



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460

SPECrate®2017_fp_energy_base = 1500

SPECrate®2017_fp_peak = Not Run

SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

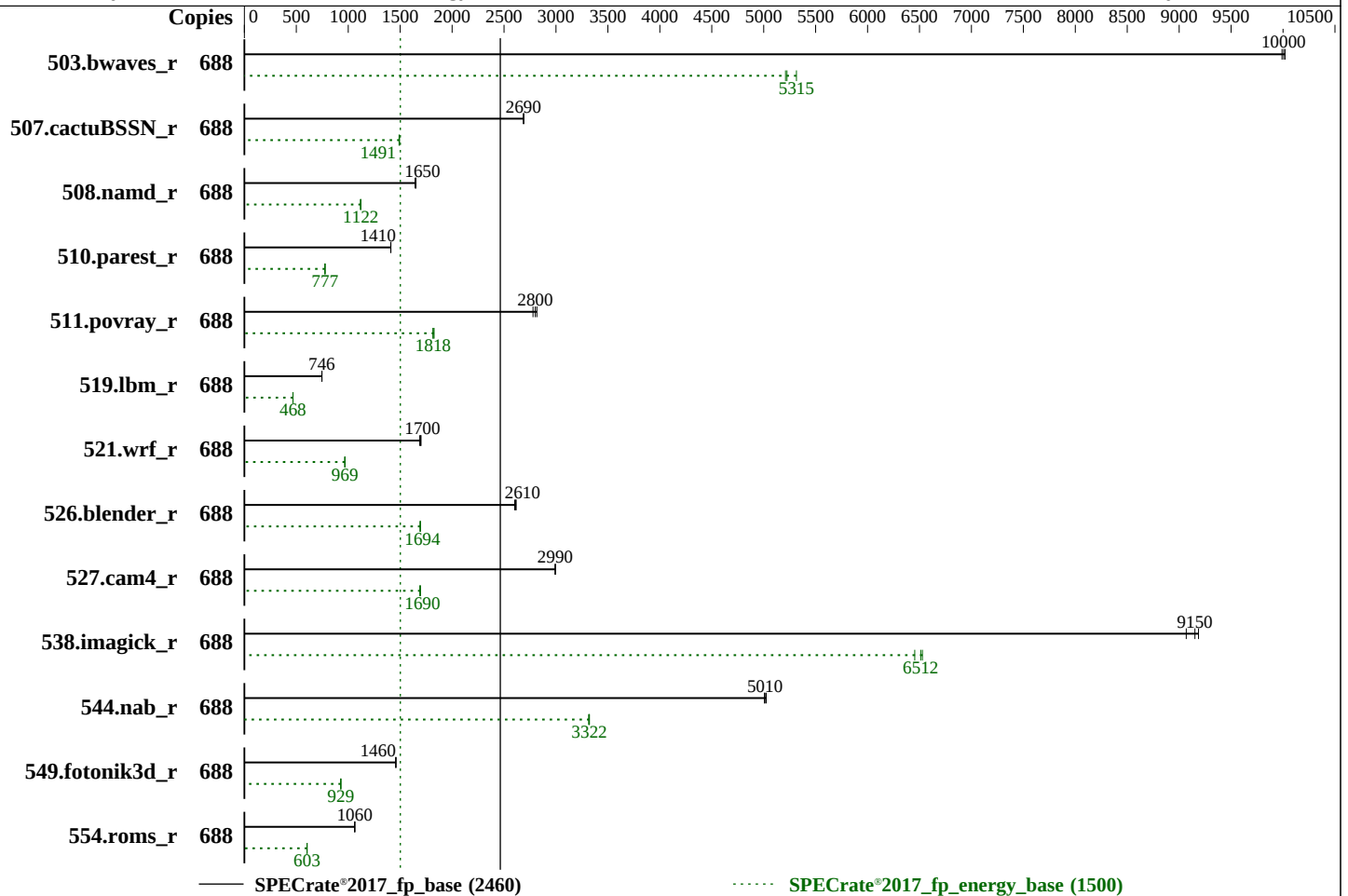
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025



Hardware

CPU Name: Intel Xeon 6788P
Max MHz: 3800
Nominal: 2000
Enabled: 344 cores, 4 chips, 2 threads/core
Orderable: 2,4 chips
Cache L1: 64 KB I + 48 KB D on chip per core
L2: 2 MB I+D on chip per core
L3: 336 MB I+D on chip per chip
Other: None
Memory: 2 TB (32 x 64 GB 2Rx4 PC5-6400B-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 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;
Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;
Parallel: No
Firmware: BIOS Version RVE103X 1.10 released Jul-2025
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 balance power and performance



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460
SPECrate®2017_fp_energy_base = 1500
SPECrate®2017_fp_peak = Not Run
SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Power

Max. Power (W): 2134.7
Idle Power (W): 450.41
Min. Temperature (C): 22.31
Elevation (m): 43
Line Standard: 220 V / 50 Hz / 1 phase / 3 wires
Provisioning: Line-powered

