SPEC CPU®2026 Integer Rate Result

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Lenovo Global Technology

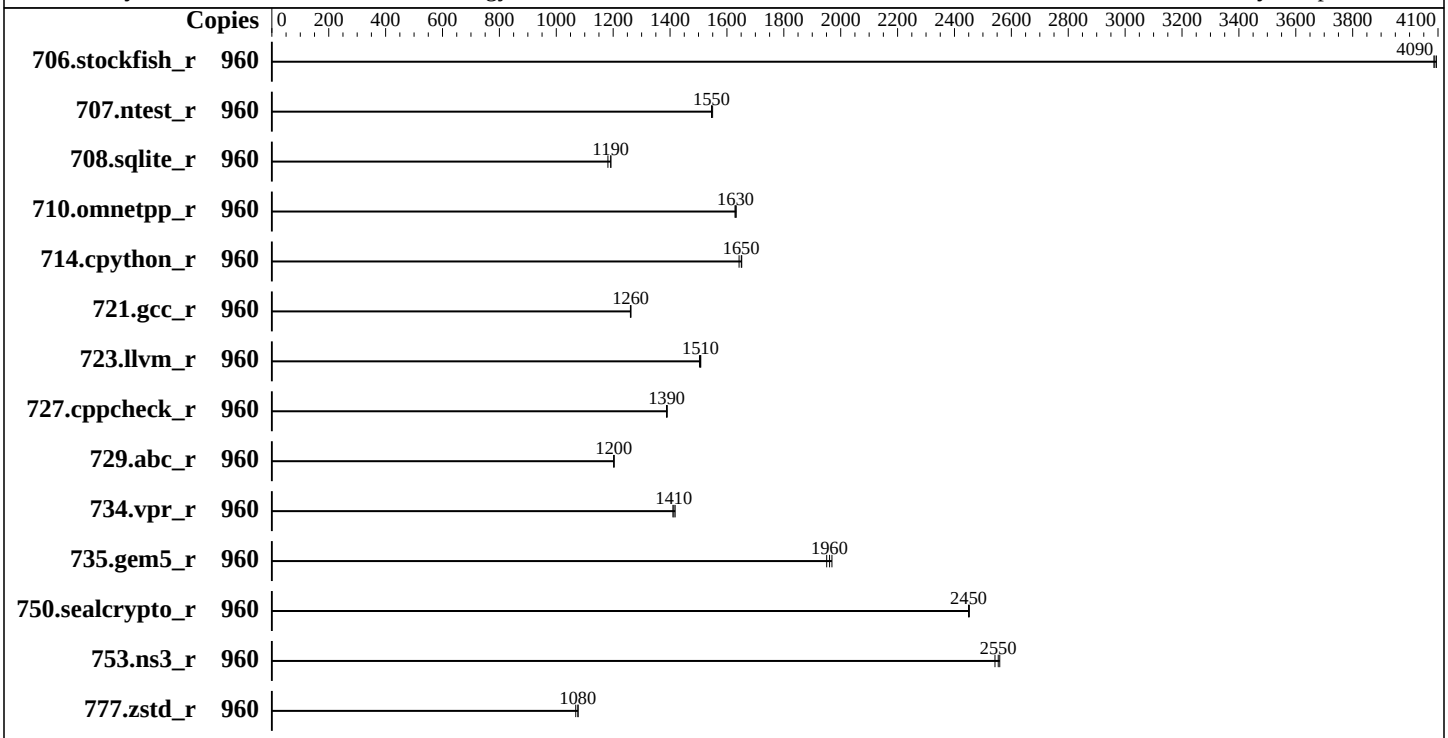
ThinkSystem SR950 V3
(1.90 GHz,Intel Xeon Platinum 8490H)

SPECrate®2026_int_base = 1660

SPECrate®2026_int_peak = Not Run

CPU2026 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Jun-2026
Hardware Availability: Oct-2023
Software Availability: Apr-2026



