



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero SDI200A3N-212

(2.00 GHz, Intel Xeon Platinum 8480+)

SPECrate®2017_int_base = 931

SPECrate®2017_int_peak = 966

CPU2017 License: 006042

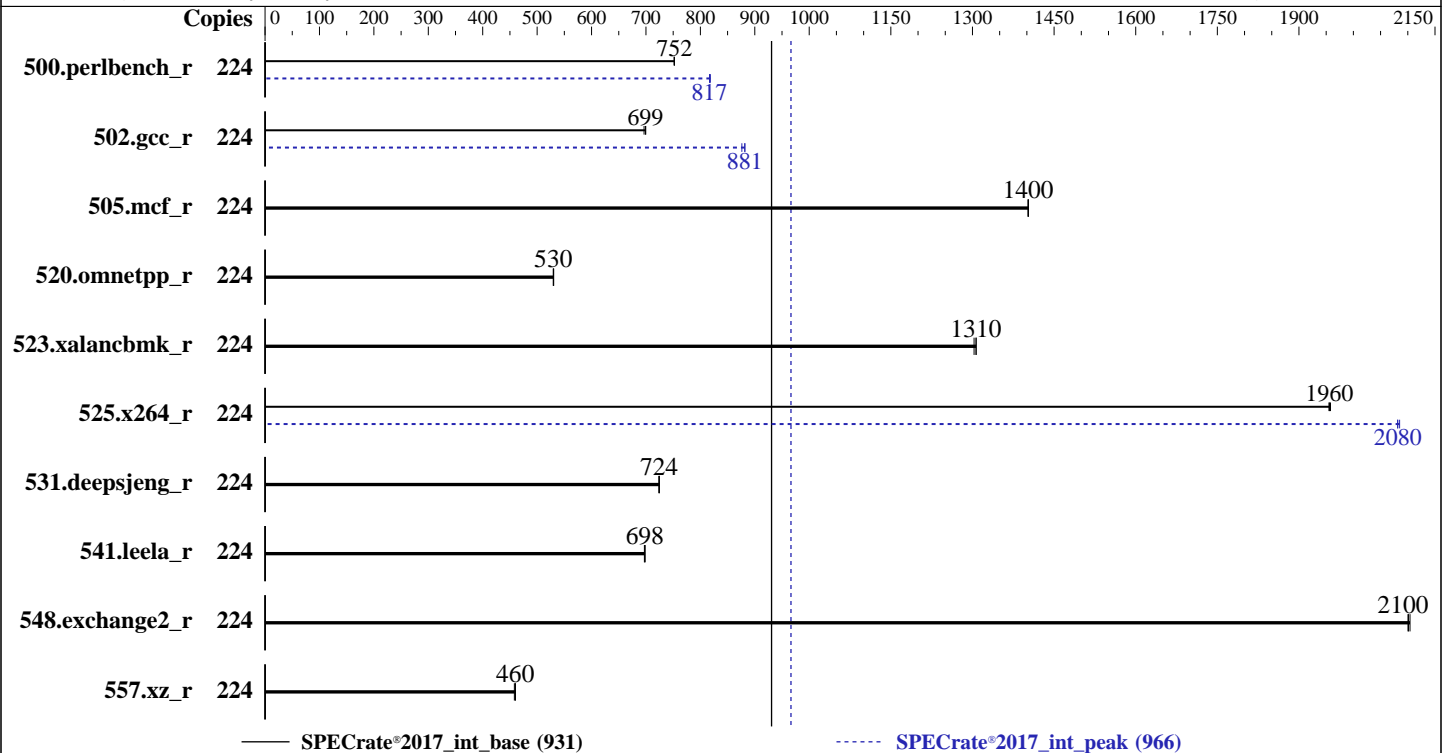
Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Jan-2024

Hardware Availability: Jan-2023

Software Availability: Nov-2023



Hardware

CPU Name: Intel Xeon Platinum 8480+
 Max MHz: 3800
 Nominal: 2000
 Enabled: 112 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chips
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 105 MB I+D on chip per chip
 Other: None
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R)
 Storage: 1 x 960 GB NVMe
 Other: None

Software

OS: Red Hat Enterprise Linux 9.3 (Plow)
 5.14.0-362.13.1.el9_3.x86_64
 Compiler: C/C++: Version 2023.2.3 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2023.2.3 of Intel Fortran Compiler for Linux;
 Parallel: No
 Firmware: Version 1.3 released Jun-2023
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-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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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	224	474	752	474	752	474	752	224	437	817	436	818	437	817
502.gcc_r	224	453	700	455	697	454	699	224	360	881	360	882	362	876
505.mcf_r	224	258	1400	258	1400	258	1400	224	258	1400	258	1400	258	1400
520.omnetpp_r	224	555	530	555	530	554	530	224	555	530	555	530	554	530
523.xalancbmk_r	224	181	1310	181	1310	182	1300	224	181	1310	181	1310	182	1300
525.x264_r	224	201	1960	201	1960	200	1960	224	188	2080	188	2080	188	2080
531.deepsjeng_r	224	354	725	355	724	354	724	224	354	725	355	724	354	724
541.leela_r	224	531	698	532	697	531	698	224	531	698	532	697	531	698
548.exchange2_r	224	279	2100	279	2100	279	2100	224	279	2100	279	2100	279	2100
557.xz_r	224	526	460	528	458	526	460	224	526	460	528	458	526	460

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

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:
LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/lib/ia32:/home/cpu2017/je5.0.1-32"
MALLOC_CONF = "retain:true"

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.

