



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Lenovo Global Technology

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

SPECrate®2017_fp_base = 3850

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 9017

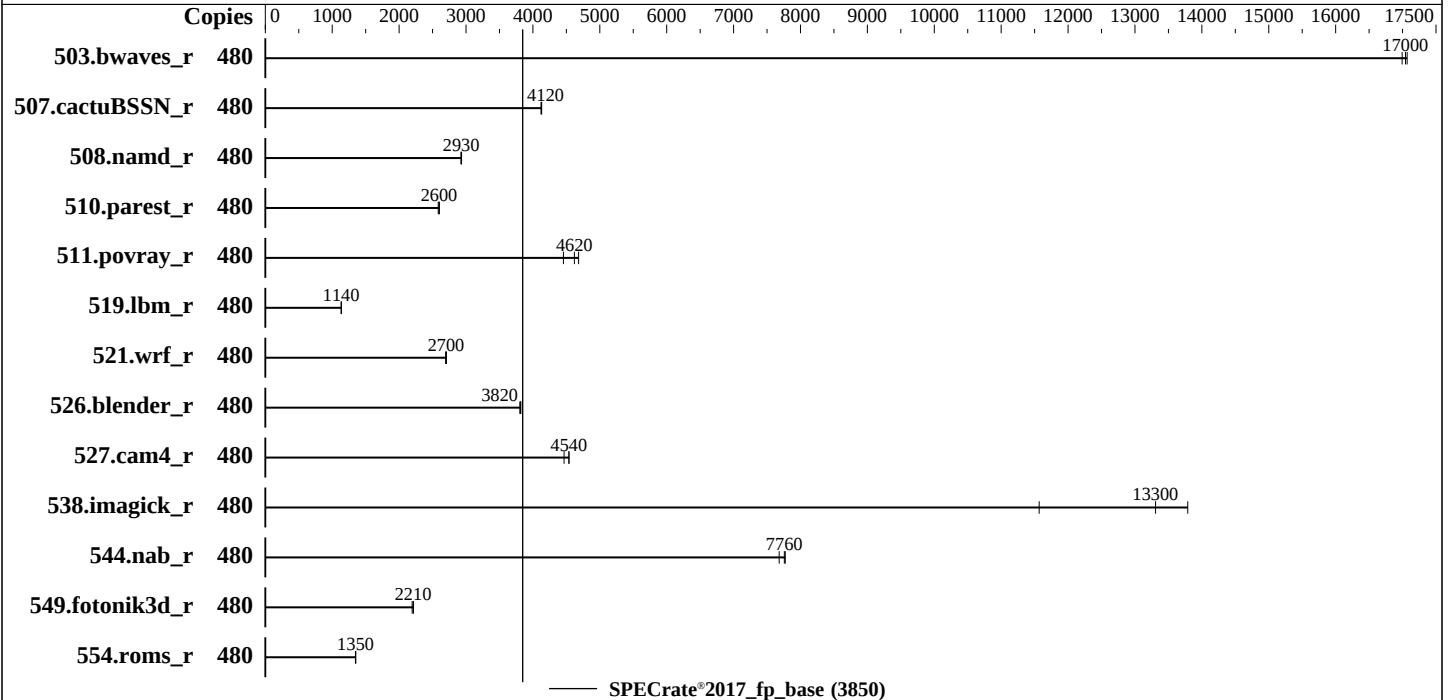
Test Sponsor: Lenovo Global Technology

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
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
Other: CPU Cooling: Air

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;
Parallel: No
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: jemalloc memory allocator V5.0.1
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
503.bwaves_r	480	282	17000	283	17000	282	17100							
507.cactuBSSN_r	480	147	4120	147	4120	147	4130							
508.namd_r	480	156	2930	156	2930	155	2930							
510.parest_r	480	486	2580	483	2600	483	2600							
511.povray_r	480	239	4680	252	4460	243	4620							
519.lbm_r	480	445	1140	445	1140	446	1140							
521.wrf_r	480	397	2710	398	2700	399	2700							
526.blender_r	480	192	3800	192	3820	191	3820							
527.cam4_r	480	185	4540	188	4470	185	4540							
538.imagick_r	480	89.7	13300	86.6	13800	103	11600							
544.nab_r	480	104	7770	105	7680	104	7760							
549.fotonik3d_r	480	845	2210	846	2210	852	2190							
554.roms_r	480	565	1350	565	1350	566	1350							

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2017-1.1.9-ic2026.0/lib/intel64"
MALLOCONF = "retain:true"

General Notes

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

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General Notes (Continued)

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

Hyper-Threading set to Disabled

DCU Streamer Prefetcher set to Disabled

SNC set to SNC4

Misc set to Option4

Sysinfo program /home/cpu2017-1.1.9-ic2026.0/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Sat Jun 27 15:57:49 2026