Hardware

CPU Name:	Intel Xeon Platinum 8490H
Max MHz:	3500
Nominal:	1900
Enabled:	480 cores, 8 chips, 2 threads/core
Orderable:	8 chips
Cache L1:	32 KB I + 48 KB D on chip per core
L2:	2 MB I+D on chip per core
L3:	112.5 MB I+D on chip per chip
Other:	None
Memory:	4 TB (64 x 64 GB 2Rx4 PC5-4800B-R)
Storage:	1 x 960 GB M.2 NVME SSD
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 SP7 Kernel 6.4.0-150700.51-default
Compiler:	C/C++: Version 2026.0 of Intel oneAPI DPC++/C++ Compiler for Linux; Fortran: Version 2026.0 of Intel Fortran Compiler for Linux
Compiler Category:	Vendor
Firmware:	Lenovo BIOS Version EBE123G 7.50 released May-2026
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other:	tcmalloc memory allocator v2.18.1
Power Management:	BIOS 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
706.stockfish_r	960	**296**	**4090**	296	4090	295	4090							
707.ntest_r	960	367	1550	**368**	**1550**	368	1550							
708.sqlite_r	960	**425**	**1190**	425	1190	429	1180							
710.omnetpp_r	960	286	1630	287	1630	**286**	**1630**							
714.cpython_r	960	278	1650	280	1640	**279**	**1650**							
721.gcc_r	960	522	1260	522	1260	**522**	**1260**							
723.llvm_r	960	323	1510	324	1500	**323**	**1510**							
727.cppcheck_r	960	248	1390	**248**	**1390**	248	1390							
729.abc_r	960	**366**	**1200**	367	1200	366	1200							
734.vpr_r	960	312	1420	**313**	**1410**	314	1410							
735.gem5_r	960	237	1970	240	1950	**238**	**1960**							
750.sealcrypto_r	960	210	2450	**210**	**2450**	210	2450							
753.ns3_r	960	230	2560	**230**	**2550**	231	2540							
777.zstd_r	960	574	1080	579	1070	**574**	**1080**							

SPECrate®2026_int_base = 1660

SPECrate®2026_int_peak = Not Run

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"
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2026-1.0.1-ic2026.0-rate/lib"
```

General Notes

```
Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using CentOS Stream 9.
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesystem page cache synced and cleared with:
```

(Continued on next page)

General Notes (Continued)

```
 sync; echo 3>       /proc/sys/vm/drop_caches
 runcpu command invoked through numactl i.e.:
 numactl --interleave=all runcpu <etc>
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
is mitigated in the system as tested and documented.
 tcmalloc, a fast, multithreaded malloc implementation
 built with the CentOS Stream 9, and the system compiler gcc 11.5.0
 sources available from github.com/gperftools/gperftools
```

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
SNC set to SNC4
Misc set to Option4

 Sysinfo program /home/cpu2026-1.0.1-ic2026.0-rate/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
 running on localhost Tue Jun 23 22:51:19 2026

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

 ------------------------------------------------------------
 Table of contents
 ------------------------------------------------------------
  1. uname -srvm
  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 254 (254.24+suse.148.g83b9060b6e)
 12. Services, from systemctl list-unit-files
 13. Linux kernel boot-time arguments, from /proc/cmdline
 14. cpupower frequency-info
 15. sysctl
```

(Continued on next page)

Platform Notes (Continued)

```
 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 -srvm
  Linux 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64

------------------------------------------------------------
2. w
   22:51:19 up 5 min,  1 user,  load average: 1.89, 7.29, 4.07
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT

------------------------------------------------------------
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) 16510495
  max locked memory       (kbytes, -l) 8192
  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) 16510495
  virtual memory          (kbytes, -v) unlimited
  file locks                      (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: root [priv]
 sshd: root@notty
```

(Continued on next page)

