



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SE350 V2  
(2.00 GHz. Intel Xeon D-2796TE)

SPECrate®2017\_int\_base = 126

SPECrate®2017\_int\_peak = 131

CPU2017 License: 9017

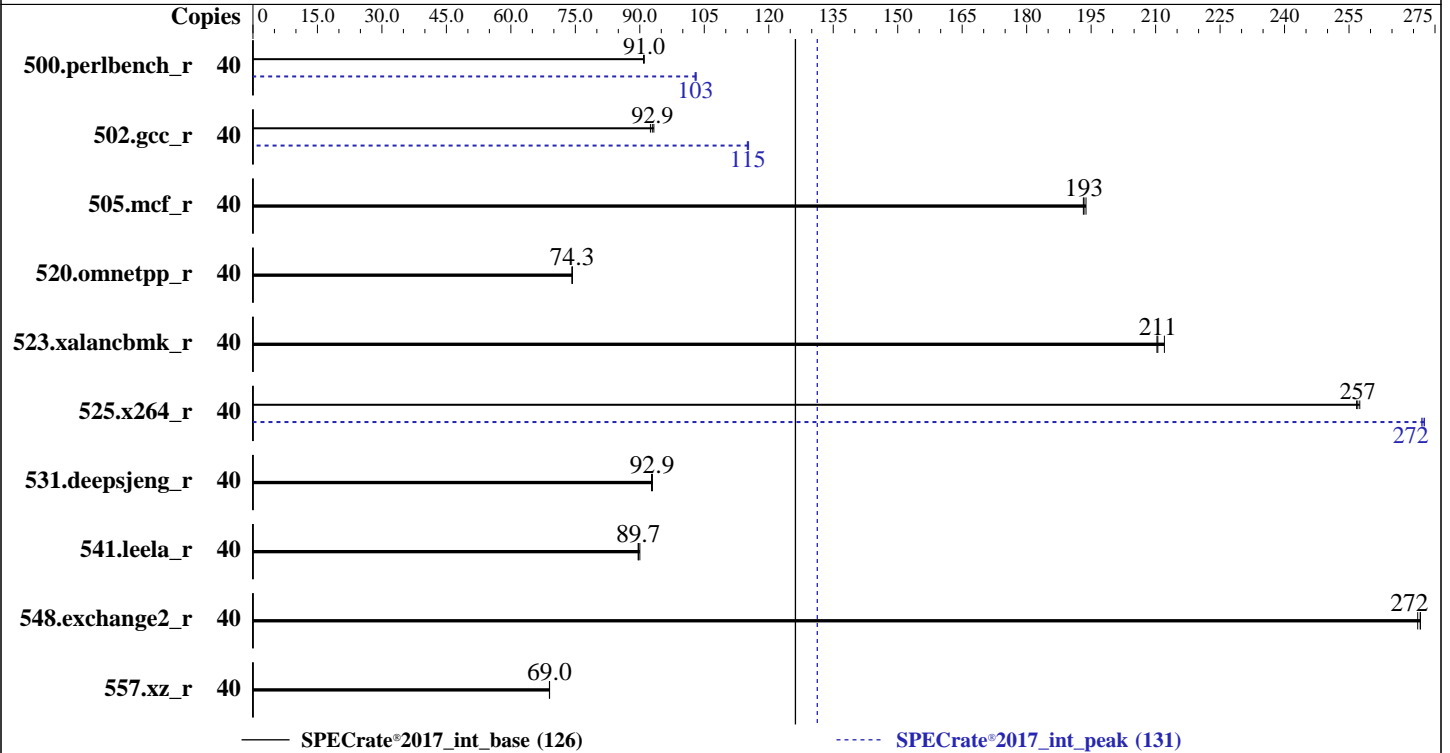
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Jun-2023

