



# SPEC CPU®2017 Integer Rate Result

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## Nettrix

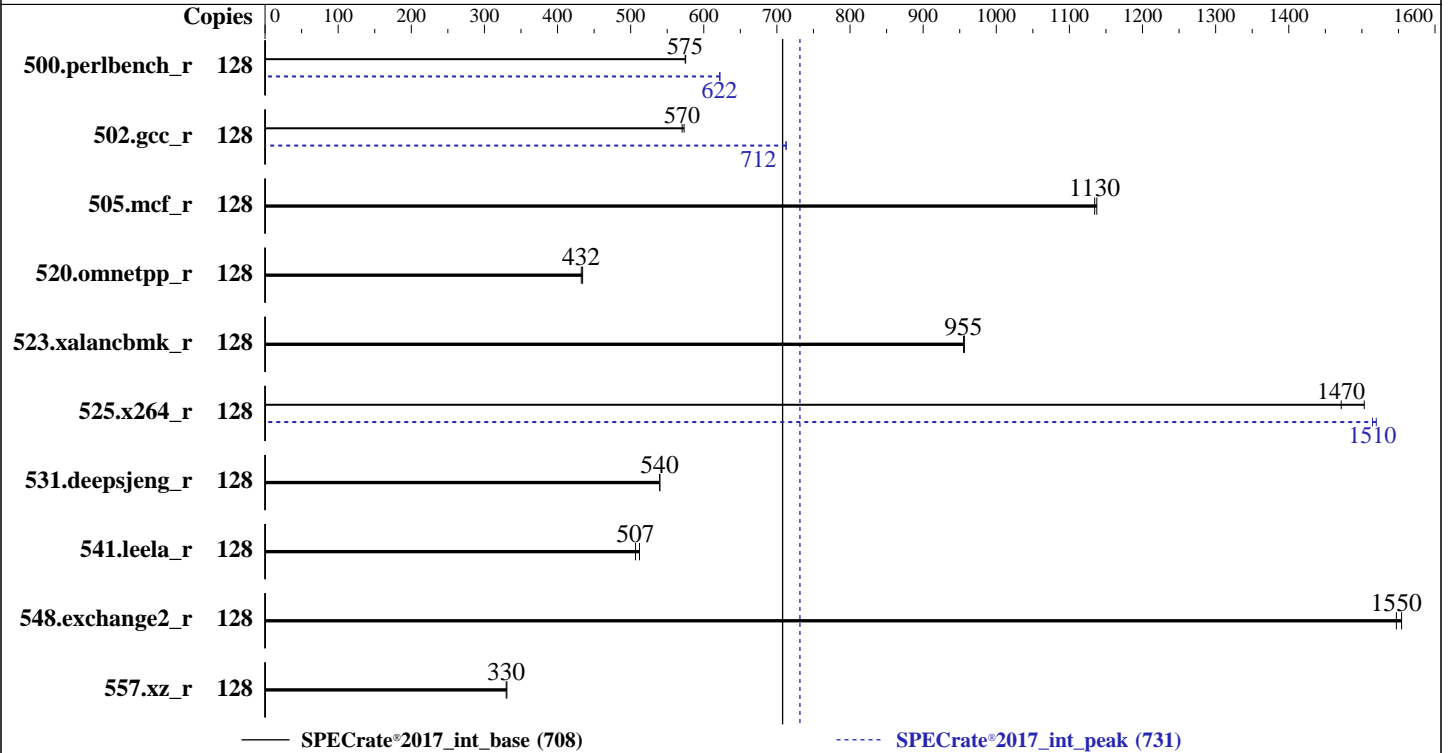
SPECrate®2017\_int\_base = 708

R620 G50 (Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECrate®2017\_int\_peak = 731

CPU2017 License: 6138  
Test Sponsor: Nettrix  
Tested by: Nettrix

Test Date: Mar-2024  
Hardware Availability: Jan-2024  
Software Availability: Jan-2024



