



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology

Wentian WR5220 G3
(2.00 GHz, Intel Xeon Platinum 8480+)

SPECrate®2017_int_base = 948

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017

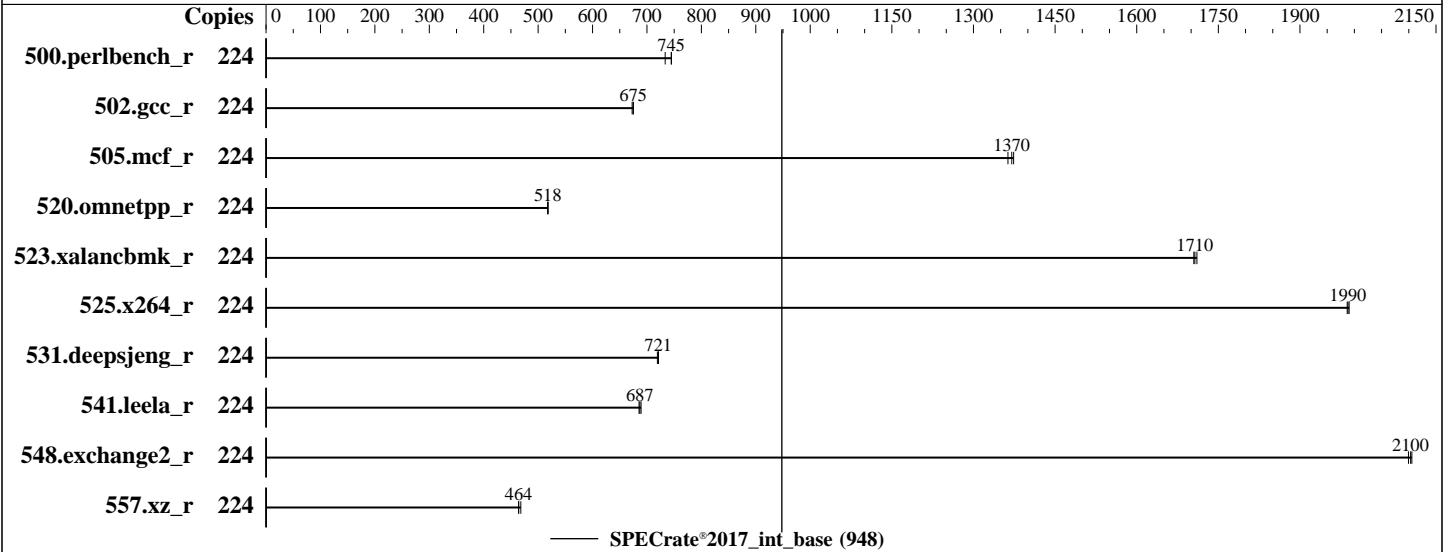
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Apr-2023

Hardware Availability: Jan-2023

Software Availability: Dec-2022



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 3.84 TB SATA SSD
 Other: None

Software

OS: Red Hat Enterprise Linux 9.0 (Plow)
 Kernel 5.14.0-70.13.1.el9_0.x86_64
 Compiler: C/C++: Version 2023.0 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2023.0 of Intel Fortran Compiler for Linux;
 Parallel: No
 Firmware: Lenovo BIOS Version T8E120T 0.36 released Feb-2023
 File System: xfs
 System State: Run level 5 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: Not Applicable
 Other: None
 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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	224	479	745	479	745	486	733							
502.gcc_r	224	470	675	471	673	470	675							
505.mcf_r	224	266	1360	264	1370	263	1370							
520.omnetpp_r	224	567	518	568	518	568	518							
523.xalancbmk_r	224	139	1710	138	1710	139	1700							
525.x264_r	224	197	1990	197	1990	197	1990							
531.deepsjeng_r	224	356	721	357	719	356	721							
541.leela_r	224	541	685	538	689	540	687							
548.exchange2_r	224	279	2110	279	2100	280	2100							
557.xz_r	224	517	468	521	464	521	464							

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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"
OS set to performance mode via cpupower frequency-set -g performance

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu_report/lib/intel64:/home/cpu_report/lib/ia32:/home/cpu_report/je5.0.1-32"
MALLOCONF = "retain:true"



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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 3> /proc/sys/vm/drop_caches
 runcpu command invoked through numactl i.e.:
 numactl --interleave=all runcpu <etc>
 NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
 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.
 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.