Hardware Availability: Jul-2023

Software Availability: Dec-2022



### Hardware

CPU Name: Intel Xeon D-2796TE  
 Max MHz: 3100  
 Nominal: 2000  
 Enabled: 20 cores, 1 chip, 2 threads/core  
 Orderable: 1 chip  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 1.25 MB I+D on chip per core  
 L3: 30 MB I+D on chip per chip  
 Other: None  
 Memory: 128 GB (4 x 32 GB 2Rx4 PC4-3200AA-R, running at 2933)  
 Storage: 1 x 960 GB M.2 NVME SSD  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP4 (x86\_64)  
 Kernel 5.14.21-150400.22-default  
 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 IYE103W 1.10 released Jun-2023  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: BIOS 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	40	701	90.9	700	91.0	<b>700</b>	<b>91.0</b>	40	<b>618</b>	<b>103</b>	619	103	618	103
502.gcc_r	40	613	92.5	607	93.3	<b>610</b>	<b>92.9</b>	40	491	115	<b>492</b>	<b>115</b>	492	115
505.mcf_r	40	<b>334</b>	<b>193</b>	335	193	334	194	40	<b>334</b>	<b>193</b>	335	193	334	194
520.omnetpp_r	40	706	74.3	<b>707</b>	<b>74.3</b>	707	74.3	40	706	74.3	<b>707</b>	<b>74.3</b>	707	74.3
523.xalancbmk_r	40	201	210	199	212	<b>201</b>	<b>211</b>	40	201	210	199	212	<b>201</b>	<b>211</b>
525.x264_r	40	<b>272</b>	<b>257</b>	272	258	273	257	40	258	272	257	273	<b>257</b>	<b>272</b>
531.deepsjeng_r	40	<b>494</b>	<b>92.9</b>	494	92.7	493	92.9	40	<b>494</b>	<b>92.9</b>	494	92.7	493	92.9
541.leela_r	40	736	90.0	<b>739</b>	<b>89.7</b>	739	89.6	40	736	90.0	<b>739</b>	<b>89.7</b>	739	89.6
548.exchange2_r	40	386	272	<b>386</b>	<b>272</b>	387	271	40	386	272	<b>386</b>	<b>272</b>	387	271
557.xz_r	40	<b>626</b>	<b>69.0</b>	626	69.0	626	69.0	40	<b>626</b>	<b>69.0</b>	626	69.0	626	69.0

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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 taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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/cpu2017-1.1.9-ic2023.0/lib/intel64:/home/cpu2017-1.1.9-ic2023.0/lib/ia32:/home/cpu2017-1.1.9-ic
  2023.0/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
```

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:

Choose Operating Mode set to Maximum Performance and then set it to Custom Mode

C-States set to Legacy

DCU Streamer Prefetcher set to Disabled

Sysinfo program /home/cpu2017-1.1.9-ic2023.0/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on hakuba Fri Jun 30 01:56:10 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 249 (249.11+suse.124.g2bc0b2c447)
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 hakuba 5.14.21-150400.22-default #1 SMP PREEMPT\_DYNAMIC Wed May 11 06:57:18 UTC 2022 (49db222) x86\_64

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### Platform Notes (Continued)

x86\_64 x86\_64 GNU/Linux

```
-----
2. w
  01:56:10 up  8:39,  1 user,  load average:  5.95, 27.15, 35.18
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1     -             17:18    9.00s  1.18s  0.01s -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) 513506
  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) 513506
  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
  -bash
  runcpu --nobuild --action validate --define default-platform-flags --define numcopies=40 -c
    ic2023.0-lin-core-avx512-rate-20221201.cfg --define smt-on --define cores=20 --define physicalfirst
    --define no-numa --tune base,peak -o all --define drop_caches intrate
  runcpu --nobuild --action validate --define default-platform-flags --define numcopies=40 --configfile
    ic2023.0-lin-core-avx512-rate-20221201.cfg --define smt-on --define cores=20 --define physicalfirst
    --define no-numa --tune base,peak --output_format all --define drop_caches --nopower --runmode rate --tune
    base:peak --size refrate intrate --nopreenv --note-preenv --logfile
    $SPEC/tmp/CPU2017.259/templogs/preenv.intrate.259.0.log --lognum 259.0 --from_runcpu 2
  specperl $SPEC/bin/sysinfo
  $SPEC = /home/cpu2017-1.1.9-ic2023.0
-----
```

```
-----
6. /proc/cpuinfo
  model name      : Intel(R) Xeon(R) D-2796TE CPU @ 2.00GHz
  vendor_id      : GenuineIntel
  cpu family     : 6
  model          : 108
  stepping       : 1
  microcode      : 0x1000211
  bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
  cpu cores     : 20
  siblings       : 40
  1 physical ids (chips)
-----
```

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### Platform Notes (Continued)

40 processors (hardware threads)  
physical id 0: core ids 0-19  
physical id 0: apicids 0-39  
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 2.37.2:

```

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):                40
On-line CPU(s) list:  0-39
Vendor ID:             GenuineIntel
Model name:            Intel(R) Xeon(R) D-2796TE CPU @ 2.00GHz
CPU family:            6
Model:                 108
Thread(s) per core:   2
Core(s) per socket:   20
Socket(s):             1
Stepping:              1
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 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 ssbd ibrs
                        ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad
                        fsgsbase tsc_adjust bmi1 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 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

Virtualization:        VT-x
L1d cache:             960 KiB (20 instances)
L1i cache:             640 KiB (20 instances)
L2 cache:              25 MiB (20 instances)
L3 cache:              30 MiB (1 instance)
NUMA node(s):         1
NUMA node0 CPU(s):    0-39
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 and seccomp
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	960K	12	Data	1	64	1	64

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### Platform Notes (Continued)

L1i	32K	640K	8 Instruction	1	64	1	64
L2	1.3M	25M	20 Unified	2	1024	1	64
L3	30M	30M	20 Unified	3	24576	1	64

8. numactl --hardware

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

```
available: 1 nodes (0)
node 0 cpus: 0-39
node 0 size: 128400 MB
node 0 free: 123440 MB
node distances:
node 0
0: 10
```

9. /proc/meminfo

```
MemTotal: 131482008 kB
```

10. who -r

```
run-level 3 Jun 29 17:17
```

11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)

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

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron getty@ haveged irqbalance iscsi issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections postfix purge-kernels rollback rsyslog smartd sshd 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 chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info firewallld gpm grub2-once haveged-switch-root ipmi ipmievd iscsi-init iscsid iscsiui issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nmb nvmmf-autoconnect rdisc rpcbind rpmconfigcheck rsyncd serial-getty@ smartd_generate_opts smb snmpd snmptrapd systemd-boot-check-no-failures systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd
generated	ntp_sync
indirect	wickedd

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

```
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
root=UUID=6c28020f-56d1-44c8-b74a-a550f9d3fba9
splash=silent
mitigations=auto
quiet
security=apparmor
```

14. cpupower frequency-info

```
analyzing CPU 0:
Unable to determine current policy
boost state support:
```

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### Platform Notes (Continued)

Supported: yes  
Active: yes

```

15. sysctl
kernel.numa_balancing          0
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
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 SUSE Linux Enterprise Server 15 SP4

```

```

19. Disk information
SPEC is set to: /home/cpu2017-1.1.9-ic2023.0
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p2  xfs   894G   25G  869G   3% /

```

```

20. /sys/devices/virtual/dmi/id
Vendor:      Lenovo
Product:     ThinkEdge SE350 V2 CPU Planar
Product Family: ThinkSystem
Serial:      1234567890

```

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### Platform Notes (Continued)

#### 21. 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:**

4x Samsung M393A4K40DB3-CWE 32 GB 2 rank 3200, configured at 2933

#### 22. BIOS

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

BIOS Vendor: Lenovo  
BIOS Version: IYE103W-1.10  
BIOS Date: 06/15/2023  
BIOS Revision: 1.10  
Firmware Revision: 1.10

### 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.

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.

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  
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## Compiler Version Notes (Continued)

-----  
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  
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  
-lqkmallo

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

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# SPEC CPU®2017 Integer Rate Result

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**Lenovo Global Technology**

SPECrate®2017\_int\_base = 126

ThinkSystem SE350 V2  
(2.00 GHz. Intel Xeon D-2796TE)

SPECrate®2017\_int\_peak = 131

**CPU2017 License:** 9017

**Test Date:** Jun-2023

**Test Sponsor:** Lenovo Global Technology

**Hardware Availability:** Jul-2023

**Tested by:** Lenovo Global Technology

**Software Availability:** Dec-2022

## Base Optimization Flags (Continued)

C++ benchmarks (continued):

-lqkmalloc

Fortran benchmarks:

-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -fltto  
-mfpmath=sse -funroll-loops -gopt-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

## 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)

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## Peak Optimization Flags (Continued)

500.perlbench\_r (continued):

```
-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
-lqkmallocc
```

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 -ljemallocc
```

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
-lqkmallocc
```

557.xz\_r: basepeak = yes

C++ benchmarks:

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/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Eaglestream-U.html>

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



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**Software Availability:** Dec-2022

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-U.xml>

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

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