Platform Notes (Continued)

```
 /bin/bash ./02.remote_local_SPECcpu_1.02.sh
 sh Run502-compliant-ic2026.0-lin-sapphirerapids-rateint-base-smt-on-20260429_revB.sh
runcpu --nobuild --iterations=3 --reportable --action validate --define default-platform-flags --copies 960
  -c ic2026.0-sapphirerapids-cpu2026-1.0.1-rate-20260429_revB.cfg --define smt-on --define cores=480
  --define physicalfirst --define invoke_with_interleave --define drop_caches --tune base -o all intrate
runcpu --nobuild --iterations 3 --reportable --action validate --define default-platform-flags --copies 960
  --configfile ic2026.0-sapphirerapids-cpu2026-1.0.1-rate-20260429_revB.cfg --define smt-on --define
  cores=480 --define physicalfirst --define invoke_with_interleave --define drop_caches --tune base
  --output_format all --nopower --runmode rate --tune base --size refrate intrate --nopreenv --note-preenv
  --logfile $SPEC/tmp/CPU2026.008/templogs/preenv.intrate.008.0.log --lognum 008.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026-1.0.1-ic2026.0-rate

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) Platinum 8490H
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 143
    stepping        : 8
    microcode       : 0x2b000661
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi
    cpu cores       : 60
    siblings        : 120
    8 physical ids (chips)
    960 processors (hardware threads)
    physical id 0: core ids 0-59
    physical id 1: core ids 0-59
    physical id 2: core ids 0-59
    physical id 3: core ids 0-59
    physical id 4: core ids 0-59
    physical id 5: core ids 0-59
    physical id 6: core ids 0-59
    physical id 7: core ids 0-59
    physical id 0: apicids 0-119
    physical id 1: apicids 128-247
    physical id 2: apicids 256-375
    physical id 3: apicids 384-503
    physical id 4: apicids 512-631
    physical id 5: apicids 640-759
    physical id 6: apicids 768-887
    physical id 7: apicids 896-1015
 Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
  virtualized systems.  Use the above data carefully.

------------------------------------------------------------
7. lscpu
```

(Continued on next page)

Platform Notes (Continued)

```
From lscpu from util-linux 2.40.4:
  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):                               960
  On-line CPU(s) list:                  0-959
  Vendor ID:                            GenuineIntel
  Model name:                           Intel(R) Xeon(R) Platinum 8490H
  CPU family:                           6
  Model:                                143
  Thread(s) per core:                   2
  Core(s) per socket:                   60
  Socket(s):                            8
  Stepping:                             8
  CPU(s) scaling MHz:                   24%
  CPU max MHz:                          3500.0000
  CPU min MHz:                          800.0000
  BogoMIPS:                             3800.00
  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 cat_l2 cdp_l3 intel_ppin cdp_l2
                                        ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept
                                        vpid ept_ad 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 user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida
                                        arat pln pts vnmi 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 ibt amx_bf16 avx512_fp16 amx_tile
                                        amx_int8 flush_l1d arch_capabilities
  Virtualization:                       VT-x
  L1d cache:                            22.5 MiB (480 instances)
  L1i cache:                            15 MiB (480 instances)
  L2 cache:                             960 MiB (480 instances)
  L3 cache:                             900 MiB (8 instances)
  NUMA node(s):                         32
  NUMA node0 CPU(s):                    0-14,480-494
  NUMA node1 CPU(s):                    15-29,495-509
```

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Platform Notes (Continued)

```
   NUMA node2 CPU(s):                    30-44,510-524
   NUMA node3 CPU(s):                    45-59,525-539
   NUMA node4 CPU(s):                    60-74,540-554
   NUMA node5 CPU(s):                    75-89,555-569
   NUMA node6 CPU(s):                    90-104,570-584
   NUMA node7 CPU(s):                    105-119,585-599
   NUMA node8 CPU(s):                    120-134,600-614
   NUMA node9 CPU(s):                    135-149,615-629
   NUMA node10 CPU(s):                   150-164,630-644
   NUMA node11 CPU(s):                   165-179,645-659
   NUMA node12 CPU(s):                   180-194,660-674
   NUMA node13 CPU(s):                   195-209,675-689
   NUMA node14 CPU(s):                   210-224,690-704
   NUMA node15 CPU(s):                   225-239,705-719
   NUMA node16 CPU(s):                   240-254,720-734
   NUMA node17 CPU(s):                   255-269,735-749
   NUMA node18 CPU(s):                   270-284,750-764
   NUMA node19 CPU(s):                   285-299,765-779
   NUMA node20 CPU(s):                   300-314,780-794
   NUMA node21 CPU(s):                   315-329,795-809
   NUMA node22 CPU(s):                   330-344,810-824
   NUMA node23 CPU(s):                   345-359,825-839
   NUMA node24 CPU(s):                   360-374,840-854
   NUMA node25 CPU(s):                   375-389,855-869
   NUMA node26 CPU(s):                   390-404,870-884
   NUMA node27 CPU(s):                   405-419,885-899
   NUMA node28 CPU(s):                   420-434,900-914
   NUMA node29 CPU(s):                   435-449,915-929
   NUMA node30 CPU(s):                   450-464,930-944
   NUMA node31 CPU(s):                   465-479,945-959
   Vulnerability Gather data sampling:   Not affected
   Vulnerability Itlb multihit:          Not affected
   Vulnerability L1tf:                   Not affected
   Vulnerability Mds:                    Not affected
   Vulnerability Meltdown:               Not affected
   Vulnerability Mmio stale data:        Not affected
   Vulnerability Reg file data sampling: Not affected
   Vulnerability Retbleed:               Not affected
   Vulnerability Spec rstack overflow:   Not affected
   Vulnerability Spec store bypass:      Mitigation; Speculative Store Bypass disabled via prctl
   Vulnerability Spectre v1:             Mitigation; usercopy/swapgs barriers and __user pointer sanitization
   Vulnerability Spectre v2:             Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling;
                                         PBRSB-eIBRS SW sequence; BHI BHI_DIS_S
   Vulnerability Srbds:                  Not affected
   Vulnerability Tsx async abort:        Not affected

 From lscpu --cache:
```

