



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443  
SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

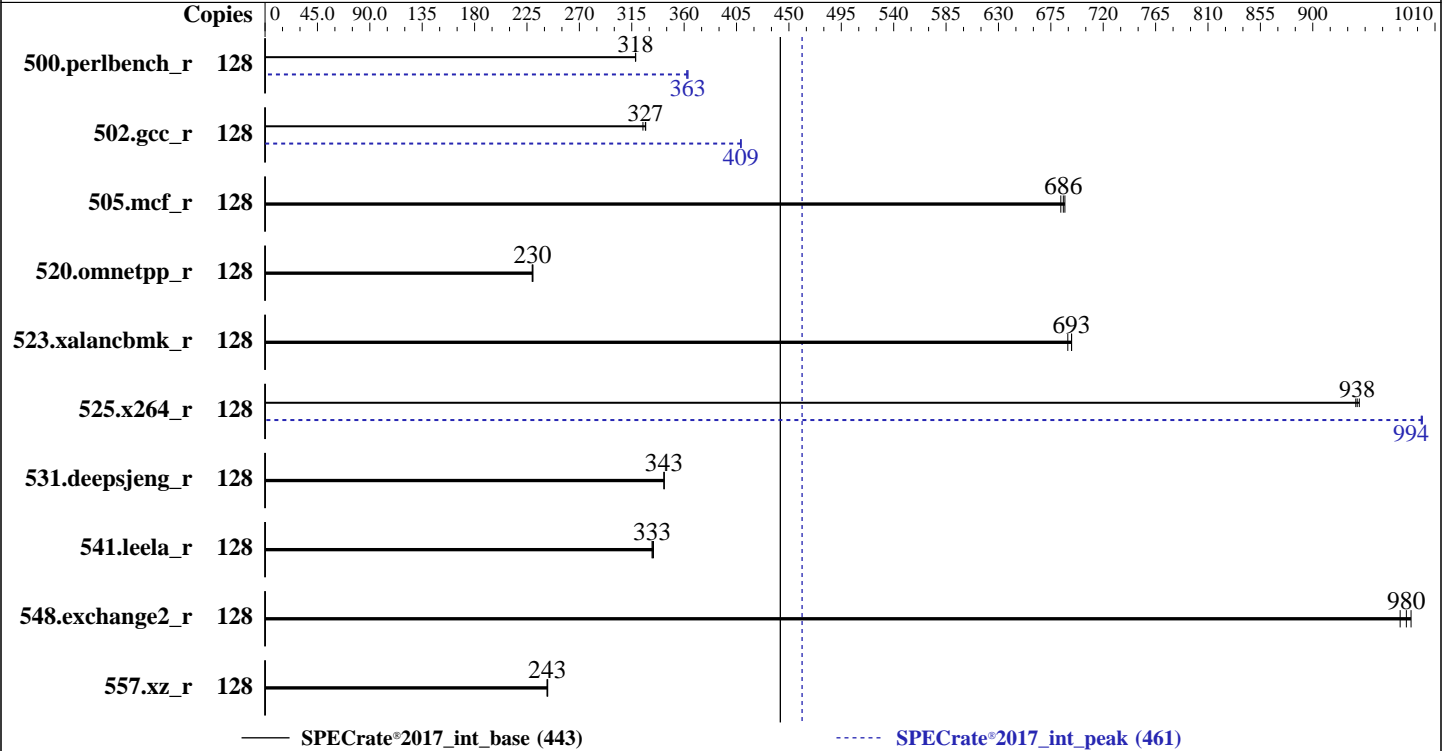
Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022



### Hardware

CPU Name: Intel Xeon Gold 6338N  
 Max MHz: 3500  
 Nominal: 2200  
 Enabled: 64 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: 48 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (32 x 32 GB 2Rx4 PC4-3200AA-R, running at 2666)  
 Storage: 1 x 2 TB NVME SSD  
 Other: None

### Software

OS: Red Hat Enterprise Linux 9.0 (Plow)  
 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: Version 07.01.00 released Feb-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 and OS set to prefer performance at the cost of additional power usage.



