



# SPEC CPU®2017 Integer Speed Result

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## Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero TDI100C3R-212  
(2.80 GHz, Intel Xeon Silver 4309Y)

SPECspeed®2017\_int\_base = 11.7

SPECspeed®2017\_int\_peak = 11.9

CPU2017 License: 006042

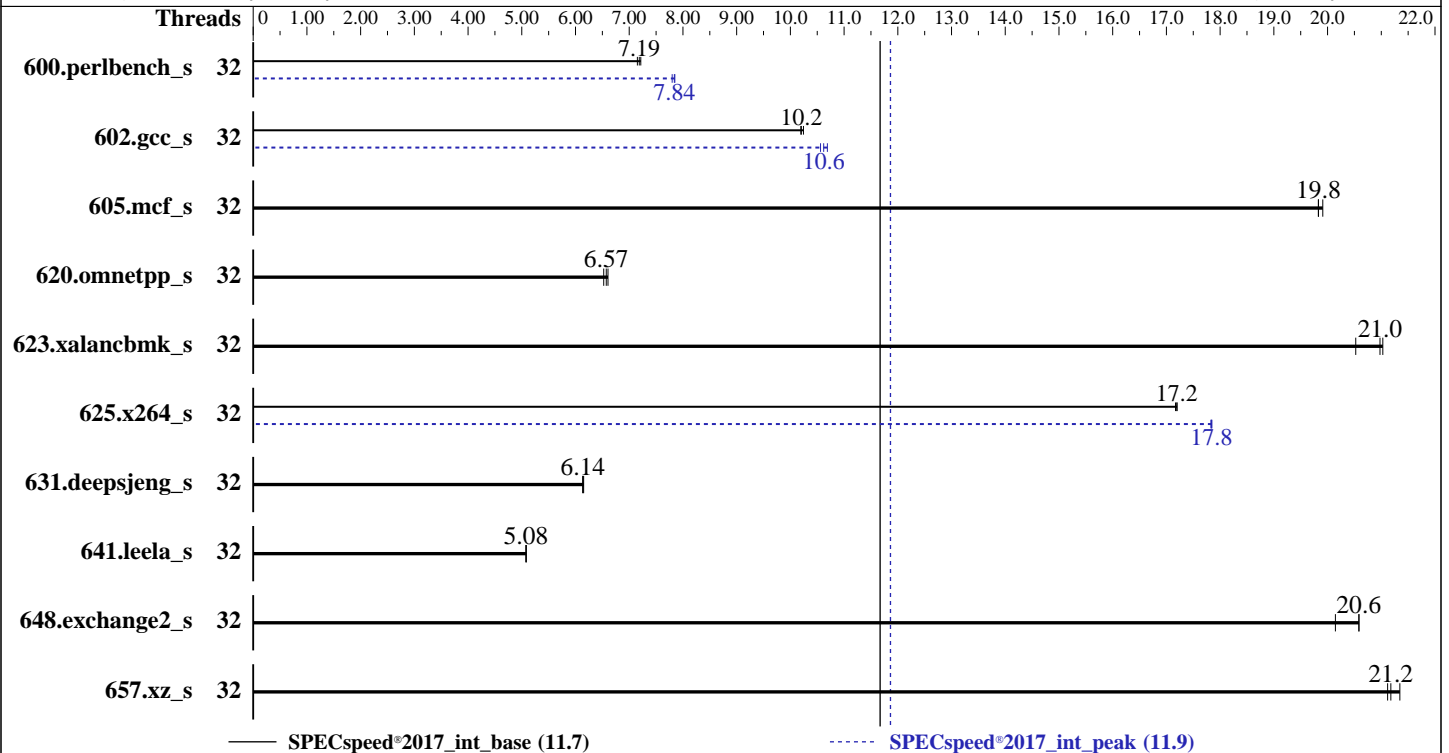
Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Mar-2023

Hardware Availability: Apr-2021

Software Availability: May-2022



### Hardware

CPU Name: Intel Xeon Silver 4309Y  
 Max MHz: 3600  
 Nominal: 2800  
 Enabled: 16 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: 12 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R, running at 2666)  
 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 Jan-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 and OS set to prefer performance at the cost of additional power usage.



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## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	32	248	7.15	246	7.22	<u>247</u>	<u>7.19</u>	32	226	7.85	<u>226</u>	<u>7.84</u>	228	7.80
602.gcc_s	32	391	10.2	<u>390</u>	<u>10.2</u>	389	10.2	32	377	10.6	373	10.7	<u>375</u>	<u>10.6</u>
605.mcf_s	32	237	19.9	<u>238</u>	<u>19.8</u>	238	19.8	32	237	19.9	<u>238</u>	<u>19.8</u>	238	19.8
620.omnetpp_s	32	<u>248</u>	<u>6.57</u>	250	6.53	247	6.61	32	<u>248</u>	<u>6.57</u>	250	6.53	247	6.61
623.xalancbmk_s	32	69.0	20.5	67.4	21.0	<u>67.6</u>	<u>21.0</u>	32	69.0	20.5	67.4	21.0	<u>67.6</u>	<u>21.0</u>
625.x264_s	32	103	17.2	103	17.2	<u>103</u>	<u>17.2</u>	32	98.9	17.8	98.8	17.8	<u>98.9</u>	<u>17.8</u>
631.deepsjeng_s	32	<u>233</u>	<u>6.14</u>	233	6.15	234	6.13	32	<u>233</u>	<u>6.14</u>	233	6.15	234	6.13
641.leela_s	32	336	5.08	<u>336</u>	<u>5.08</u>	336	5.08	32	336	5.08	<u>336</u>	<u>5.08</u>	336	5.08
648.exchange2_s	32	143	20.6	<u>143</u>	<u>20.6</u>	146	20.1	32	143	20.6	<u>143</u>	<u>20.6</u>	146	20.1
657.xz_s	32	290	21.3	293	21.1	<u>292</u>	<u>21.2</u>	32	290	21.3	293	21.1	<u>292</u>	<u>21.2</u>