Power Settings

Management FW: Version 1.42 of IHX417R
Memory Mode: Normal

Power-Relevant Hardware

Power Supply: 2 x 2700 W (redundant)
Details: ThinkSystem 2700W 230V Platinum CRPS Hot-Swap Power Supply v2.3 4P57A89308
Backplane: M.2 SATA/NVMe Drive Assembly Kit
Other Storage: None
Storage Model #: 4XB7A13999
NICs Installed: 1 x ThinkSystem Ethernet 2-port Adaptor @ 10 Gb
NICs Enabled (FW/OS): 2 / 1
NICs Connected/Speed: 1 @ 10 Gb
Other HW Model #: 6 x Performance fans

Power Analyzer

Power Analyzer: WIN:9888
Hardware Vendor: YOKOGAWA, Inc.
Model: YokogawaWT310E
Serial Number: C3SH31009E
Input Connection: Default
Metrology Institute: CNAS
Calibration By: CEPREI Calibration and Testing Center
Calibration Label: 1GA24011968-0005
Calibration Date: 27-Sep-2024
PTDaemon® Version: 1.10.0 (82175bac; 2022-08-17)
Setup Description: Connected to PSU1
Current Ranges Used: 10A
Voltage Range Used: 300V

Temperature Meter

Temperature Meter: WIN:9889
Hardware Vendor: Digi International, Inc.
Model: DigiWATCHPORT_H
Serial Number: W63181846
Input Connection: USB
PTDaemon Version: 1.10.0 (82175bac; 2022-08-17)
Setup Description: 50 mm in front of SUT main intake

Base Results Table

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
503.bwaves_r	688	689	10000	1410	5320	2050	2130	689	10000	1440	5220	2090	2130	691	9990	1440	5210	2090	2130
507.cactuBSSN_r	688	324	2690	643	1490	1980	2040	324	2690	642	1490	1980	2050	324	2690	641	1490	1980	2040
508.namd_r	688	396	1650	636	1120	1610	1660	396	1650	635	1120	1600	1660	398	1640	637	1120	1600	1670
510.parest_r	688	1276	1410	2520	776	1980	2130	1277	1410	2520	777	1970	2130	1277	1410	2520	776	1980	2130
511.povray_r	688	574	2800	959	1820	1670	1720	578	2780	960	1820	1660	1710	570	2820	954	1830	1670	1710
519.lbm_r	688	972	746	1760	468	1810	1830	972	746	1760	469	1810	1830	971	747	1760	468	1810	1830
521.wrf_r	688	908	1700	1740	969	1910	2010	913	1690	1740	967	1900	2000	906	1700	1740	968	1920	2000
526.blender_r	688	403	2600	671	1690	1670	1920	401	2610	670	1690	1670	1910	400	2620	670	1690	1670	1920
527.cam4_r	688	402	3000	773	1700	1920	2060	402	2990	775	1690	1930	2060	402	2990	775	1690	1930	2060
538.imagick_r	688	186	9190	284	6530	1520	1820	189	9070	287	6450	1520	1790	187	9150	285	6510	1520	1780

Table continues on next page. Results appear in the order in which they were run. Bold underlined text indicates a median measurement.



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460
SPECrate®2017_fp_energy_base = 1500
SPECrate®2017_fp_peak = Not Run
SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Base Results Table (Continued)

Benchmark	Copies	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power	Seconds	Ratio	Energy (kJ)	Energy Ratio	Average Power	Maximum Power
544.nab_r	688	230	5020	378	3320	1640	1730	231	5010	379	3310	1640	1730	<u>231</u>	<u>5010</u>	<u>378</u>	<u>3320</u>	<u>1640</u>	<u>1730</u>
549.fotonik3d_r	688	<u>1839</u>	<u>1460</u>	<u>3210</u>	<u>929</u>	<u>1750</u>	<u>1770</u>	1839	1460	3220	928	1750	1770	1837	1460	3220	928	1750	1770
554.roms_r	688	1028	1060	2000	604	1940	2070	<u>1029</u>	<u>1060</u>	<u>2000</u>	<u>603</u>	<u>1940</u>	<u>2060</u>	1029	1060	2000	603	1940	2070

SPECrate®2017_fp_base = 2460

SPECrate®2017_fp_energy_base = 1500

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-ic2024.1/lib/intel64:/home/cpu2017-1.1.9-ic2024.1/je5.0.1-64"
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.