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443  
SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	128	640	318	<b>640</b>	<b>318</b>	640	318	128	563	362	561	363	<b>561</b>	<b>363</b>
502.gcc_r	128	554	327	<b>555</b>	<b>327</b>	558	325	128	444	409	<b>443</b>	<b>409</b>	443	409
505.mcf_r	128	303	684	<b>302</b>	<b>686</b>	301	687	128	303	684	<b>302</b>	<b>686</b>	301	687
520.omnetpp_r	128	732	229	<b>731</b>	<b>230</b>	730	230	128	732	229	<b>731</b>	<b>230</b>	730	230
523.xalancbmk_r	128	195	693	<b>195</b>	<b>693</b>	196	690	128	195	693	<b>195</b>	<b>693</b>	196	690
525.x264_r	128	238	940	239	937	<b>239</b>	<b>938</b>	128	225	994	<b>226</b>	<b>994</b>	226	993
531.deepsjeng_r	128	428	343	428	343	<b>428</b>	<b>343</b>	128	428	343	428	343	<b>428</b>	<b>343</b>
541.leela_r	128	<b>637</b>	<b>333</b>	637	333	635	334	128	<b>637</b>	<b>333</b>	637	333	635	334
548.exchange2_r	128	341	984	<b>342</b>	<b>980</b>	344	975	128	341	984	<b>342</b>	<b>980</b>	344	975
557.xz_r	128	<b>570</b>	<b>243</b>	569	243	571	242	128	<b>570</b>	<b>243</b>	569	243	571	242

SPECrate®2017\_int\_base = **443**

SPECrate®2017\_int\_peak = **461**

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:  
LD\_LIBRARY\_PATH = "/home/CPU2017/lib/intel64:/home/CPU2017/lib/ia32:/home/CPU2017/je5.0.1-32"  
MALLOC\_CONF = "retain:true"



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443  
SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM  
memory using Red Hat Enterprise Linux 8.4  
Transparent Huge Pages enabled by default  
Prior to runcpu invocation  
Filesystem page cache synced and cleared with:  
sync; echo 3> /proc/sys/vm/drop\_caches

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.

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:  
ENERGY\_PERF\_BIAS\_CFG mode set to Performance  
Hardware Prefetch set to Disable  
VT Support set to Disable  
Sub NUMA Cluster (SNC) set to SNC2

Sysinfo program /home/CPU2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Wed Aug 2 10:56:09 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. 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

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443  
SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## 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`  
10:56:09 up 1:36, 2 users, load average: 0.07, 4.26, 42.15  
USER TTY LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 09:19 9.00s 1.52s 0.08s sh  
reportable-ic2023.0-lin-core-avx512-rate-smt-on-20221201.sh  
root tty2 10:05 49:28 0.01s 0.01s -bash

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) 4126701  
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) 4126701  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited

5. `sysinfo process ancestry`  
/usr/lib/systemd/systemd --switched-root --system --deserialize 30  
login -- root  
-bash  
sh reportable-ic2023.0-lin-core-avx512-rate-smt-on-20221201.sh  
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 -c  
ic2023.0-lin-core-avx512-rate-20221201.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 --define default-platform-flags --define numcopies=128 --configfile  
ic2023.0-lin-core-avx512-rate-20221201.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/CPU2017.003/templogs/preenv.intrate.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) Gold 6338N CPU @ 2.20GHz  
vendor\_id : GenuineIntel  
cpu family : 6  
model : 106

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443

SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## Platform Notes (Continued)

```

stepping      : 6
microcode    : 0xd000331
bugs         : spectre_v1 spectre_v2 spec_store_bypass swapgs
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

```

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):                128
On-line CPU(s) list:  0-127
Vendor ID:             GenuineIntel
BIOS Vendor ID:       Intel(R) Corporation
Model name:            Intel(R) Xeon(R) Gold 6338N CPU @ 2.20GHz
BIOS Model name:      Intel(R) Xeon(R) Gold 6338N CPU @ 2.20GHz
CPU family:            6
Model:                 106
Thread(s) per core:   2
Core(s) per socket:   32
Socket(s):             2
Stepping:              6
CPU max MHz:          3500.0000
CPU min MHz:          800.0000
BogoMIPS:              4400.00
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 pni pclmulqdq dtes64 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 invpcid_single intel_ppin 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 wbnoinvd
                      dtherm ida arat pln pts avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes
                      vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid fsrm
                      md_clear pconfig flush_l1d arch_capabilities

L1d cache:             3 MiB (64 instances)
L1i cache:             2 MiB (64 instances)
L2 cache:              80 MiB (64 instances)
L3 cache:              96 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

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443

SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## Platform Notes (Continued)

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/swaps 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	3M	12	Data	1	64	1	64
L1i	32K	2M	8	Instruction	1	64	1	64
L2	1.3M	80M	20	Unified	2	1024	1	64
L3	48M	96M	12	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: 257638 MB  
 node 0 free: 248942 MB  
 node 1 cpus: 16-31,80-95  
 node 1 size: 258041 MB  
 node 1 free: 250888 MB  
 node 2 cpus: 32-47,96-111  
 node 2 size: 258004 MB  
 node 2 free: 250866 MB  
 node 3 cpus: 48-63,112-127  
 node 3 size: 258030 MB  
 node 3 free: 251012 MB  
 node distances:  
 node 0 1 2 3  
 0: 10 11 20 20  
 1: 11 10 20 20  
 2: 20 20 10 11  
 3: 20 20 11 10

