SPEC CPU®2017 Integer Speed Result

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Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero TDI100C3R-212
(2.40 GHz,Intel Xeon Platinum 8360Y)

$SPECspeed^{®}2017\_int\_base = 12.5$

$SPECspeed^{®}2017\_int\_peak = 12.7$

CPU2017 License: 006042	**Test Date:** Sep-2023
Test Sponsor: Netweb Pte Ltd	**Hardware Availability:** Apr-2021
Tested by: Tyrone Systems	**Software Availability:** May-2022

Threads

Benchmark	Threads	Value
600.perlbench_s	144	7.33 / 8.00
602.gcc_s	144	11.1 / 11.6
605.mcf_s	144	19.6
620.omnetpp_s	144	10.4
623.xalancbmk_s	144	20.9
625.x264_s	144	17.4 / 18.0
631.deepsjeng_s	144	6.00
641.leela_s	144	4.94
648.exchange2_s	144	20.2
657.xz_s	144	25.5

SPECspeed®2017_int_base (12.5)   SPECspeed®2017_int_peak (12.7)

Hardware

CPU Name: Intel Xeon Platinum 8360Y
 Max MHz: 3500
 Nominal: 2400
Enabled: 72 cores, 2 chips, 2 threads/core
Orderable: 1,2 Chips
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 1.25 MB I+D on chip per core
 L3: 54 MB I+D on chip per chip
 Other: None
Memory: 512 GB (16 x 32 GB 2Rx4 PC4-3200AA-R)
Storage: 1 x 512 GB NVMe SSD
Other: None

Software

OS: Red Hat Enterprise Linux release 8.5 (Ootpa)
 4.18.0-348.el8.x86_64
Compiler: C/C++: Version 2022.1 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2022.1 of Intel Fortran Compiler for Linux;
Parallel: Yes
Firmware: Version PEGC0042 released Feb-2023
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of additional power usage.

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SPECspeed®2017_int_base = 12.5

