



# SPEC CPU®2017 Integer Rate Result

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## Inspur Corporation

SPECrate®2017\_int\_base = 247

### Inspur NF5466M6 (Intel Xeon Silver 4314)

SPECrate®2017\_int\_peak = 253

CPU2017 License: 3358

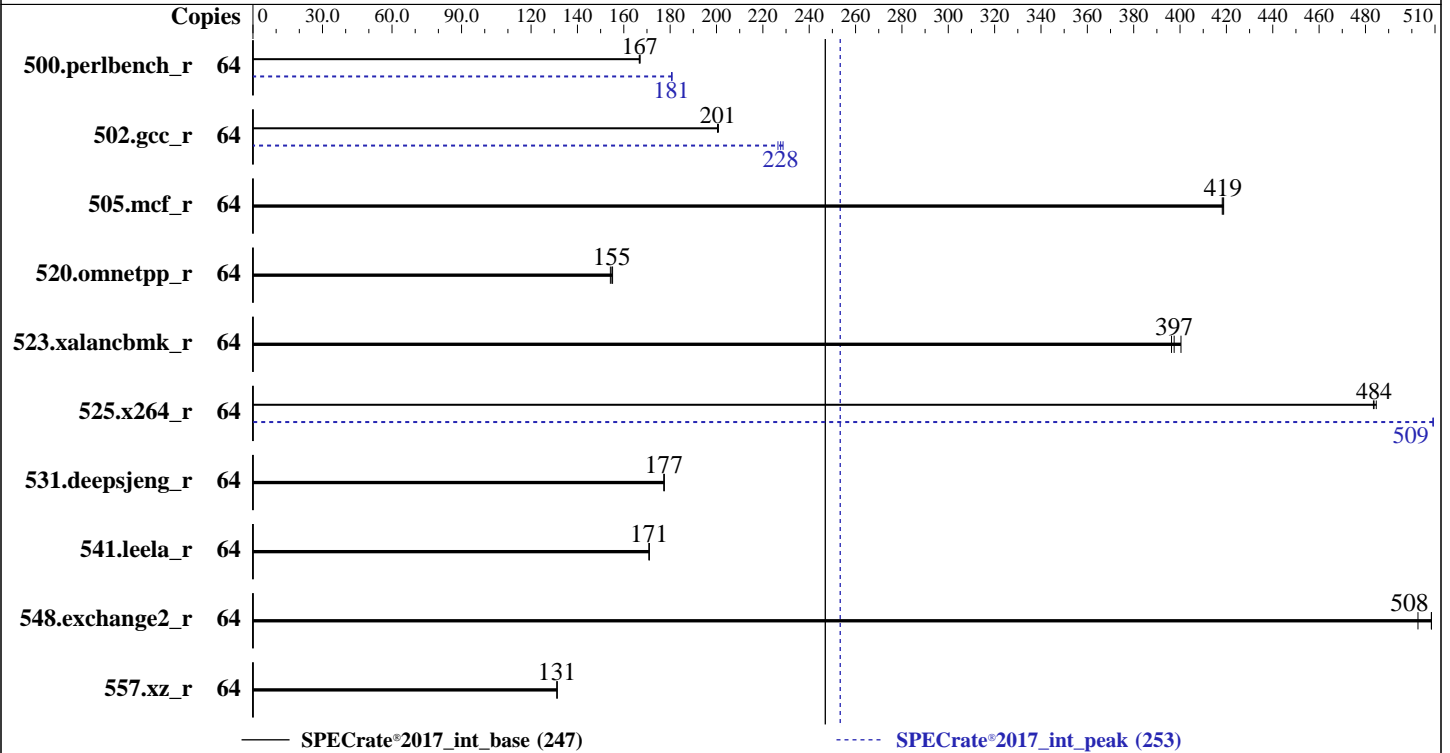
Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Dec-2022

Hardware Availability: Apr-2021

Software Availability: May-2022



### Hardware

CPU Name: Intel Xeon Silver 4314  
 Max MHz: 3400  
 Nominal: 2400  
 Enabled: 32 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: 24 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (32 x 32 GB 2Rx8 PC4-3200AA-R, running at 2666)  
 Storage: 1 x 2 TB NVME SSD  
 Other: None