9. /proc/meminfo

MemTotal: 1056476044 kB

10. who -r

run-level 3 Aug 2 09:19

11. Systemd service manager version: systemd 250 (250-6.el9\_0)

Default Target	Status
multi-user	running

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chronyd crond dbus-broker firewalld getty@ irgbalance kdump lvm2-monitor mdmonitor microcode nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sshd sssd systemd-network-generator udisks2 upower

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443  
SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## Platform Notes (Continued)

```

enabled-runtime  systemd-remount-fs
disabled         blk-availability canberra-system-bootup canberra-system-shutdown
                 canberra-system-shutdown-reboot chrony-wait console-getty cpupower debug-shell kvm_stat
                 man-db-restart-cache-update nftables rdisc rhsm rhsm-facts rpmdb-rebuild serial-getty@
                 sshd-keygen@ systemd-boot-check-no-failures systemd-pstore systemd-sysext
indirect         sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd1,gpt2)/vmlinuz-5.14.0-70.13.1.el9_0.x86_64
root=/dev/mapper/rhel-root
ro
resume=/dev/mapper/rhel-swap
rd.lvm.lv=rhel/root
rd.lvm.lv=rhel/swap

```

```

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

  boost state support:
    Supported: yes
    Active: yes

```

```

-----
15. 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

```

```

-----
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
max_ptes_none         511

```

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443  
SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## Platform Notes (Continued)

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 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)

-----

19. Disk information  
 SPEC is set to: /home/CPU2017  

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	1.4T	475G	941G	34%	/home

-----

20. /sys/devices/virtual/dmi/id  
 Vendor: IEI  
 Product: NF5280M6  
 Product Family: Not specified  
 Serial: 000000000

-----

21. 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:  
 32x Micron 18ASF4G72PDZ-3G2E1 32 GB 2 rank 3200, configured at 2666

-----

22. BIOS  
 (This section combines info from /sys/devices and dmidecode.)  
 BIOS Vendor: American Megatrends Inc.  
 BIOS Version: 07.01.00  
 BIOS Date: 02/10/2023  
 BIOS Revision: 5.22

## Compiler Version Notes

-----

C | 502.gcc\_r(peak)

-----

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.0.0 Build 20221201  
 Copyright (C) 1985-2022 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 2023.0.0 Build 20221201  
 Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

-----

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443

SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## Compiler Version Notes (Continued)

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 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 2023.0.0 Build 20221201  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

Fortran | 548.exchange2\_r(base, peak)

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

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

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443  
SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## 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 -xCORE-AVX512 -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 -xCORE-AVX512 -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 -xCORE-AVX512 -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

## Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443

SPECrate®2017\_int\_peak = 461

**CPU2017 License:** 3358

**Test Sponsor:** Inspur Electronic Information Industry Co., Ltd.

**Tested by:** Inspur Electronic Information Industry Co., Ltd.

**Test Date:** Aug-2023

**Hardware Availability:** May-2021

**Software Availability:** Dec-2022

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

502.gcc_r: -m32
-L/usr/local/intel/compiler/2023.0.0/linux/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 -xCORE-AVX512 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/usr/local/intel/compiler/2023.0.0/linux/compiler/lib/intel64_lin
-lqkmalloc

557.xz_r: basepeak = yes
```

C++ benchmarks:

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Inspur Electronic Information Industry Co., Ltd.  
NF5280M6 (Intel Xeon Gold 6338N)

SPECrate®2017\_int\_base = 443  
SPECrate®2017\_int\_peak = 461

CPU2017 License: 3358

Test Sponsor: Inspur Electronic Information Industry Co., Ltd.

Tested by: Inspur Electronic Information Industry Co., Ltd.

Test Date: Aug-2023

Hardware Availability: May-2021

Software Availability: Dec-2022

## 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-ic2023-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Inspur-Platform-Settings-intel-V3.2.html>

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

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

<http://www.spec.org/cpu2017/flags/Inspur-Platform-Settings-intel-V3.2.xml>

SPEC CPU and SPECrate are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2023-08-02 10:56:09-0400.

Report generated on 2024-01-29 18:05:55 by CPU2017 PDF formatter v6716.

Originally published on 2023-08-29.