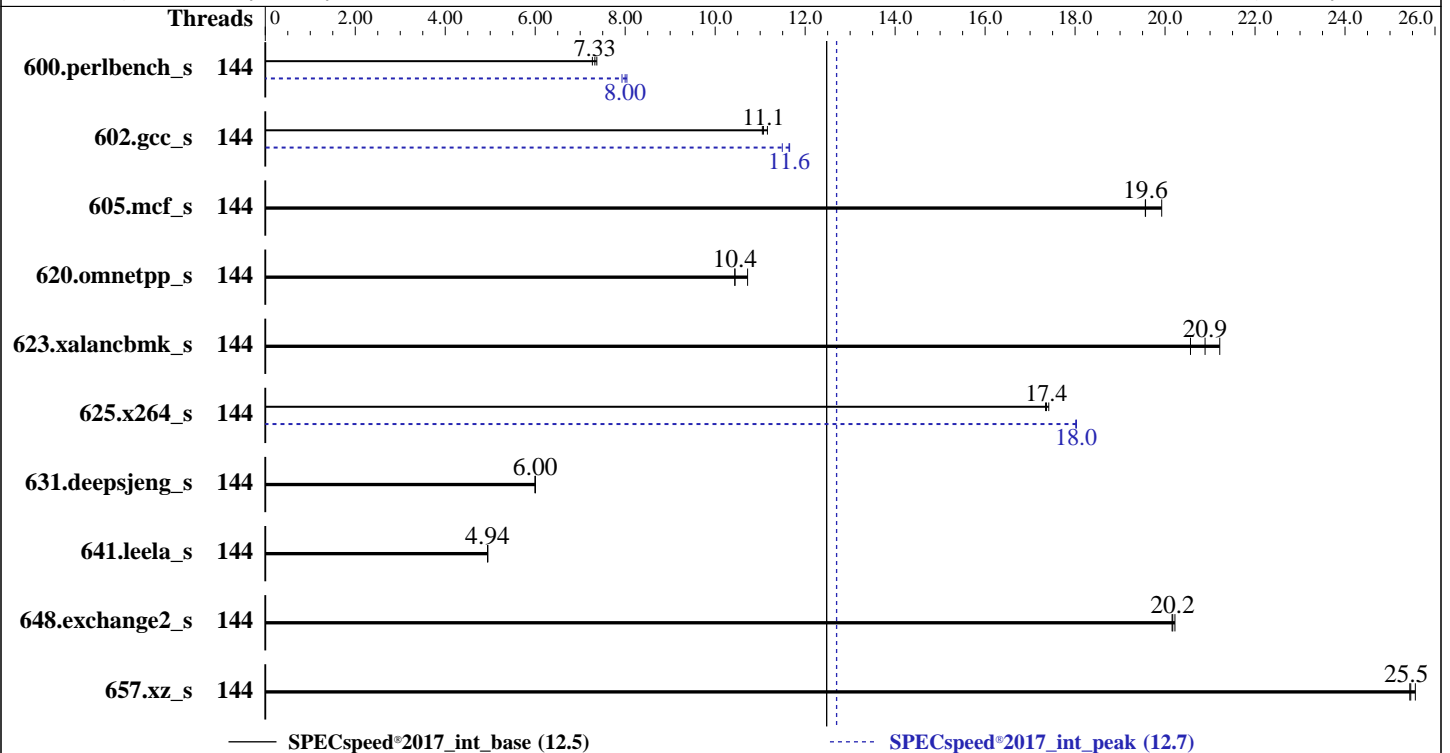SPECspeed®2017_int_peak = 12.7

CPU2017 License: 006042

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Results Table

Benchmark	Threads	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	144	**242**	**7.33**	241	7.37	244	7.27	144	224	7.93	**222**	**8.00**	221	8.04
602.gcc_s	144	357	11.2	**360**	**11.1**	360	11.0	144	**342**	**11.6**	346	11.5	342	11.7
605.mcf_s	144	**241**	**19.6**	241	19.6	237	19.9	144	**241**	**19.6**	241	19.6	237	19.9
620.omnetpp_s	144	156	10.4	152	10.7	**156**	**10.4**	144	156	10.4	152	10.7	**156**	**10.4**
623.xalancbmk_s	144	66.8	21.2	68.9	20.6	**67.8**	**20.9**	144	66.8	21.2	68.9	20.6	**67.8**	**20.9**
625.x264_s	144	101	17.4	102	17.3	**102**	**17.4**	144	97.8	18.0	**97.9**	**18.0**	97.9	18.0
631.deepsjeng_s	144	239	6.00	239	6.00	**239**	**6.00**	144	239	6.00	239	6.00	**239**	**6.00**
641.leela_s	144	345	4.94	**345**	**4.94**	345	4.95	144	345	4.94	**345**	**4.94**	345	4.95
648.exchange2_s	144	145	20.2	**146**	**20.2**	146	20.2	144	145	20.2	**146**	**20.2**	146	20.2
657.xz_s	144	**243**	**25.5**	243	25.4	242	25.6	144	**243**	**25.5**	243	25.4	242	25.6
SPECspeed®2017_int_base =		**12.5**												
SPECspeed®2017_int_peak =									**12.7**					

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

Compiler Notes

```
SPEC has ruled that the compiler used for this result was performing a compilation
that specifically improves the performance of the 523.xalancbmk_r / 623.xalancbmk_s
benchmarks using a priori knowledge of the SPEC code and dataset to perform a
transformation that has narrow applicability.

In order to encourage optimizations that have wide applicability (see rule 1.4
https://www.spec.org/cpu2017/Docs/runrules.html#rule_1.4), SPEC will no longer
publish results using this optimization.

This result is left in the SPEC results database for historical reference.
```

Submit Notes

```
   The numactl mechanism was used to bind copies to processors. The config file option 'submit'
   was used to generate numactl commands to bind each copy to a specific processor.
   For details, please see the config file.
```

Operating System Notes

```
   Stack size set to unlimited using "ulimit -s unlimited"
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"
```