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General Notes (Continued)

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
ENERGY_PERF_BIAS_CFG mode = Maximum Performance
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 localhost.localdomain Wed Jan 10 15:41:27 2024

SUT (System Under Test) info as seen by some common utilities.

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13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
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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 localhost.localdomain 5.14.0-362.13.1.el9_3.x86_64 #1 SMP PREEMPT_DYNAMIC Fri Nov 24 01:57:57 EST
2023 x86_64 x86_64 x86_64 GNU/Linux

2. w
15:41:27 up 5 min, 1 user, load average: 0.33, 0.23, 0.11
USER TTY LOGIN@ IDLE JCPU PCPU WHAT
root tty1 15:36 7.00s 1.09s 0.02s -bash

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Platform Notes (Continued)

3. Username

From environment variable \$USER: root

4. ulimit -a

```

real-time non-blocking time (microseconds, -R) unlimited
core file size (blocks, -c) 0
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited
pending signals (-i) 4126556
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) 4126556
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited

```

5. sysinfo process ancestry

```

/usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
login -- root
-bash
-bash
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=224 -c
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=112 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak -o all intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=224 --configfile
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=112 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
--runmode rate --tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017

```

6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) Platinum 8480+
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping       : 8
microcode      : 0x2b0004d0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores      : 56
siblings       : 112
2 physical ids (chips)
224 processors (hardware threads)
physical id 0: core ids 0-55
physical id 1: core ids 0-55
physical id 0: apicids 0-111
physical id 1: apicids 128-239
Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
virtualized systems. Use the above data carefully.

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Platform Notes (Continued)

7. lscpu

From lscpu from util-linux 2.37.4:

```

Architecture:                x86_64
CPU op-mode(s):              32-bit, 64-bit
Address sizes:                46 bits physical, 57 bits virtual
Byte Order:                   Little Endian
CPU(s):                       224
On-line CPU(s) list:         0-223
Vendor ID:                    GenuineIntel
BIOS Vendor ID:              Intel(R) Corporation
Model name:                   Intel(R) Xeon(R) Platinum 8480+
BIOS Model name:             Intel(R) Xeon(R) Platinum 8480+
CPU family:                   6
Model:                        143
Thread(s) per core:          2
Core(s) per socket:          56
Socket(s):                    2
Stepping:                     8
CPU max MHz:                  3800.0000
CPU min MHz:                  800.0000
BogoMIPS:                     4000.00
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 tsc_known_freq pni pclmulqdq
                                dtes64 monitor ds_cpl 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 cat_l2
                                cdp_l3 invpcid_single intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp
                                ibrs_enhanced fsgsbase tsc_adjust bmil 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 avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts
                                avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq
                                avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid
                                bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear
                                serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile
                                amx_int8 flush_lld arch_capabilities
Lld cache:                    5.3 MiB (112 instances)
L1i cache:                    3.5 MiB (112 instances)
L2 cache:                     224 MiB (112 instances)
L3 cache:                     210 MiB (2 instances)
NUMA node(s):                 4
NUMA node0 CPU(s):            0-27,112-139
NUMA node1 CPU(s):            28-55,140-167
NUMA node2 CPU(s):            56-83,168-195
NUMA node3 CPU(s):            84-111,196-223
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 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/swaps barriers and __user pointer sanitization

```

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Platform Notes (Continued)

Vulnerability Spectre v2: Mitigation: Enhanced / Automatic IBRS, IBPB conditional, RSB filling, PBRSE-eIBRS SW sequence

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	48K	5.3M	12	Data	1	64	1	64
L1i	32K	3.5M	8	Instruction	1	64	1	64
L2	2M	224M	16	Unified	2	2048	1	64
L3	105M	210M	15	Unified	3	114688	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

```

available: 4 nodes (0-3)
node 0 cpus: 0-27,112-139
node 0 size: 257671 MB
node 0 free: 252693 MB
node 1 cpus: 28-55,140-167
node 1 size: 258034 MB
node 1 free: 257162 MB
node 2 cpus: 56-83,168-195
node 2 size: 258034 MB
node 2 free: 254809 MB
node 3 cpus: 84-111,196-223
node 3 size: 257965 MB
node 3 free: 257340 MB
node distances:
node  0  1  2  3
 0:  10  12  21  21
 1:  12  10  21  21
 2:  21  21  10  12
 3:  21  21  12  10