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

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1. uname -a
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 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
 16. /sys/kernel/mm/transparent_hugepage
 17. /sys/kernel/mm/transparent_hugepage/khugepaged
 18. OS release
 19. Disk information
 20. /sys/devices/virtual/dmi/id
 21. dmidecode
 22. BIOS
-

1. uname -a
Linux localhost 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611)
x86_64 x86_64 x86_64 GNU/Linux

2. w
15:57:49 up 4 min, 1 user, load average: 0.08, 0.14, 0.08
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT

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Platform Notes (Continued)

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) 16511814
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) 16511814
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize=43
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: root [priv]
sshd: root@notty
/bin/bash ./02.remote_local_SPECcpu_1.02.sh
sh Run513-compliant-ic2026.0-lin-sapphirerapids-ratefp-base-smt-off-20260429.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=480 -c
ic2026.0-lin-sapphirerapids-rate-20260429.cfg --define cores=480 --define physicalfirst --define
invoke_with_interleave --define drop_caches --tune base -o all fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=480 --configfile
ic2026.0-lin-sapphirerapids-rate-20260429.cfg --define cores=480 --define physicalfirst --define
invoke_with_interleave --define drop_caches --tune base --output_format all --nopower --runmode rate
--tune base --size refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.046/temlogs/preenv.fprate.046.0.log --lognum 046.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2026.0
```

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 swaps eibrs_pbrsb bhi
cpu cores       : 60
siblings        : 60
8 physical ids (chips)
480 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
```

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Platform Notes (Continued)

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, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118
physical id 1: apicids
128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246
physical id 2: apicids
256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374
physical id 3: apicids
384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502
physical id 4: apicids
512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630
physical id 5: apicids
640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758
physical id 6: apicids
768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794, 796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886
physical id 7: apicids
896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000, 1002, 1004, 1006, 1008, 1010, 1012, 1014

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 2.40.4:

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):	480
On-line CPU(s) list:	0-479
Vendor ID:	GenuineIntel
Model name:	Intel(R) Xeon(R) Platinum 8490H
CPU family:	6
Model:	143
Thread(s) per core:	1
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:	38000.00

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Platform Notes (Continued)

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 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 frsm md_clear
serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile
amx_int8 flush_l1d arch_capabilities

Virtualization:

L1d cache:

L1i cache:

L2 cache:

L3 cache:

NUMA node(s):

NUMA node0 CPU(s):

NUMA node1 CPU(s):

NUMA node2 CPU(s):

NUMA node3 CPU(s):

NUMA node4 CPU(s):

NUMA node5 CPU(s):

NUMA node6 CPU(s):

NUMA node7 CPU(s):

NUMA node8 CPU(s):

NUMA node9 CPU(s):

NUMA node10 CPU(s):

NUMA node11 CPU(s):

NUMA node12 CPU(s):

NUMA node13 CPU(s):

NUMA node14 CPU(s):

NUMA node15 CPU(s):

NUMA node16 CPU(s):

NUMA node17 CPU(s):

NUMA node18 CPU(s):

NUMA node19 CPU(s):

NUMA node20 CPU(s):

NUMA node21 CPU(s):

NUMA node22 CPU(s):

NUMA node23 CPU(s):

NUMA node24 CPU(s):

NUMA node25 CPU(s):

NUMA node26 CPU(s):

NUMA node27 CPU(s):

NUMA node28 CPU(s):

NUMA node29 CPU(s):

NUMA node30 CPU(s):

NUMA node31 CPU(s):

Vulnerability Gather data sampling:

Vulnerability Itlb multihit:

Vulnerability L1tf:

VT-x

22.5 MiB (480 instances)

15 MiB (480 instances)

960 MiB (480 instances)

900 MiB (8 instances)

32

0-14

15-29

30-44

45-59

60-74

75-89

90-104

105-119

120-134

135-149

150-164

165-179

180-194

195-209

210-224

225-239

240-254

255-269

270-284

285-299

300-314

315-329

330-344

345-359

360-374

375-389

390-404

405-419

420-434

435-449

450-464

465-479

Not affected

Not affected

Not affected

(Continued on next page)



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Platform Notes (Continued)