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Test Date: Sep-2023

Hardware Availability: Apr-2021

Software Availability: May-2022

General Notes

```
 Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
 memory using Red Hat Enterprise Linux 8.4
 Transparent Huge Pages enabled by default
 Prior to runcpu invocation
 Filesystem page cache synced and cleared with:
 sync; echo 3>        /proc/sys/vm/drop_caches
 runcpu command invoked through numactl i.e.:
 numactl --interleave=all runcpu <etc>
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.
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.
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the
system as tested and documented.
 jemalloc, a general purpose malloc implementation
 built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
 sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

Platform Notes

```
BIOS Settings:
Power Technology = Custom
Power Performance Tuning = BIOS Controls EPB
ENERGY_PERF_BIAS_CFG mode = Extreme Performance
SNC (Sub NUMA) = Enable
KTI Prefetch = Enable
LLC Dead Line Alloc = Disable
Hyper-Threading = Enabled

 Sysinfo program /home/cpu2017/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on Tyronespec Thu Sep  7 07:58:37 2023

 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 239 (239-51.el8)
 12. Services, from systemctl list-unit-files
 13. Linux kernel boot-time arguments, from /proc/cmdline
 14. cpupower frequency-info
 15. tuned-adm active
 16. sysctl
 17. /sys/kernel/mm/transparent_hugepage
 18. /sys/kernel/mm/transparent_hugepage/khugepaged
 19. OS release
 20. Kernel self-reported vulnerability status, from /sys/devices/system/cpu/vulnerabilities
 21. Disk information
```

(Continued on next page)

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Platform Notes (Continued)

```
  22. /sys/devices/virtual/dmi/id
  23. dmidecode
  24. BIOS
  ------------------------------------------------------------

  ------------------------------------------------------------
  1. uname -a
    Linux Tyronespec 4.18.0-348.el8.x86_64 #1 SMP Mon Oct 4 12:17:22 EDT 2021 x86_64 x86_64 x86_64 GNU/Linux

  ------------------------------------------------------------
  2. w
     07:58:37 up 1 day, 17 min,  2 users,  load average: 0.00, 0.00, 0.00
    USER     TTY      FROM              LOGIN@   IDLE   JCPU   PCPU WHAT
    root     tty1     -                 Wed07    5.00s  1.18s  0.00s -bash
    root     tty2     -                 Wed07    24:16m 0.01s  0.01s -bash

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

  ------------------------------------------------------------
  4. ulimit -a
    core file size          (blocks, -c) 0
    data seg size           (kbytes, -d) unlimited
    scheduling priority             (-e) 0
    file size               (blocks, -f) unlimited
    pending signals                 (-i) 2062222
    max locked memory       (kbytes, -l) 64
    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) 2062222
    virtual memory          (kbytes, -v) unlimited
    file locks                      (-x) unlimited

  ------------------------------------------------------------
  5. sysinfo process ancestry
   /usr/lib/systemd/systemd --switched-root --system --deserialize 18
   login -- root
   -bash
   -bash
   runcpu --nobuild --action validate --define default-platform-flags -c
     ic2022.1-lin-core-avx512-speed-20220316.cfg --define cores=72 --tune base,peak -o all --define
     intspeedaffinity --define smt-on --define drop_caches intspeed
   runcpu --nobuild --action validate --define default-platform-flags --configfile
     ic2022.1-lin-core-avx512-speed-20220316.cfg --define cores=72 --tune base,peak --output_format all
     --define intspeedaffinity --define smt-on --define drop_caches --nopower --runmode speed --tune base:peak
     --size refspeed intspeed --nopreenv --note-preenv --logfile
     $SPEC/tmp/CPU2017.003/templogs/preenv.intspeed.003.0.log --lognum 003.0 --from_runcpu 2
   specperl $SPEC/bin/sysinfo
  $SPEC = /home/cpu2017

  ------------------------------------------------------------
  6. /proc/cpuinfo
     model name      : Intel(R) Xeon(R) Platinum 8360Y CPU @ 2.40GHz
     vendor_id       : GenuineIntel
```

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CPU2017 License: 006042　　　　　　　　　　　　　　　　**Test Date:** Sep-2023
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Platform Notes (Continued)