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Platform Notes (Continued)

```
      NAME ONE-SIZE ALL-SIZE WAYS TYPE        LEVEL   SETS PHY-LINE COHERENCY-SIZE
      L1d       48K    22.5M   12 Data            1     64        1             64
      L1i       32K     15M     8 Instruction     1     64        1             64
      L2         2M     960M   16 Unified         2   2048        1             64
      L3     112.5M     900M   15 Unified         3 122880        1             64

 ------------------------------------------------------------
 8. numactl --hardware
 NOTE: a numactl 'node' might or might not correspond to a physical chip.
   available: 32 nodes (0-31)
   node 0 cpus: 0-14,480-494
   node 0 size: 128314 MB
   node 0 free: 127401 MB
   node 1 cpus: 15-29,495-509
   node 1 size: 129015 MB
   node 1 free: 128625 MB
   node 2 cpus: 30-44,510-524
   node 2 size: 129015 MB
   node 2 free: 128600 MB
   node 3 cpus: 45-59,525-539
   node 3 size: 129015 MB
   node 3 free: 128580 MB
   node 4 cpus: 60-74,540-554
   node 4 size: 129015 MB
   node 4 free: 128550 MB
   node 5 cpus: 75-89,555-569
   node 5 size: 129015 MB
   node 5 free: 128717 MB
   node 6 cpus: 90-104,570-584
   node 6 size: 129015 MB
   node 6 free: 128598 MB
   node 7 cpus: 105-119,585-599
   node 7 size: 129015 MB
   node 7 free: 128736 MB
   node 8 cpus: 120-134,600-614
   node 8 size: 129015 MB
   node 8 free: 128740 MB
   node 9 cpus: 135-149,615-629
   node 9 size: 129015 MB
   node 9 free: 128782 MB
   node 10 cpus: 150-164,630-644
   node 10 size: 129015 MB
   node 10 free: 128683 MB
   node 11 cpus: 165-179,645-659
   node 11 size: 129015 MB
   node 11 free: 128755 MB
   node 12 cpus: 180-194,660-674
```

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Platform Notes (Continued)

```
node 12 size: 129015 MB
node 12 free: 128462 MB
node 13 cpus: 195-209,675-689
node 13 size: 129015 MB
node 13 free: 128602 MB
node 14 cpus: 210-224,690-704
node 14 size: 129015 MB
node 14 free: 128477 MB
node 15 cpus: 225-239,705-719
node 15 size: 129015 MB
node 15 free: 128559 MB
node 16 cpus: 240-254,720-734
node 16 size: 129015 MB
node 16 free: 128507 MB
node 17 cpus: 255-269,735-749
node 17 size: 129015 MB
node 17 free: 128470 MB
node 18 cpus: 270-284,750-764
node 18 size: 129015 MB
node 18 free: 128103 MB
node 19 cpus: 285-299,765-779
node 19 size: 129015 MB
node 19 free: 128306 MB
node 20 cpus: 300-314,780-794
node 20 size: 129015 MB
node 20 free: 128670 MB
node 21 cpus: 315-329,795-809
node 21 size: 129015 MB
node 21 free: 128697 MB
node 22 cpus: 330-344,810-824
node 22 size: 129015 MB
node 22 free: 128766 MB
node 23 cpus: 345-359,825-839
node 23 size: 129015 MB
node 23 free: 128775 MB
node 24 cpus: 360-374,840-854
node 24 size: 129015 MB
node 24 free: 128051 MB
node 25 cpus: 375-389,855-869
node 25 size: 129015 MB
node 25 free: 128595 MB
node 26 cpus: 390-404,870-884
node 26 size: 129015 MB
node 26 free: 128530 MB
node 27 cpus: 405-419,885-899
node 27 size: 129015 MB
node 27 free: 128516 MB
```