### Hardware

CPU Name: Intel Xeon Platinum 8562Y+  
Max MHz: 4100  
Nominal: 2800  
Enabled: 128 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: 60 MB I+D on chip per chip  
Other: None  
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R)  
Storage: 1 x 14 TB SATA HDD (7200 rpm)  
Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP5  
5.14.21-150500.53-default  
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: Nettrix BIOS Version NNH1041268 released Jan-2024  
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 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	128	<b><u>355</u></b>	<b><u>575</u></b>	354	575			128	<b><u>328</u></b>	<b><u>622</u></b>	328	622		
502.gcc_r	128	<b><u>318</u></b>	<b><u>570</u></b>	316	573			128	<b><u>254</u></b>	<b><u>712</u></b>	254	713		
505.mcf_r	128	<b><u>182</u></b>	<b><u>1130</u></b>	182	1140			128	<b><u>182</u></b>	<b><u>1130</u></b>	182	1140		
520.omnetpp_r	128	<b><u>388</u></b>	<b><u>432</u></b>	387	434			128	<b><u>388</u></b>	<b><u>432</u></b>	387	434		
523.xalancbmk_r	128	<b><u>141</u></b>	<b><u>955</u></b>	141	956			128	<b><u>141</u></b>	<b><u>955</u></b>	141	956		
525.x264_r	128	149	1500	<b><u>152</u></b>	<b><u>1470</u></b>			128	147	1520	<b><u>148</u></b>	<b><u>1510</u></b>		
531.deepsjeng_r	128	272	540	<b><u>272</u></b>	<b><u>540</u></b>			128	272	540	<b><u>272</u></b>	<b><u>540</u></b>		
541.leela_r	128	414	512	<b><u>418</u></b>	<b><u>507</u></b>			128	414	512	<b><u>418</u></b>	<b><u>507</u></b>		
548.exchange2_r	128	216	1550	<b><u>217</u></b>	<b><u>1550</u></b>			128	216	1550	<b><u>217</u></b>	<b><u>1550</u></b>		
557.xz_r	128	<b><u>419</u></b>	<b><u>330</u></b>	418	331			128	<b><u>419</u></b>	<b><u>330</u></b>	418	331		

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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"  
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/tzk/SPECcpu/lib/intel64:/home/tzk/SPECcpu/lib/ia32:/home/tzk/SPECcpu/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  
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.  
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.:

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### General Notes (Continued)

numactl --interleave=all runcpu <etc>  
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 Configuration:  
SNC (Sub NUMA) set to Enable SNC2 (2-clusters)  
Patrol Scrub set to Disabled  
LLC dead line alloc set to Disabled  
DCU Streamer Prefetcher set to Disabled  
Hardware P-States set to Native Mode

Sysinfo program /home/tzk/SPECcpu/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost Wed Mar 6 15:36:05 2024

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

-----  
Table of contents  
-----

1. uname -a
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. sysctl
16. /sys/kernel/mm/transparent\_hugepage
17. /sys/kernel/mm/transparent\_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS

-----  
1. uname -a  
Linux localhost 5.14.21-150500.53-default #1 SMP PREEMPT\_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043)  
x86\_64 x86\_64 x86\_64 GNU/Linux  
-----

-----  
2. w  
15:36:05 up 1 day, 5:32, 4 users, load average: 11.43, 14.77, 6.55  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - Tue10 25:28m 0.11s 0.11s -bash  
root pts/0 10.2.49.235 14:41 0.00s 0.88s 0.07s -bash  
root pts/1 10.32.5.20 15:10 19:57 0.03s 0.03s -bash  
-----

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### Platform Notes (Continued)

```
root pts/2 10.2.49.235 15:33 2:05 0.03s 0.03s -bash
```

