chip, threads/core
Orderable:
Cache L1:
 L2:
 L3:
 Other:
Memory: 1.785 GB fixme: If using DDR4, the format is:
             'N GB (N x N GB nRxn PC4-nnnnX-X)'
Storage: 51 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
531.deepsjeng_r (base) did not have enough runs!
520.omnetpp_r (base) did not have enough runs!
500.perlbench_r (base) did not have enough runs!
523.xalancbmk_r (base) did not have enough runs!
557.xz_r (base) did not have enough runs!
502.gcc_r (base) did not have enough runs!
541.leela_r (base) did not have enough runs!
548.exchange2_r (base) did not have enough runs!
505.mcf_r (base) did not have enough runs!
525.x264_r (base) did not have enough runs!

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Errors (Continued)

502.gcc_r (base) had invalid runs!

Run of 502.gcc_r (base) was not valid; status is RE

Results Table

Benchmark	Copies	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Copies	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
500.perlbench_r	1	**201**	**7.91**											
502.gcc_r	1	4025	0.00											
505.mcf_r	1	**286**	**5.64**											
520.omnetpp_r	1	**277**	**4.74**											
523.xalancbmk_r	1	**196**	**5.39**											
525.x264_r	1	**146**	**12.0**											
531.deepsjeng_r	1	**259**	**4.43**											
541.leela_r	1	**359**	**4.61**											
548.exchange2_r	1	**133**	**19.7**											
557.xz_r	1	**320**	**3.38**											
SPECrate®2017_int_base =			**6.42**											
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 Sun Oct 27 06:55:57 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
```

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

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Platform Notes (Continued)

```
 10. who -r
 11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.1)
 12. Failed units, from systemctl list-units --state=failed
 13. Services, from systemctl list-unit-files
 14. Linux kernel boot-time arguments, from /proc/cmdline
 15. cpupower frequency-info
 16. sysctl
 17. /sys/kernel/mm/transparent_hugepage
 18. /sys/kernel/mm/transparent_hugepage/khugepaged
 19. OS release
 20. Disk information
 21. /sys/devices/virtual/dmi/id
 22. dmidecode
 23. 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
    06:55:57 up  2:18,  1 user,  load average: 2.60, 3.98, 4.64
    USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
    root     hvc0     -                05:34    1:19m  2.44s  0.02s w

    --------------------------------------------------------
 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) 233908
    process               7107
    nofiles               1024
    vmemory(kbytes)       unlimited
    locks                 unlimited
    rtprio                0

    --------------------------------------------------------
 5. sysinfo process ancestry
  /sbin/init
  /bin/login -p --
  -bash
  runcpu --config=tdx2.cfg --tune=base --size=ref all
  runcpu --configfile tdx2.cfg --tune base --size ref --noreportable --nopower --runmode rate --tune base
    --size refrate intrate --nopreenv --note-preenv --logfile
    $SPEC/tmp/CPU2017.016/templogs/preenv.intrate.016.2.log --lognum 016.2 --from_runcpu 2
  specperl $SPEC/bin/sysinfo
 $SPEC = /home/tdx/speccpu2017

    --------------------------------------------------------
 6. /proc/cpuinfo
```

(Continued on next page)

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Test Sponsor:	My Corporation	**Hardware Availability:**	
Tested by:	My Corporation	**Software Availability:**	

Platform Notes (Continued)

```
     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
                           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
```

(Continued on next page)

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SPECrate®2017_int_peak = Not Run

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Test Sponsor:	My Corporation	**Hardware Availability:**	
Tested by:	My Corporation	**Software Availability:**	

Platform Notes (Continued)

```
   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: 1827 MB
     node 0 free: 1314 MB
     node distances:
     node   0
       0:  10

   ----------------------------------------------------------
   9. /proc/meminfo
      MemTotal:       1871280 kB

   ----------------------------------------------------------
   10. who -r
      run-level 5 Oct 27 04:37

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

   ----------------------------------------------------------
   12. Failed units, from systemctl list-units --state=failed
       UNIT                 LOAD   ACTIVE SUB    DESCRIPTION
     * fwupd-refresh.service  loaded failed failed Refresh fwupd metadata and update motd
     * user@0.service         loaded failed failed User Manager for UID 0
     Legend: LOAD   -> Reflects whether the unit definition was properly loaded.
             ACTIVE -> The high-level unit activation state, i.e. generalization of SUB.
             SUB    -> The low-level unit activation state, values depend on unit type.
     2 loaded units listed.

   ----------------------------------------------------------
   13. Services, from systemctl list-unit-files
       STATE           UNIT FILES
```

(Continued on next page)

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Platform Notes (Continued)

```
   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

  ----------------------------------------------------------
  14. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=/vmlinuz-6.8.0-35-generic
    root=UUID=41106c9c-97fc-4396-8622-4f692c0c5bb1
    ro
    console=tty1
    console=ttyS0

  ----------------------------------------------------------
  15. cpupower frequency-info
    analyzing CPU 6:
      Unable to determine current policy
      boost state support:
        Supported: no
        Active: no

  ----------------------------------------------------------
  16. 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

  ----------------------------------------------------------
  17. /sys/kernel/mm/transparent_hugepage
    defrag         always defer defer+madvise [madvise] never
    enabled        always [madvise] never
    hpage_pmd_size 2097152
```

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Platform Notes (Continued)

```
   shmem_enabled    always within_size advise [never] deny force


   ----------------------------------------------------------------
18. /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


   ----------------------------------------------------------------
19. OS release
   From /etc/*-release /etc/*-version
   os-release Ubuntu 24.04 LTS


   ----------------------------------------------------------------
20. Disk information
SPEC is set to: /home/tdx/speccpu2017
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/vda1       ext4   51G   19G   33G  37% /


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


   ----------------------------------------------------------------
22. 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 2 GB


   ----------------------------------------------------------------
23. 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.
----------------------------------------------------------------------------------------------


==============================================================================================
C++     | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_r(base)
```

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Compiler Version Notes (Continued)

```
--------------------------------------------------------------------------------
g++ (Ubuntu 13.2.0-23ubuntu4) 13.2.0
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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
```

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Base Optimization Flags (Continued)

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

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

Base Other Flags

C benchmarks:
```
-fcommon
```