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Platform Notes (Continued)

```
  node 28 cpus: 420-434,900-914
  node 28 size: 129015 MB
  node 28 free: 128554 MB
  node 29 cpus: 435-449,915-929
  node 29 size: 129015 MB
  node 29 free: 128574 MB
  node 30 cpus: 450-464,930-944
  node 30 size: 129015 MB
  node 30 free: 128277 MB
  node 31 cpus: 465-479,945-959
  node 31 size: 128860 MB
  node 31 free: 128392 MB
  node distances:
 node   0   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24
  25  26  27  28  29  30  31
   0:  10  12  12  12  21  21  21  21  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21
    21  21  21  31  31  31  31
   1:  12  10  12  12  21  21  21  21  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21
    21  21  21  31  31  31  31
   2:  12  12  10  12  21  21  21  21  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21
    21  21  21  31  31  31  31
   3:  12  12  12  10  21  21  21  21  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21
    21  21  21  31  31  31  31
   4:  21  21  21  21  10  12  12  12  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  31
    31  31  31  21  21  21  21
   5:  21  21  21  21  12  10  12  12  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  31
    31  31  31  21  21  21  21
   6:  21  21  21  21  12  12  10  12  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  31
    31  31  31  21  21  21  21
   7:  21  21  21  21  12  12  12  10  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  31
    31  31  31  21  21  21  21
   8:  21  21  21  21  31  31  31  31  10  12  12  12  21  21  21  21  21  21  21  21  31  31  31  31  31
    31  31  31  21  21  21  21
   9:  21  21  21  21  31  31  31  31  12  10  12  12  21  21  21  21  21  21  21  21  31  31  31  31  31
    31  31  31  21  21  21  21
  10:  21  21  21  21  31  31  31  31  12  12  10  12  21  21  21  21  21  21  21  21  31  31  31  31  31
    31  31  31  21  21  21  21
  11:  21  21  21  21  31  31  31  31  12  12  12  10  21  21  21  21  21  21  21  21  31  31  31  31  31
    31  31  31  21  21  21  21
  12:  31  31  31  31  21  21  21  21  21  21  21  21  10  12  12  12  31  31  31  31  21  21  21  21  21
    21  21  21  31  31  31  31
  13:  31  31  31  31  21  21  21  21  21  21  21  21  12  10  12  12  31  31  31  31  21  21  21  21  21
    21  21  21  31  31  31  31
  14:  31  31  31  31  21  21  21  21  21  21  21  21  12  12  10  12  31  31  31  31  21  21  21  21  21
    21  21  21  31  31  31  31
  15:  31  31  31  31  21  21  21  21  21  21  21  21  12  12  12  10  31  31  31  31  21  21  21  21  21
    21  21  21  31  31  31  31
```

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Platform Notes (Continued)

```
   16:  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  10  12  12  12  21  21  21  21  21
    21  21  21  31  31  31  31
   17:  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  12  10  12  12  21  21  21  21  21
    21  21  21  31  31  31  31
   18:  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  12  12  10  12  21  21  21  21  21
    21  21  21  31  31  31  31
   19:  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  12  12  12  10  21  21  21  21  21
    21  21  21  31  31  31  31
   20:  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21  21  21  21  10  12  12  12  31
    31  31  31  21  21  21  21
   21:  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21  21  21  21  12  10  12  12  31
    31  31  31  21  21  21  21
   22:  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21  21  21  21  12  12  10  12  31
    31  31  31  21  21  21  21
   23:  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21  21  21  21  12  12  12  10  31
    31  31  31  21  21  21  21
   24:  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  10
    12  12  12  21  21  21  21
   25:  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  12
    10  12  12  21  21  21  21
   26:  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  12
    12  10  12  21  21  21  21
   27:  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  12
    12  12  10  21  21  21  21
   28:  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21
    21  21  21  10  12  12  12
   29:  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21
    21  21  21  12  10  12  12
   30:  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21
    21  21  21  12  12  10  12
   31:  31  31  31  31  21  21  21  21  21  21  21  21  31  31  31  31  31  31  31  31  21  21  21  21  21
    21  21  21  12  12  12  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       4226715920 kB

------------------------------------------------------------
10. who -r
  run-level 3 Jun 23 22:47

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
```