Platform Notes

BIOS configuration:
 Power Mode set to Custom
 SNC set to Enable SNC4 (4-clusters)
 LLC Prefetch set to Enabled
 DCU Streamer Prefetcher set to Disabled
 C1 Enhanced Mode set to Disabled
 Patrol Scrub set to Disabled
 Intel Virtualization Technology set to Disabled
 Package C State set to C0/C1 state

Sysinfo program /home/cpu_report/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost.localdomain Fri Apr 14 21:49:59 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 250 (250-6.el9_0)
 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

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Platform Notes (Continued)

```

1. uname -a
Linux localhost.localdomain 5.14.0-70.13.1.el9_0.x86_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 x86_64
x86_64 x86_64 GNU/Linux

```

```

2. w
21:49:59 up 3 min,  1 user,  load average: 0.33, 0.14, 0.05
USER      TTY          LOGIN@   IDLE   JCPU   PCPU WHAT
root      :l          21:48   ?xdm?  13:24   0.00s /usr/libexec/gdm-x-session --register-session --run-script
gnome-session

```

```

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) 4124569
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) 4124569
virtual memory                (kbytes, -v) unlimited
file locks                   (-x) unlimited

```

```

5. sysinfo process ancestry
/usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
/usr/lib/systemd/systemd --user
/usr/libexec/gnome-terminal-server
bash
bash
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=224 -c
ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=112 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base -o all intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=224 --configfile
ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=112 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base --output_format all --nopower --runmode
rate --tune base --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/cpu_report

```

```

6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) Platinum 8480+
vendor_id      : GenuineIntel

```

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Platform Notes (Continued)

```

cpu family      : 6
model          : 143
stepping       : 6
microcode      : 0x2b000161
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
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.

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:              6
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 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 bmi1 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 hwp hwp_act_window hwp_epp hwp_pkg_req
                      avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vpcmlmulqdq avx512_vnni
                      avx512_bitalg tme avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote
                      movdiri movdir64b enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr
                      avx512_fp16 amx_tile flush_l1d arch_capabilities

L1d 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)

```

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Platform Notes (Continued)

```

NUMA node(s): 8
NUMA node0 CPU(s): 0-13,112-125
NUMA node1 CPU(s): 14-27,126-139
NUMA node2 CPU(s): 28-41,140-153
NUMA node3 CPU(s): 42-55,154-167
NUMA node4 CPU(s): 56-69,168-181
NUMA node5 CPU(s): 70-83,182-195
NUMA node6 CPU(s): 84-97,196-209
NUMA node7 CPU(s): 98-111,210-223
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: 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 IBRS, IBPB conditional, RSB filling
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: 8 nodes (0-7)
node 0 cpus: 0-13,112-125
node 0 size: 128131 MB
node 0 free: 127797 MB
node 1 cpus: 14-27,126-139
node 1 size: 128981 MB
node 1 free: 128351 MB
node 2 cpus: 28-41,140-153
node 2 size: 129017 MB
node 2 free: 128718 MB
node 3 cpus: 42-55,154-167
node 3 size: 129017 MB
node 3 free: 128730 MB
node 4 cpus: 56-69,168-181
node 4 size: 129017 MB
node 4 free: 128725 MB
node 5 cpus: 70-83,182-195
node 5 size: 129017 MB
node 5 free: 128069 MB
node 6 cpus: 84-97,196-209
node 6 size: 129017 MB
node 6 free: 127364 MB
node 7 cpus: 98-111,210-223
node 7 size: 128998 MB
node 7 free: 128564 MB
node distances:
node  0  1  2  3  4  5  6  7
0:  10  12  12  12  21  21  21  21
1:  12  10  12  12  21  21  21  21
2:  12  12  10  12  21  21  21  21
3:  12  12  12  10  21  21  21  21

```

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Platform Notes (Continued)

4:	21	21	21	21	10	12	12	12
5:	21	21	21	21	12	10	12	12
6:	21	21	21	21	12	12	10	12
7:	21	21	21	21	12	12	12	10