### Software

OS: Red Hat Enterprise Linux 8.3 (Ootpa)  
 4.18.0-240.el8.x86\_64  
 Compiler: C/C++: Version 2022.1 of Intel oneAPI DPC++/C++ Compiler for Linux;  
 Fortran: Version 2022.1 of Intel Fortran Compiler for Linux;  
 Parallel: No  
 Firmware: Version 06.02.01 released Nov-2022  
 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 | 64     | <b>611</b> | <b>167</b> | 611        | 167        | 610        | 167        | 64     | 564        | 181        | <b>564</b> | <b>181</b> | 563        | 181        |
| 502.gcc_r       | 64     | <b>452</b> | <b>201</b> | 452        | 200        | 451        | 201        | 64     | 400        | 227        | 396        | 229        | <b>398</b> | <b>228</b> |
| 505.mcf_r       | 64     | <b>247</b> | <b>419</b> | 247        | 418        | 247        | 419        | 64     | <b>247</b> | <b>419</b> | 247        | 418        | 247        | 419        |
| 520.omnetpp_r   | 64     | 541        | 155        | <b>542</b> | <b>155</b> | 545        | 154        | 64     | 541        | 155        | <b>542</b> | <b>155</b> | 545        | 154        |
| 523.xalancbmk_r | 64     | 171        | 396        | <b>170</b> | <b>397</b> | 169        | 400        | 64     | 171        | 396        | <b>170</b> | <b>397</b> | 169        | 400        |
| 525.x264_r      | 64     | 231        | 485        | 232        | 483        | <b>232</b> | <b>484</b> | 64     | <b>220</b> | <b>509</b> | 220        | 509        | 220        | 509        |
| 531.deepsjeng_r | 64     | <b>414</b> | <b>177</b> | 414        | 177        | 413        | 177        | 64     | <b>414</b> | <b>177</b> | 414        | 177        | 413        | 177        |
| 541.leela_r     | 64     | <b>620</b> | <b>171</b> | 620        | 171        | 620        | 171        | 64     | <b>620</b> | <b>171</b> | 620        | 171        | 620        | 171        |
| 548.exchange2_r | 64     | 330        | 508        | <b>330</b> | <b>508</b> | 334        | 503        | 64     | 330        | 508        | <b>330</b> | <b>508</b> | 334        | 503        |
| 557.xz_r        | 64     | 527        | 131        | 527        | 131        | <b>527</b> | <b>131</b> | 64     | 527        | 131        | 527        | 131        | <b>527</b> | <b>131</b> |

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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](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"

Scaling\_Governor set to Performance

### 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"



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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

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 Enable

Sysinfo program /home/CPU2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Thu Dec 22 23:33:24 2022

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

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

1. uname -a
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 239 (239-40.e18)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent\_hugepage
18. /sys/kernel/mm/transparent\_hugepage/khugepaged
19. OS release
20. Kernel self-reported vulnerability status, from /sys/devices/system/cpu/vulnerabilities
21. Disk information
22. /sys/devices/virtual/dmi/id

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### Platform Notes (Continued)

23. dmidecode  
24. BIOS

-----  
1. uname -a  
Linux localhost.localdomain 4.18.0-240.el8.x86\_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020 x86\_64 x86\_64 x86\_64 GNU/Linux

-----  
2. w  
23:33:24 up 1 min, 1 user, load average: 0.13, 0.05, 0.02  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty2 - 23:33 11.00s 1.26s 0.00s sh  
reportable-ic2022.1-lin-core-avx512-rate-smt-on-20220316.sh

-----  
3. Username  
From environment variable \$USER: root

-----  
4. ulimit -a  
core file size (blocks, -c) 0  
data seg size (kbytes, -d) unlimited  
scheduling priority (-e) 0  
file size (blocks, -f) unlimited  
pending signals (-i) 4126296  
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) 4126296  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited

-----  
5. sysinfo process ancestry  
/usr/lib/systemd/systemd --switched-root --system --deserialize 17  
login -- root  
-bash  
sh reportable-ic2022.1-lin-core-avx512-rate-smt-on-20220316.sh  
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 -c  
ic2022.1-lin-core-avx512-rate-20220316.cfg --define smt-on --define cores=32 --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=64 --configfile  
ic2022.1-lin-core-avx512-rate-20220316.cfg --define smt-on --define cores=32 --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/CPU2017.005/temlogs/preenv.intrate.005.0.log --lognum 005.0 --from\_runcpu 2  
specperl \$SPEC/bin/sysinfo  
\$SPEC = /home/CPU2017

-----  
6. /proc/cpuinfo  
model name : Intel(R) Xeon(R) Silver 4314 CPU @ 2.40GHz  
vendor\_id : GenuineIntel

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## Platform Notes (Continued)

```
cpu family      : 6
model           : 106
stepping        : 6
microcode       : 0xd000331
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores       : 16
siblings        : 32
2 physical ids (chips)
64 processors (hardware threads)
physical id 0: core ids 0-15
physical id 1: core ids 0-15
physical id 0: apicids 0-31
physical id 1: apicids 64-95
```

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

### 7. lscpu

From lscpu from util-linux 2.32.1:

```
Architecture:      x86_64
CPU op-mode(s):    32-bit, 64-bit
Byte Order:        Little Endian
CPU(s):            64
On-line CPU(s) list: 0-63
Thread(s) per core: 2
Core(s) per socket: 16
Socket(s):         2
NUMA node(s):     4
Vendor ID:         GenuineIntel
CPU family:        6
Model:            106
Model name:        Intel(R) Xeon(R) Silver 4314 CPU @ 2.40GHz
Stepping:         6
CPU MHz:          2883.707
CPU max MHz:       3400.0000
CPU min MHz:       800.0000
BogoMIPS:         4800.00
Virtualization:    VT-x
L1d cache:        48K
L1i cache:        32K
L2 cache:         1280K
L3 cache:         24576K
NUMA node0 CPU(s): 0-7,32-39
NUMA node1 CPU(s): 8-15,40-47
NUMA node2 CPU(s): 16-23,48-55
NUMA node3 CPU(s): 24-31,56-63
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 vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1
                  sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm
                  3dnowprefetch cpuid_fault epb cat_l3 invpcid_single intel_ppin ssbd mba ibrs ibpb
                  stibp ibrs_enhanced fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid cqm rdt_a
                  avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha_ni
                  avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
                  cqm_mbm_local split_lock_detect wbnoinvd dtherm ida arat pln pts avx512vbmi umip pku
                  ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq
                  la57 rdpid md_clear pconfig flush_l1d arch_capabilities
```

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## Platform Notes (Continued)

8. numactl --hardware

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

```
available: 4 nodes (0-3)
node 0 cpus: 0-7,32-39
node 0 size: 254291 MB
node 0 free: 257250 MB
node 1 cpus: 8-15,40-47
node 1 size: 254439 MB
node 1 free: 257769 MB
node 2 cpus: 16-23,48-55
node 2 size: 254199 MB
node 2 free: 257776 MB
node 3 cpus: 24-31,56-63
node 3 size: 254464 MB
node 3 free: 257789 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: 1056492704 kB
```

10. who -r

```
run-level 3 Dec 22 23:32
```

11. Systemd service manager version: systemd 239 (239-40.el8)

```
Default Target Status
multi-user      running
```

12. Services, from systemctl list-unit-files

```
STATE UNIT FILES
enabled tuned
disabled NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd autovt@
blk-availability chrony-wait chronyd console-getty cpupower crond dbxtool debug-shell ebttables
firewalld getty@ import-state iprdump iprinit iprupdate irqbalance kdump loadmodules
lvm2-monitor microcode nftables nis-domainname rdisc rhsm rhsm-facts rhsmcertd rngd
rngd-wake-threshold rsyslog selinux-autorelabel-mark serial-getty@ sshd sshd-keygen@ sssd
systemd-resolved tcspd timedatex
generated binfmt_misc jexec
indirect sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo
masked systemd-timedated
```