(Continued on next page)

Platform Notes (Continued)

```
12. Services, from systemctl list-unit-files
  STATE             UNIT FILES
  enabled          YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron getty@ irqbalance issue-generator
                   kbdsettings klog lvm2-monitor nscd nvmefc-boot-connections nvmf-autoconnect 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
                   chronyd console-getty cups cups-browsed debug-shell ebtables exchange-bmc-os-info
                  firewalld fsidd gpm grub2-once haveged ipmi ipmievd issue-add-ssh-keys kexec-load lunmask
                   man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd serial-getty@
                   smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures systemd-confext
                   systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd
  indirect          systemd-userdbd wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
  root=UUID=e1445b64-10ff-47e2-9082-84446e3c722f
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 853:
    current policy: frequency should be within 800 MHz and 3.50 GHz.
                    The governor "powersave" 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
```

(Continued on next page)

Platform Notes (Continued)

```
  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+madvise [madvise] never
  enabled         [always] madvise 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 SP7

------------------------------------------------------------
19. Disk information
SPEC is set to: /home/cpu2026-1.0.1-ic2026.0-rate
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/nvme0n1p3 xfs   893G  135G  758G  16% /

------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         Lenovo
    Product:        ThinkSystem SR950 V3
    Product Family: ThinkSystem
    Serial:         JPBLR002

------------------------------------------------------------
21. dmidecode
  Additional information from dmidecode 3.6 follows.  WARNING: Use caution when you interpret this section.
```

(Continued on next page)

Platform Notes (Continued)

```
   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:
      1x Samsung M321R8GA0BB0-CQKDG 64 GB 2 rank 4800
      3x Samsung M321R8GA0BB0-CQKEG 64 GB 2 rank 4800
      14x Samsung M321R8GA0BB0-CQKMG 64 GB 2 rank 4800
      46x Samsung M321R8GA0BB0-CQKVG 64 GB 2 rank 4800


 ------------------------------------------------------------
 22. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       Lenovo
    BIOS Version:      EBE123G-7.50
    BIOS Date:         05/15/2026
    BIOS Revision:     7.50
    Firmware Revision: 7.10
```

Compiler Version Notes

```
==============================================================================
C      | 708.sqlite_r(base) 714.cpython_r(base) 777.zstd_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++    | 706.stockfish_r(base) 707.ntest_r(base) 727.cppcheck_r(base)
       | 753.ns3_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++, C | 710.omnetpp_r(base) 721.gcc_r(base) 723.llvm_r(base) 729.abc_r(base)
       | 734.vpr_r(base) 735.gem5_r(base) 750.sealcrypto_r(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Benchmarks using both C and C++:
icpx icx

Base Optimization Flags

C benchmarks:
-m64 -std=c18 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xsapphirerapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-fno-strict-aliasing -L/usr/local/tcmalloc-2.18.1/lib
-ltcmalloc_minimal

C++ benchmarks:
-m64 -std=c++17 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xsapphirerapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/tcmalloc-2.18.1/lib -ltcmalloc_minimal

Benchmarks using both C and C++:
-m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500 -xsapphirerapids
-mprefer-vector-width=512 -O3 -ffp-model=fast -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -fno-strict-aliasing
-L/usr/local/tcmalloc-2.18.1/lib -ltcmalloc_minimal

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2026/results/flags/Lenovo-Platform-SPECcpu2026-Flags-V1.2-Eaglestream-AD.html
http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/Lenovo-Platform-SPECcpu2026-Flags-V1.2-Eaglestream-AD.xml
http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.xml

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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