```

9. /proc/meminfo

MemTotal: 1056465900 kB

10. who -r

run-level 3 Jan 10 15:36

11. Systemd service manager version: systemd 252 (252-18.e19)

```

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 avahi-daemon bluetooth chronyd crond cups dbus-broker firewallld
gdm getty@ insights-client-boot irqbalance iscsi iscsi-onboot kdump libstoragemgmt
lm_sensors low-memory-monitor lvm2-monitor mcelog mdmonitor microcode multipathd
nis-domainname nvme-fc-boot-connections ostree-remount pmdc pmie pmlgger
power-profiles-daemon qemu-guest-agent rshmcertd rpcbind rsyslog rtkit-daemon
selinux-autorelabel-mark smartd sshd sssd switcheroo-control sysstat systemd-boot-update
systemd-network-generator tuned udisks2 upower vgauthd virtqemud vmttoolsd
enabled-runtime systemd-remount-fs

```

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Platform Notes (Continued)

```

disabled      arp-ethers autofs blk-availability brltty canberra-system-bootup canberra-system-shutdown
canberra-system-shutdown-reboot chrony-wait cni-dhcp console-getty cpupower cups-browsed
dbus-daemon debug-shell dnf-system-upgrade dnsmasq dovecot facontrol fcoe grafana-server
gssproxy httpd httpd@ ibacm iprdump iprinit iprupdate ipsec iscsid iscsiuiio kpatch
kvm_stat ledmon libvirt-guests libvirtd lldpad man-db-restart-cache-update named
named-chroot netavark-dhcp-proxy nfs-blkmap nfs-server nftables nmb numad nvmmf-autoconnect
ostree-readonly-sysroot-migration pesign pmfind pmie_farm pmlogger_farm pmproxy podman
podman-auto-update podman-clean-transient podman-kube@ podman-restart postfix powertop
psacct ras-mc-ctl rasdaemon rdisc rhcd rhsm rhsm-facts rpmdb-rebuild rrdcached saslauthd
selinux-check-proper-disable serial-getty@ smb snmpd snmptrapd spamassassin
speech-dispatcherd srp_daemon srp_daemon_port@ sshd-keygen@ systemd-boot-check-no-failures
systemd-nspawn@ systemd-pstore systemd-sysextr target targetclid tog-pegasus trace-cmd
virtinterfaced virtnetworkd virtnodevdev virtwfilterd virtproxyd virtsecret d virtstoraged
vsftpd wpa_supplicant

indirect      pcsd spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo
systemd-sysupdate systemd-sysupdate-reboot virtlockd virtlogd vsftpd@

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-362.13.1.el9_3.x86_64
root=/dev/mapper/rhel-root
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 3.80 GHz and 3.80 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     20
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

```

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Platform Notes (Continued)

```

vm.watermark_boost_factor      15000
vm.watermark_scale_factor      10
vm.zone_reclaim_mode           0

```

```

-----
17. /sys/kernel/mm/transparent_hugepage
defrag          always 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_shared        256
max_ptes_swap          64
pages_to_scan          4096
scan_sleep_millisecs  10000

```

```

-----
19. OS release
From /etc/*-release /etc/*-version
os-release      Red Hat Enterprise Linux 9.3 (Plow)
redhat-release  Red Hat Enterprise Linux release 9.3 (Plow)
system-release  Red Hat Enterprise Linux release 9.3 (Plow)

```

```

-----
20. Disk information
SPEC is set to: /home/cpu2017
Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs      856G     130G   726G  16% /home

```

```

-----
21. /sys/devices/virtual/dmi/id
Vendor:          Tyrone Systems
Product:         Tyrone Camarero SDI200A3N-212
Product Family:  Family
Serial:          2X21292023D

```

```

-----
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:
  16x Samsung M321R8GA0BB0-CQKZJ 64 GB 2 rank 4800

```

```

-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:      American Megatrends International, LLC.
BIOS Version:     1.3
BIOS Date:        06/01/2023
BIOS Revision:    5.31

```




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Compiler Version Notes

=====
C | 502.gcc_r(peak)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
=====

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
=====

=====
C | 502.gcc_r(peak)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
=====

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
=====

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
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=====

=====
Fortran | 548.exchange2_r(base, peak)
=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
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=====

Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx



SPEC CPU®2017 Integer Rate Result

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Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero SDI200A3N-212

(2.00 GHz, Intel Xeon Platinum 8480+)

SPECrate®2017_int_base = 931

SPECrate®2017_int_peak = 966

CPU2017 License: 006042

Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Jan-2024

Hardware Availability: Jan-2023

Software Availability: Nov-2023

Base Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
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:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc
```

Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx



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CPU2017 License: 006042

Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Jan-2024

Hardware Availability: Jan-2023

Software Availability: Nov-2023

Peak Portability Flags

```

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
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

```

Peak Optimization Flags

C benchmarks:

```

500.perlbench_r: -w -std=c11 -m64 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-fno-strict-overflow
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/ia32_lin
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/home/specdev/new_compilers/ic2023.2.3/compiler/lib/intel64_lin
-lqkmalloc

557.xz_r: basepeak = yes

```

C++ benchmarks:

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

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SPECrate®2017_int_peak = 966

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

Test Date: Jan-2024
Hardware Availability: Jan-2023
Software Availability: Nov-2023

Peak Optimization Flags (Continued)

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-SPR-revC.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-SPR-revC.xml>

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