SPECspeed®2017\_int\_base = **11.7**

SPECspeed®2017\_int\_peak = **11.9**

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](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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## 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 1> /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 Performance Tuning = BIOS Controls EPB  
ENERGY\_PERF\_BIAS\_CFG mode = Extreme Performance  
SNC (Sub NUMA) = Enable  
KTI Prefetch = Enable  
LLC Dead Line Alloc = Disable  
  
Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on Tyronespec Thu Mar 16 04:55:44 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
22. /sys/devices/virtual/dmi/id
23. dmidecode

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## Platform Notes (Continued)

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`  
04:55:44 up 22:51, 2 users, load average: 0.00, 0.00, 0.00  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - Wed06 8.00s 1.10s 0.00s -bash  
root tty2 - Wed12 16:33m 0.03s 0.03s -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) 4126708  
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) 4126708  
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=16 --tune base,peak -o all --define  
intspeedaffinity --define smt-on --define drop\_caches intspeerd  
runcpu --nobuild --action validate --define default-platform-flags --configfile  
ic2022.1-lin-core-avx512-speed-20220316.cfg --define cores=16 --tune base,peak --output\_format all  
--define intspeerdaffinity --define smt-on --define drop\_caches --nopower --runmode speed --tune base:peak  
--size refspeerd intspeerd --nopreenv --note-preenv --logfile  
\$SPEC/tmp/CPU2017.003/temlogs/preenv.intspeerd.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) Silver 4309Y CPU @ 2.80GHz  
vendor\_id : GenuineIntel  
cpu family : 6  
model : 106

(Continued on next page)



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## Platform Notes (Continued)

```

stepping      : 6
microcode     : 0xd0002e0
bugs          : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores     : 8
siblings      : 16
2 physical ids (chips)
32 processors (hardware threads)
physical id 0: core ids 0-7
physical id 1: core ids 0-7
physical id 0: apicids 0-15
physical id 1: apicids 64-79

```

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):                 32
On-line CPU(s) list:   0-31
Thread(s) per core:    2
Core(s) per socket:    8
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) Silver 4309Y CPU @ 2.80GHz
BIOS Model name:       Intel(R) Xeon(R) Silver 4309Y CPU @ 2.80GHz
Stepping:               6
CPU MHz:                2800.000
CPU max MHz:            3600.0000
CPU min MHz:            800.0000
BogoMIPS:               5600.00
Virtualization:         VT-x
L1d cache:              48K
L1i cache:              32K
L2 cache:               1280K
L3 cache:               12288K
NUMA node0 CPU(s):     0-7,16-23
NUMA node1 CPU(s):     8-15,24-31
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_vpoperndq la57 rdpid sgx_lc fsrm md_clear pconfig flush_l1d arch_capabilities

```

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(Continued on next page)



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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: 0-7,16-23
node 0 size: 515646 MB
node 0 free: 500374 MB
node 1 cpus: 8-15,24-31
node 1 size: 516089 MB
node 1 free: 502636 MB
node distances:
node  0  1
  0:  10  20
  1:  20  10

```

9. /proc/meminfo

MemTotal: 1056497508 kB

10. who -r

run-level 3 Mar 15 06:04

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 libvirt loadmodules lvm2-monitor mcelog mdmonitor microcode multipathd
nis-domainname nvidia-hibernate nvidia-resume nvidia-suspend nvme-fc-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 ebttables gssproxy httpd httpd@ initial-setup initial-setup-reconfiguration iprdump
iprinit iprupdate iscsid iscsiui 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 virtnodevd virtnwfilterd virtproxyd virtqemud virtsecret
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
ro
resume=/dev/mapper/rhel-swap

```

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## Platform Notes (Continued)

```
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 3.60 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+madvice [madvice] never
enabled         [always] madvice 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
```

-----  
19. OS release

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

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## Platform Notes (Continued)

```
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  210G  192G  53% /home
```

### 22. /sys/devices/virtual/dmi/id

```
Vendor:      TyroneSystems
Product:     TDI100C3R-212
Product Family: Family
Serial:      2X20022302
```

### 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 Micron 36ASF8G72PZ-3G2F1 64 GB 2 rank 3200, configured at 2666

### 24. BIOS

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

```
BIOS Vendor:    American Megatrends International, LLC.
BIOS Version:   PEGC0042
BIOS Date:      01/16/2023
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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## 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  
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-----

-----  
Fortran | 648.exchange2\_s(base, peak)  
-----

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316  
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## 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

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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**  
(2.80 GHz, Intel Xeon Silver 4309Y)

SPECspeed®2017\_int\_base = 11.7

SPECspeed®2017\_int\_peak = 11.9

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Mar-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)  
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(2.80 GHz, Intel Xeon Silver 4309Y)

SPECspeed®2017\_int\_base = 11.7

SPECspeed®2017\_int\_peak = 11.9

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

**Test Date:** Mar-2023  
**Hardware Availability:** Apr-2021  
**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/Intel-ic2022-official-linux64_revA.html)

[http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-ICX\\_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/Intel-ic2022-official-linux64_revA.xml)

[http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-ICX\\_revA.xml](http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-ICX_revA.xml)

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