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; PBRSE-eIBRS SW sequence; BHI BHI_DIS_S
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	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
node 0 size: 128485 MB
node 0 free: 127983 MB
node 1 cpus: 15-29
node 1 size: 129019 MB
node 1 free: 128727 MB
node 2 cpus: 30-44
node 2 size: 129019 MB
node 2 free: 128652 MB
node 3 cpus: 45-59
node 3 size: 129019 MB
node 3 free: 128682 MB
node 4 cpus: 60-74
node 4 size: 129019 MB
node 4 free: 128542 MB
node 5 cpus: 75-89
node 5 size: 129019 MB
node 5 free: 128562 MB
node 6 cpus: 90-104
node 6 size: 129019 MB
node 6 free: 128637 MB
node 7 cpus: 105-119
node 7 size: 129019 MB
node 7 free: 128635 MB
node 8 cpus: 120-134
node 8 size: 128981 MB
node 8 free: 128741 MB
node 9 cpus: 135-149
node 9 size: 129019 MB
node 9 free: 128765 MB
node 10 cpus: 150-164
node 10 size: 129019 MB
node 10 free: 128779 MB
node 11 cpus: 165-179
node 11 size: 129019 MB
node 11 free: 128756 MB

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Platform Notes (Continued)

node 12 cpus: 180-194
node 12 size: 129019 MB
node 12 free: 128559 MB
node 13 cpus: 195-209
node 13 size: 129019 MB
node 13 free: 128658 MB
node 14 cpus: 210-224
node 14 size: 129019 MB
node 14 free: 128664 MB
node 15 cpus: 225-239
node 15 size: 129019 MB
node 15 free: 128632 MB
node 16 cpus: 240-254
node 16 size: 129019 MB
node 16 free: 128534 MB
node 17 cpus: 255-269
node 17 size: 129019 MB
node 17 free: 128502 MB
node 18 cpus: 270-284
node 18 size: 129019 MB
node 18 free: 128482 MB
node 19 cpus: 285-299
node 19 size: 129019 MB
node 19 free: 128474 MB
node 20 cpus: 300-314
node 20 size: 129019 MB
node 20 free: 128794 MB
node 21 cpus: 315-329
node 21 size: 129019 MB
node 21 free: 128814 MB
node 22 cpus: 330-344
node 22 size: 129019 MB
node 22 free: 128752 MB
node 23 cpus: 345-359
node 23 size: 129019 MB
node 23 free: 128749 MB
node 24 cpus: 360-374
node 24 size: 129019 MB
node 24 free: 128770 MB
node 25 cpus: 375-389
node 25 size: 129019 MB
node 25 free: 128752 MB
node 26 cpus: 390-404
node 26 size: 129019 MB
node 26 free: 128755 MB
node 27 cpus: 405-419
node 27 size: 129019 MB
node 27 free: 128781 MB
node 28 cpus: 420-434
node 28 size: 129019 MB
node 28 free: 128659 MB
node 29 cpus: 435-449
node 29 size: 129019 MB
node 29 free: 128654 MB
node 30 cpus: 450-464
node 30 size: 129019 MB
node 30 free: 128645 MB
node 31 cpus: 465-479
node 31 size: 128940 MB
node 31 free: 128600 MB

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Platform Notes (Continued)

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	31	31	31	31	31	31	31	31	21	21	21	21	21	21
21	21	21	31	31	31	31																			
1:	12	10	12	12	21	21	21	21	21	21	21	31	31	31	31	31	31	31	31	21	21	21	21	21	21
21	21	21	31	31	31	31																			
2:	12	12	10	12	21	21	21	21	21	21	21	31	31	31	31	31	31	31	31	21	21	21	21	21	21
21	21	21	31	31	31	31																			
3:	12	12	12	10	21	21	21	21	21	21	21	31	31	31	31	31	31	31	31	21	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	31	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	31	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	31	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	31	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	31	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	31	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	31	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	31	31	31	31	31	31
31	31	31	21	21	21	21																			
12:	31	31	31	31	21	21	21	21	21	21	21	10	12	12	12	31	31	31	31	21	21	21	21	21	21
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13:	31	31	31	31	21	21	21	21	21	21	21	12	10	12	12	31	31	31	31	21	21	21	21	21	21
21	21	21	31	31	31	31																			
14:	31	31	31	31	21	21	21	21	21	21	21	12	12	10	12	31	31	31	31	21	21	21	21	21	21
21	21	21	31	31	31	31																			
15:	31	31	31	31	21	21	21	21	21	21	21	12	12	12	10	31	31	31	31	21	21	21	21	21	21
21	21	21	31	31	31	31																			
16:	31	31	31	31	21	21	21	21	21	21	21	31	31	31	31	10	12	12	12	21	21	21	21	21	21
21	21	21	31	31	31	31																			
17:	31	31	31	31	21	21	21	21	21	21	21	31	31	31	31	12	10	12	12	21	21	21	21	21	21
21	21	21	31	31	31	31																			
18:	31	31	31	31	21	21	21	21	21	21	21	31	31	31	31	12	12	10	12	21	21	21	21	21	21
21	21	21	31	31	31	31																			
19:	31	31	31	31	21	21	21	21	21	21	21	31	31	31	31	12	12	12	10	21	21	21	21	21	21
21	21	21	31	31	31	31																			
20:	21	21	21	21	31	31	31	31	31	31	31	21	21	21	21	21	21	21	21	10	12	12	12	31	31
31	31	31	21	21	21	21																			
21:	21	21	21	21	31	31	31	31	31	31	31	21	21	21	21	21	21	21	21	12	10	12	12	31	31
31	31	31	21	21	21	21																			
22:	21	21	21	21	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																			
23:	21	21	21	21	31	31	31	31	31	31	31	21	21	21	21	21	21	21	21	12	12	12	10	31	31
31	31	31	21	21	21	21																			
24:	21	21	21	21	31	31	31	31	31	31	31	21	21	21	21	21	21	21	21	31	31	31	31	10	10
12	12	12	21	21	21	21																			
25:	21	21	21	21	31	31	31	31	31	31	31	21	21	21	21	21	21	21	21	31	31	31	31	12	12
10	12	12	21	21	21	21																			
26:	21	21	21	21	31	31	31	31	31	31	31	21	21	21	21	21	21	21	21	31	31	31	31	12	12
12	10	12	21	21	21	21																			
27:	21	21	21	21	31	31	31	31	31	31	31	21	21	21	21	21	21	21	21	31	31	31	31	12	12
12	12	10	21	21	21	21																			
28:	31	31	31	31	21	21	21	21	21	21	21	31	31	31	31	31	31	31	31	21	21	21	21	21	21