```
      cpu family     : 6
      model          : 106
      stepping       : 6
      microcode      : 0xd0002e0
      bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
      cpu cores      : 36
      siblings       : 72
      2 physical ids (chips)
      144 processors (hardware threads)
      physical id 0: core ids 0-35
      physical id 1: core ids 0-35
      physical id 0: apicids 0-71
      physical id 1: apicids 128-199
   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 2.32.1:
     Architecture:        x86_64
     CPU op-mode(s):      32-bit, 64-bit
     Byte Order:          Little Endian
     CPU(s):              144
     On-line CPU(s) list: 0-143
     Thread(s) per core:  2
     Core(s) per socket:  36
     Socket(s):           2
     NUMA node(s):        2
     Vendor ID:           GenuineIntel
     BIOS Vendor ID:      Intel(R) Corporation
     CPU family:          6
     Model:               106
     Model name:          Intel(R) Xeon(R) Platinum 8360Y CPU @ 2.40GHz
     BIOS Model name:     Intel(R) Xeon(R) Platinum 8360Y CPU @ 2.40GHz
     Stepping:            6
     CPU MHz:             2400.000
     CPU max MHz:         3500.0000
     CPU min MHz:         800.0000
     BogoMIPS:            4800.00
     Virtualization:      VT-x
     L1d cache:           48K
     L1i cache:           32K
     L2 cache:            1280K
     L3 cache:            55296K
     NUMA node0 CPU(s):   0-35,72-107
     NUMA node1 CPU(s):   36-71,108-143
     Flags:               fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts
                          acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc art
                          arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf pni
                          pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca
                          sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm
                          abm 3dnowprefetch cpuid_fault epb cat_l3 invpcid_single intel_ppin ssbd mba ibrs ibpb
                          stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust
                          sgx bmi1 hle avx2 smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
                          avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec
                          xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect
                          wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req avx512vbmi
                          umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme
                          avx512_vpopcntdq la57 rdpid sgx_lc fsrm md_clear pconfig flush_l1d arch_capabilities
```

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Platform Notes (Continued)

```
  --------------------------------------------------------------
  8. numactl --hardware
  NOTE: a numactl 'node' might or might not correspond to a physical chip.
    available: 2 nodes (0-1)
    node 0 cpus: 0-35,72-107
    node 0 size: 257586 MB
    node 0 free: 215286 MB
    node 1 cpus: 36-71,108-143
    node 1 size: 258028 MB
    node 1 free: 218334 MB
    node distances:
    node   0   1
      0:  10  20
      1:  20  10


  --------------------------------------------------------------
  9. /proc/meminfo
     MemTotal:      527989112 kB


  --------------------------------------------------------------
  10. who -r
    run-level 3 Sep 6 07:41


  --------------------------------------------------------------
  11. Systemd service manager version: systemd 239 (239-51.el8)
    Default Target  Status
    multi-user      running