13. Linux kernel boot-time arguments, from /proc/cmdline

```
BOOT_IMAGE=(hd0,gpt2)/vmlinuz-4.18.0-240.el8.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
```

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## Platform Notes (Continued)

```
-----
14. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 3.40 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.dirty_background_bytes      0
vm.dirty_background_ratio     10
vm.dirty_bytes                 0
vm.dirty_expire_centisecs     3000
vm.dirty_ratio                 40
vm.dirty_writeback_centisecs  500
vm.dirtytime_expire_seconds   43200
vm.extfrag_threshold          500
vm.min_unmapped_ratio         1
vm.nr_hugepages                0
vm.nr_hugepages_mempolicy     0
vm.nr_overcommit_hugepages    0
vm.swappiness                  10
vm.watermark_scale_factor     10
vm.zone_reclaim_mode          0
-----
```

```
-----
17. /sys/kernel/mm/transparent_hugepage
defrag          always defer defer+madvice [madvice] never
enabled         [always] madvice never
hpage_pmd_size 2097152
shmem_enabled   always within_size advise [never] deny force
-----
```

```
-----
18. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs  60000
defrag                  1
max_ptes_none          511
max_ptes_swap          64
pages_to_scan          4096
scan_sleep_millisecs  10000
-----
```

```
-----
19. OS release
From /etc/*-release /etc/*-version
os-release      Red Hat Enterprise Linux 8.3 (Ootpa)
redhat-release Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release Red Hat Enterprise Linux release 8.3 (Ootpa)
-----
```

```
-----
20. Kernel self-reported vulnerability status, from /sys/devices/system/cpu/vulnerabilities
-----
```

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### Platform Notes (Continued)

|                   |   |
|-------------------|---|
| itlb_multihit     | Not affected  |
| l1tf              | Not affected  |
| mds               | Not affected  |
| meltdown          | Not affected  |
| spec_store_bypass | Mitigation: Speculative Store Bypass disabled via prctl and seccomp |
| spectre_v1        | Mitigation: usercopy/swaps barriers and __user pointer sanitization |
| spectre_v2        | Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling           |
| srbds             | Not affected  |
| tsx_async_abort   | Not affected  |

For more information, see the Linux documentation on hardware vulnerabilities, for example <https://www.kernel.org/doc/html/latest/admin-guide/hw-vuln/index.html>

#### 21. Disk information

SPEC is set to: /home/CPU2017

| Filesystem            | Type | Size | Used | Avail | Use% | Mounted on |
|-----------------------|------|------|------|-------|------|------------|
| /dev/mapper/rhel-home | xfs  | 1.4T | 71G  | 1.4T  | 5%   | /home      |

#### 22. /sys/devices/virtual/dmidecode

```
Vendor:      Inspur
Product:     NF5466M6
Product Family: Not specified
Serial:      380983478
```

#### 23. dmidecode

Additional information from dmidecode 3.2 follows. **WARNING:** Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

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

#### 24. BIOS

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

```
BIOS Vendor:      American Megatrends Inc.
BIOS Version:     06.02.01
BIOS Date:        11/30/2022
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 2022.1.0 Build 20220316  
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 2022.1.0 Build 20220316  
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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 2022.1.0 Build 20220316  
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 2022.1.0 Build 20220316  
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Fortran | 548.exchange2\_r(base, peak)

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

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CPU2017 License: 3358

Test Sponsor: Inspur Corporation

Tested by: Inspur Corporation

Test Date: Dec-2022

Hardware Availability: Apr-2021

Software Availability: May-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/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2022.1.0/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/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

## Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx



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## 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-AVX512
-Ofast -ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-strict-overflow
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/ia32_lin
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX512
-Ofast -ffast-math -flto -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/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc

557.xz_r: basepeak = yes
```

C++ benchmarks:

(Continued on next page)



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## 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-ic2022-official-linux64\\_revA.2023-01-17.html](http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.2023-01-17.html)

<http://www.spec.org/cpu2017/flags/Inspur-Platform-Settings-V2.5.html>

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

[http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64\\_revA.2023-01-17.xml](http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.2023-01-17.xml)

<http://www.spec.org/cpu2017/flags/Inspur-Platform-Settings-V2.5.xml>

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