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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Lenovo Global Technology

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

SPECrate®2017_fp_base = 3850

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Jun-2026

Hardware Availability: Oct-2023

Software Availability: Apr-2026

Platform Notes (Continued)

```
21 21 21 10 12 12 12
29: 31 31 31 31 21 21 21 21 21 21 31 31 31 31 31 31 31 21 21 21 21
21 21 21 12 10 12 12
30: 31 31 31 31 21 21 21 21 21 21 31 31 31 31 31 31 31 21 21 21 21
21 21 21 12 12 10 12
31: 31 31 31 31 21 21 21 21 21 21 31 31 31 31 31 31 31 21 21 21 21
21 21 21 12 12 12 10
```

```
-----
9. /proc/meminfo
MemTotal: 4227053576 kB
```

```
-----
10. who -r
run-level 3 Jun 27 15:53
```

```
-----
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
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@ irqbalance issue-generator
kbdsettings klog lvm2-monitor nsd nvme-fc-boot-connections nvme-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 ebttables 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 61:
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
```

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Platform Notes (Continued)

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+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 SP7

19. Disk information
SPEC is set to: /home/cpu2017-1.1.9-ic2026.0
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p3 xfs 893G 115G 778G 13% /

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.
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:

(Continued on next page)



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Platform Notes (Continued)

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 | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2026.0.0 Build 20260331
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=====

=====
C++ | 508.namd_r(base) 510.parest_r(base)
=====

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=====

=====
C++, C | 511.povray_r(base) 526.blender_r(base)
=====

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=====

=====
C++, C, Fortran | 507.cactuBSSN_r(base)
=====

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=====

=====
Fortran | 503.bwaves_r(base) 549.fotonik3d_r(base) 554.roms_r(base)
=====

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=====

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CPU2017 License: 9017

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Tested by: Lenovo Global Technology

Test Date: Jun-2026

Hardware Availability: Oct-2023

Software Availability: Apr-2026

Compiler Version Notes (Continued)

Fortran, C | 521.wrf_r(base) 527.cam4_r(base)

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Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Base Portability Flags

503.bwaves_r: -DSPEC_LP64

507.cactuBSSN_r: -DSPEC_LP64

508.namd_r: -DSPEC_LP64

510.parest_r: -DSPEC_LP64

511.povray_r: -DSPEC_LP64

519.lbm_r: -DSPEC_LP64

521.wrf_r: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian

526.blender_r: -DSPEC_LP64 -DSPEC_LINUX -funsigned-char

527.cam4_r: -DSPEC_LP64 -DSPEC_CASE_FLAG

538.imagick_r: -DSPEC_LP64

544.nab_r: -DSPEC_LP64

549.fotonik3d_r: -DSPEC_LP64

554.roms_r: -DSPEC_LP64



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Base Optimization Flags

C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs  
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512  
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using Fortran, C, and C++:

```
-w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512  
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

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-AC.html>

<http://www.spec.org/cpu2017/flags/Intel-ic2026-official-linux64.html>

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-AC.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic2026-official-linux64.xml>



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