  --------------------------------------------------------------
  12. Services, from systemctl list-unit-files
    STATE      UNIT FILES
    enabled    ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon
               atd auditd autovt@ avahi-daemon bluetooth chronyd crond cups display-manager firewalld gdm
               getty@ import-state insights-client-boot irqbalance iscsi iscsi-onboot kdump ksm ksmtuned
               libstoragemgmt libvirtd loadmodules lvm2-monitor mcelog mdmonitor microcode multipathd
               nis-domainname nvidia-hibernate nvidia-resume nvidia-suspend nvmefc-boot-connections
               ostree-remount qemu-guest-agent rhsmcertd rpcbind rsyslog rtkit-daemon selinux-autorelabel-mark
               sep5 smartd sshd sssd syslog timedatex tuned udisks2 vdo vgauthd vmtoolsd
    disabled   arp-ethers blk-availability brltty canberra-system-bootup canberra-system-shutdown
               canberra-system-shutdown-reboot chrony-wait console-getty cpupower cups-browsed debug-shell
               dnsmasq ebtables gssproxy httpd httpd@ initial-setup initial-setup-reconfiguration iprdump
               iprinit iprupdate iscsid iscsiuio kpatch kvm_stat ledmon man-db-restart-cache-update
               ndctl-monitor netcf-transaction nfs-blkmap nfs-convert nfs-server nftables numad nvidia-powerd
               nvmf-autoconnect oddjobd podman podman-auto-update podman-restart psacct radvd ras-mc-ctl
               rasdaemon rdisc rhcd rhsm rhsm-facts saslauthd serial-getty@ snmpd snmptrapd speech-dispatcherd
               sshd-keygen@ switcheroo-control systemd-nspawn@ systemd-resolved tcsd tog-pegasus upower
               virtinterfaced virtnetworkd virtnodedevd virtnwfilterd virtproxyd virtqemud virtsecretd
               virtstoraged wpa_supplicant
    generated  SystemTap compile-server gcc-toolset-10-stap-server gcc-toolset-10-systemtap
               gcc-toolset-11-stap-server gcc-toolset-11-systemtap gcc-toolset-9-stap-server
               gcc-toolset-9-systemtap scripts startup
    indirect   spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo virtlockd
               virtlogd
    masked     systemd-timedated


  --------------------------------------------------------------
  13. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=(hd1,gpt2)/vmlinuz-4.18.0-348.el8.x86_64
    root=/dev/mapper/rhel-root
```

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Platform Notes (Continued)

```
    ro
    resume=/dev/mapper/rhel-swap
    rd.lvm.lv=rhel/root
    rd.lvm.lv=rhel/swap
    rhgb
    quiet


    ----------------------------------------------------------------
14. cpupower frequency-info
    analyzing CPU 0:
      current policy: frequency should be within 800 MHz and 3.50 GHz.
                      The governor "performance" may decide which speed to use
                      within this range.
      boost state support:
        Supported: yes
        Active: yes


    ----------------------------------------------------------------
15. tuned-adm active
    Current active profile: throughput-performance


    ----------------------------------------------------------------
16. sysctl
    kernel.numa_balancing            1
    kernel.randomize_va_space        2
    vm.compaction_proactiveness      0
    vm.dirty_background_bytes        0
    vm.dirty_background_ratio        10
    vm.dirty_bytes                   0
    vm.dirty_expire_centisecs        3000
    vm.dirty_ratio                   40
    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                    10
    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
    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_swap           64
    pages_to_scan           4096
    scan_sleep_millisecs    10000


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

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Platform Notes (Continued)

```
19. OS release
   From /etc/*-release /etc/*-version
   os-release    Red Hat Enterprise Linux 8.5 (Ootpa)
   redhat-release Red Hat Enterprise Linux release 8.5 (Ootpa)
   system-release Red Hat Enterprise Linux release 8.5 (Ootpa)


   ----------------------------------------------------------------
20. Kernel self-reported vulnerability status, from /sys/devices/system/cpu/vulnerabilities
   itlb_multihit        Not affected
   l1tf                 Not affected
   mds                  Not affected
   meltdown             Not affected
   spec_store_bypass    Mitigation: Speculative Store Bypass disabled via prctl and seccomp
   spectre_v1           Mitigation: usercopy/swapgs barriers and __user pointer sanitization
   spectre_v2           Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
   srbds                Not affected
   tsx_async_abort      Not affected
For more information, see the Linux documentation on hardware vulnerabilities, for example
     https://www.kernel.org/doc/html/latest/admin-guide/hw-vuln/index.html


   ----------------------------------------------------------------
21. Disk information
SPEC is set to: /home/cpu2017
   Filesystem            Type  Size  Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs   402G  372G   30G  93% /home


   ----------------------------------------------------------------
22. /sys/devices/virtual/dmi/id
     Vendor:        TyroneSystems
     Product:       TDI100C3R-212
     Product Family: Family


   ----------------------------------------------------------------
23. dmidecode
   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:
     16x Samsung M393A4K40EB3-CWE 32 GB 2 rank 3200



   ----------------------------------------------------------------
24. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:      American Megatrends International, LLC.
   BIOS Version:     PEGC0042
   BIOS Date:        02/14/2023
   BIOS Revision:    5.22
```