-----  
3. Username

From environment variable \$USER: root

-----  
4. ulimit -a

```
core file size          (blocks, -c) unlimited
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size               (blocks, -f) unlimited
pending signals         (-i) 4125041
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) 4125041
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

-----  
5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize 30
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: root@pts/0
-bash
/bin/sh ./reportable-ic2023.2.3-lin-sapphirerapids-rate-smt-on-20231121.sh
runcpu --nobuild --action validate --iterations=2 --define default-platform-flags --define numcopies=128 -c
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=64 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak -o all intrate
runcpu --nobuild --action validate --iterations 2 --define default-platform-flags --define numcopies=128
--configfile ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=64 --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/CPU2017.039/templogs/preenv.intrate.039.0.log --lognum 039.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/tzk/SPECcpu
```

-----  
6. /proc/cpuinfo

```
model name      : INTEL(R) XEON(R) PLATINUM 8562Y+
vendor_id       : GenuineIntel
cpu family      : 6
model           : 207
stepping        : 2
microcode       : 0x21000200
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores       : 32
siblings        : 64
2 physical ids (chips)
128 processors (hardware threads)
physical id 0: core ids 0-31
physical id 1: core ids 0-31
physical id 0: apicids 0-63
physical id 1: apicids 128-191
```

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### Platform Notes (Continued)

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:          52 bits physical, 57 bits virtual
Byte Order:             Little Endian
CPU(s):                 128
On-line CPU(s) list:   0-127
Vendor ID:              GenuineIntel
Model name:             INTEL(R) XEON(R) PLATINUM 8562Y+
CPU family:             6
Model:                  207
Thread(s) per core:    2
Core(s) per socket:    32
Socket(s):              2
Stepping:               2
CPU max MHz:           4100.0000
CPU min MHz:           800.0000
BogoMIPS:               5600.00
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 aperfperf tsc_known_freq pni pclmulqdq dtes64 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 cat_l2 cdp_l3 invpcid_single
                        cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority
                        ept vpid ept_ad fsgsbase tsc_adjust bmil hle avx2 smep bmi2 erms invpcid
                        rtm 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 avx_vnni avx512_bf16
                        wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req
                        hfi 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 avx512_fp16 amx_tile flush_lld arch_capabilities
Virtualization:        VT-x
L1d cache:             3 MiB (64 instances)
L1i cache:             2 MiB (64 instances)
L2 cache:              128 MiB (64 instances)
L3 cache:              120 MiB (2 instances)
NUMA node(s):         4
NUMA node0 CPU(s):    0-15,64-79
NUMA node1 CPU(s):    16-31,80-95
NUMA node2 CPU(s):    32-47,96-111
NUMA node3 CPU(s):    48-63,112-127
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 store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRBSB-eIBRS SW

```

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### Platform Notes (Continued)

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	3M	12	Data	1	64	1	64
L1i	32K	2M	8	Instruction	1	64	1	64
L2	2M	128M	16	Unified	2	2048	1	64
L3	60M	120M	15	Unified	3	65536	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: 0-15,64-79
node 0 size: 257562 MB
node 0 free: 247363 MB
node 1 cpus: 16-31,80-95
node 1 size: 258039 MB
node 1 free: 250751 MB
node 2 cpus: 32-47,96-111
node 2 size: 258039 MB
node 2 free: 249908 MB
node 3 cpus: 48-63,112-127
node 3 size: 257649 MB
node 3 free: 250318 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: 1056042296 kB

10. who -r

run-level 3 Mar 5 10:03

11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)

Default Target Status  
multi-user running

12. Services, from systemctl list-unit-files

```

STATE          UNIT FILES
enabled        YaST2-Firstboot YaST2-Second-Stage apparmor auditd chronyd cron cups firewalld getty@
                haveged irqbalance issue-generator kbdsettings kdump kdump-early klog lvm2-monitor nscd
                postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked wickedd-auto4
                wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
disabled       autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
                console-getty corosync corosync-notifyd crm_mon ctdb cups-browsed debug-shell dlm
                dmraid-activation drbd drbd-lvchange@ drbd-wait-promotable@ ebttables exchange-bmc-os-info
                gpm grub2-once haveged-switch-root hawk ipmi ipmievd ipvsadm issue-add-ssh-keys kexec-load
                ldirectord logd lunmask lvmlockd lvmlocks man-db-create multipathd nfs nfs-blkmap

```

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### Platform Notes (Continued)