9. /proc/meminfo
MemTotal: 1055950048 kB

10. who -r
run-level 5 Apr 14 21:47

11. Systemd service manager version: systemd 250 (250-6.el9_0)
Default Target Status
graphical degraded

12. Failed units, from systemctl list-units --state=failed
UNIT LOAD ACTIVE SUB DESCRIPTION
* NetworkManager-wait-online.service loaded failed failed Network Manager Wait Online

13. 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 firewalld
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 pmcd pmie pmlogger
power-profiles-daemon qemu-guest-agent rhsmcertd rpcbind rsyslog rtkit-daemon
selinux-autorelabel-mark smartd sshd sssd switcheroo-control sysstat
systemd-network-generator udisks2 upower vgauthd virtqemud vmtoolsd
enabled-runtime systemd-remount-fs
disabled arp-ethers autofs blk-availability brltyt canberra-system-bootup canberra-system-shutdown
canberra-system-shutdown-reboot chrony-wait cni-dhcp console-getty cpupower cups-browsed
dbus-daemon debug-shell dnsmasq dovecot fancontrol fcoe grafana-server gssproxy httpd
httpd@ ibacm iprdump iprprint iprupdate ipsec iscsid iscsiuiop kpatch kvm_stat ledmon
libvirt-guests libvirt d lldpad man-db-restart-cache-update named named-chroot nfs-blkmap
nfs-server nftables nmb numad nvme-autoconnect pmfind pmie_farm pmlogger_farm pmpoxy
podman podman-auto-update podman-restart postfix powertop psacct ras-mc-ctl rasdaemon
rdisc rhcd rhsm rhsm-facts rpmdb-rebuild rrdcached saslauthd 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-sysex target
targetclid tog-pegasus trace-cmd virtinterfaced virtnetworkd virtnodedevd virtnwfilterd
virtproxyd virtsecret virtstoraged vsftpd wpa_supplicant
indirect pcsd spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo
virtlockd virtlogd vsftpd@

14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd0,gpt6)/boot/vmlinuz-5.14.0-70.13.1.el9_0.x86_64
root=UUID=0fcc2b80-3b7a-487a-8bd6-e3cddec3d533
ro
crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
resume=UUID=d8abe978-c0ca-4381-ac68-dadfc58fd1c9
rhgb
quiet

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Platform Notes (Continued)

```

15. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 3.80 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.
  boost state support:
    Supported: yes
    Active: yes

```

```

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                 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+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 9.0 (Plow)
redhat-release Red Hat Enterprise Linux release 9.0 (Plow)
system-release Red Hat Enterprise Linux release 9.0 (Plow)

```

```

20. Disk information
SPEC is set to: /home/cpu_report
Filesystem      Type  Size  Used Avail Use% Mounted on

```

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Platform Notes (Continued)

/dev/sda6 xfs 954G 156G 799G 17% /

21. /sys/devices/virtual/dmi/id
Vendor: Lenovo
Product: Lenovo WentTian GB5520 V3
Product Family: Lenovo
Serial: J80007RK

22. dmidecode
Additional information from dmidecode 3.3 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:
 2x Samsung M321R8GA0BB0-CQKEG 64 GB 2 rank 4800
 13x Samsung M321R8GA0BB0-CQKMG 64 GB 2 rank 4800
 1x Samsung M321R8GA0BB0-CQKVG 64 GB 2 rank 4800

23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: LENOVO
BIOS Version: T8E120T-0.36
BIOS Date: 02/13/2023
BIOS Revision: 5.29

Compiler Version Notes

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

Fortran | 548.exchange2_r(base)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icx

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SPECrate®2017_int_peak = Not Run

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Test Date: Apr-2023

Test Sponsor: Lenovo Global Technology

Hardware Availability: Jan-2023

Tested by: Lenovo Global Technology

Software Availability: Dec-2022

Base Compiler Invocation (Continued)

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

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/usr/local/intel/compiler/2023.0.0/linux/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/usr/local/intel/compiler/2023.0.0/linux/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/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```



SPEC CPU®2017 Integer Rate Result

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Lenovo Global Technology

Wentian WR5220 G3
(2.00 GHz, Intel Xeon Platinum 8480+)

SPECrate®2017_int_base = 948

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Apr-2023

Hardware Availability: Jan-2023

Software Availability: Dec-2022

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

<http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Eaglestream-WR5220-G3-R.html>

<http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.html>

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

<http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Eaglestream-WR5220-G3-R.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.xml>

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