Compiler Version Notes

```
==============================================================================================
C      | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak)
       | 657.xz_s(base, peak)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------
```

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SPECspeed®2017_int_base = 12.5

Tyrone Camarero TDI100C3R-212
(2.40 GHz,Intel Xeon Platinum 8360Y)

SPECspeed®2017_int_peak = 12.7

CPU2017 License: 006042
Test Sponsor: Netweb Pte Ltd
Tested by: Tyrone Systems

Test Date: Sep-2023
Hardware Availability: Apr-2021
Software Availability: May-2022

Compiler Version Notes (Continued)

```
==============================================================================
C++      | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak)
         | 641.leela_s(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran | 648.exchange2_s(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Base Portability Flags

600.perlbench_s: `-DSPEC_LP64 -DSPEC_LINUX_X64`
602.gcc_s: `-DSPEC_LP64`
605.mcf_s: `-DSPEC_LP64`
620.omnetpp_s: `-DSPEC_LP64`
623.xalancbmk_s: `-DSPEC_LP64 -DSPEC_LINUX`
625.x264_s: `-DSPEC_LP64`
631.deepsjeng_s: `-DSPEC_LP64`
641.leela_s: `-DSPEC_LP64`
648.exchange2_s: `-DSPEC_LP64`
657.xz_s: `-DSPEC_LP64`

Base Optimization Flags

C benchmarks:
`-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto`
`-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp`

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org) https://www.spec.org/

Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

SPECspeed®2017_int_base = 12.5

Tyrone Camarero TDI100C3R-212
(2.40 GHz,Intel Xeon Platinum 8360Y)

SPECspeed®2017_int_peak = 12.7

CPU2017 License: 006042

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Test Date: Sep-2023

Hardware Availability: Apr-2021

Software Availability: May-2022

Base Optimization Flags (Continued)

C benchmarks (continued):
```
-DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

C++ benchmarks:
```
-m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:
```
-m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Peak Compiler Invocation

C benchmarks:
```
icx
```

C++ benchmarks:
```
icpx
```

Fortran benchmarks:
```
ifx
```

Peak Portability Flags

```
Same as Base Portability Flags
```

Peak Optimization Flags

C benchmarks:

```
 600.perlbench_s: -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX512 -O3
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-fno-strict-overflow -L/usr/local/jemalloc64-5.0.1/lib
-ljemalloc
```

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SPEC CPU®2017 Integer Speed Result

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Tyrone Systems
(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero TDI100C3R-212
(2.40 GHz,Intel Xeon Platinum 8360Y)

SPECspeed®2017_int_base = 12.5

SPECspeed®2017_int_peak = 12.7

CPU2017 License:	006042	**Test Date:**	Sep-2023
Test Sponsor:	Netweb Pte Ltd	**Hardware Availability:**	Apr-2021
Tested by:	Tyrone Systems	**Software Availability:**	May-2022

Peak Optimization Flags (Continued)

602.gcc_s: `-m64 -std=c11 -Wl,-z,muldefs -fprofile-generate`(pass 1)
`-fprofile-use=default.profdata`(pass 2) `-xCORE-AVX512 -O3`
`-ffast-math -flto -mfpmath=sse -funroll-loops`
`-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP`
`-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

605.mcf_s: `basepeak = yes`

625.x264_s: `-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -O3`
`-ffast-math -flto -mfpmath=sse -funroll-loops`
`-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP`
`-fno-alias -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

657.xz_s: `basepeak = yes`

C++ benchmarks:

620.omnetpp_s: `basepeak = yes`

623.xalancbmk_s: `basepeak = yes`

631.deepsjeng_s: `basepeak = yes`

641.leela_s: `basepeak = yes`

Fortran benchmarks:

648.exchange2_s: `basepeak = yes`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.html`
`http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-ICX-revA.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.xml`
`http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-ICX-revA.xml`

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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