```
pacemaker rpcbind rpmconfigcheck rsyncd sanlock sbd sbd_remote serial-getty@
smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures
indirect          systemd-network-generator systemd-sysexit systemd-time-wait-sync systemd-timesyncd wdm
wickedd
```

```
-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
root=UUID=aec0cd35-b79c-432e-8a92-68e81aa94bbb
splash=silent
resume=/dev/disk/by-uuid/d53caa22-ee5c-46fa-a8f2-44d678cc6069
mitigations=auto
quiet
security=apparmor
crashkernel=317M,high
crashkernel=72M,low
-----
```

```
-----
14. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 4.10 GHz.
                   The governor "performance" may decide which speed to use
                   within this range.

  boost state support:
    Supported: yes
    Active: yes
-----
```

```
-----
15. 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      5000
vm.dirty_ratio                  20
vm.dirty_writeback_centisecs   1000
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
-----
```

```
-----
16. /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
-----
```

```
-----
17. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs  60000
defrag                  1
-----
```

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### Platform Notes (Continued)

```
max_ptes_none          511
max_ptes_shared        256
max_ptes_swap          64
pages_to_scan          4096
scan_sleep_millisecs   10000
```

-----  
18. OS release  
From /etc/\*-release /etc/\*-version  
os-release openSUSE Leap 15.5

-----  
19. Disk information  
SPEC is set to: /home/tzk/SPECcpu  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/sda3 xfs 12T 64G 12T 1% /home

-----  
20. /sys/devices/virtual/dmi/id  
Vendor: Nettrix  
Product: R620 G50  
Product Family: Rack  
Serial: 6101810603447812

-----  
21. dmidecode  
Additional information from dmidecode 3.4 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:  
9x Samsung M321R8GA0PB0-CWMCH 64 GB 2 rank 5600  
7x Samsung M321R8GA0PB0-CWMJH 64 GB 2 rank 5600

-----  
22. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: American Megatrends International, LLC.  
BIOS Version: NNH1041268  
BIOS Date: 01/26/2024  
BIOS Revision: 5.32

### 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.

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## Compiler Version Notes (Continued)

=====  
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, peak) 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  
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-----

=====  
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)  
-----

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## Base Compiler Invocation

C benchmarks:  
icx

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

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

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Nettrix

SPECrate®2017\_int\_base = 708

R620 G50 (Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECrate®2017\_int\_peak = 731

CPU2017 License: 6138  
Test Sponsor: Nettrix  
Tested by: Nettrix

Test Date: Mar-2024  
Hardware Availability: Jan-2024  
Software Availability: Jan-2024

## Base Portability Flags (Continued)

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 -xsaphirerapids -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 -xsaphirerapids -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 -xsaphirerapids -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



# SPEC CPU®2017 Integer Rate Result

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Nettrix

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R620 G50 (Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECrate®2017\_int\_peak = 731

**CPU2017 License:** 6138  
**Test Sponsor:** Nettrix  
**Tested by:** Nettrix

**Test Date:** Mar-2024  
**Hardware Availability:** Jan-2024  
**Software Availability:** Jan-2024

## 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.profdata(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.profdata(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:

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# SPEC CPU®2017 Integer Rate Result

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## Nettrix

SPECrate®2017\_int\_base = 708

R620 G50 (Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECrate®2017\_int\_peak = 731

CPU2017 License: 6138

Test Sponsor: Nettrix

Tested by: Nettrix

Test Date: Mar-2024

Hardware Availability: Jan-2024

Software Availability: Jan-2024

## 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/Nettrix-Platform-Settings-V1.3-SPR-revA.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/Nettrix-Platform-Settings-V1.3-SPR-revA.xml>

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