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:

Workload Profile set to Custom

Turbo Mode set to Disabled

UPI Link Disable set to Minimum Number of Links Enabled

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base =	2460
SPECrate®2017_fp_energy_base =	1500
SPECrate®2017_fp_peak =	Not Run
SPECrate®2017_fp_energy_peak =	Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Platform Notes (Continued)

SNC set to Enabled

Sysinfo program /home/cpu2017-1.1.9-ic2024.1/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Sun Sep 7 01:57:24 2025

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 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
01:57:25 up 8:12, 1 user, load average: 22.96, 345.02, 544.67
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) 8253538
max locked memory (kbytes, -l) 8192

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460
SPECrate®2017_fp_energy_base = 1500
SPECrate®2017_fp_peak = Not Run
SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Platform Notes (Continued)

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) 8253538
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
/bin/bash ./02.remote_local_SPEccpu_1.01.sh
sh Run503-compliant-ic2024.1-lin-sapphirerapids-ratefp-base-smt-on-20240308.sh
runcpu --power --nobuild --action validate --define default-platform-flags --define numcopies=688 -c
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=344 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base -o all fprate
runcpu --power --nobuild --action validate --define default-platform-flags --define numcopies=688
--configfile ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=344 --define
physicalfirst --define invoke_with_interleave --define drop_caches --tune base --output_format all
--runmode rate --tune base --size refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.127/temlogs/preenv.fprate.127.0.log --lognum 127.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2024.1
```

```
-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) 6788P
vendor_id      : GenuineIntel
cpu family     : 6
model          : 173
stepping       : 1
microcode      : 0x10003d0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores      : 86
siblings       : 172
4 physical ids (chips)
688 processors (hardware threads)
physical id 0: core ids 0-42,64-106
physical id 1: core ids 0-42,64-106
physical id 2: core ids 0-42,64-106
physical id 3: core ids 0-42,64-106
physical id 0: apicids 0-85,128-213
physical id 1: apicids 256-341,384-469
physical id 2: apicids 512-597,640-725
physical id 3: apicids 768-853,896-981
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)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460
SPECrate®2017_fp_energy_base = 1500
SPECrate®2017_fp_peak = Not Run
SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Platform Notes (Continued)

From lscpu from util-linux 2.40.4:

Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Address sizes: 52 bits physical, 57 bits virtual
Byte Order: Little Endian
CPU(s): 688
On-line CPU(s) list: 0-687
Vendor ID: GenuineIntel
Model name: Intel(R) Xeon(R) 6788P
CPU family: 6
Model: 173
Thread(s) per core: 2
Core(s) per socket: 86
Socket(s): 4
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 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 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: 16.1 MiB (344 instances)
L1i cache: 21.5 MiB (344 instances)
L2 cache: 688 MiB (344 instances)
L3 cache: 1.3 GiB (4 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0-42,344-386
NUMA node1 CPU(s): 43-85,387-429
NUMA node2 CPU(s): 86-128,430-472
NUMA node3 CPU(s): 129-171,473-515
NUMA node4 CPU(s): 172-214,516-558
NUMA node5 CPU(s): 215-257,559-601
NUMA node6 CPU(s): 258-300,602-644
NUMA node7 CPU(s): 301-343,645-687
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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460

SPECrate®2017_fp_energy_base = 1500

SPECrate®2017_fp_peak = Not Run

SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Platform Notes (Continued)

Vulnerability Spec rstack overflow: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PBRSE-eIBRS Not affected; 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	16.1M	12	Data	1	64	1	64
L1i	64K	21.5M	16	Instruction	1	64	1	64
L2	2M	688M	16	Unified	2	2048	1	64
L3	336M	1.3G	16	Unified	3	344064	1	64

8. numactl --hardware

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

available: 8 nodes (0-7)
node 0 cpus: 0-42,344-386
node 0 size: 257434 MB
node 0 free: 255078 MB
node 1 cpus: 43-85,387-429
node 1 size: 258025 MB
node 1 free: 255890 MB
node 2 cpus: 86-128,430-472
node 2 size: 258025 MB
node 2 free: 255878 MB
node 3 cpus: 129-171,473-515
node 3 size: 258025 MB
node 3 free: 255934 MB
node 4 cpus: 172-214,516-558
node 4 size: 257986 MB
node 4 free: 255814 MB
node 5 cpus: 215-257,559-601
node 5 size: 258025 MB
node 5 free: 255867 MB
node 6 cpus: 258-300,602-644
node 6 size: 258025 MB
node 6 free: 255828 MB
node 7 cpus: 301-343,645-687
node 7 size: 257865 MB
node 7 free: 255627 MB
node distances:
node 0 1 2 3 4 5 6 7
0: 10 12 21 21 31 31 21 21
1: 12 10 21 21 31 31 21 21
2: 21 21 10 12 21 21 31 31
3: 21 21 12 10 21 21 31 31
4: 31 31 21 21 10 12 21 21
5: 31 31 21 21 12 10 21 21
6: 21 21 31 31 21 21 10 12
7: 21 21 31 31 21 21 12 10

9. /proc/meminfo

MemTotal: 2112933804 kB

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460
SPECrate®2017_fp_energy_base = 1500
SPECrate®2017_fp_peak = Not Run
SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Platform Notes (Continued)

10. who -r
run-level 3 Sep 6 17:47

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 nscd nvme-fc-boot-connections nvme-fc-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 autostart-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
generated ntp_sync
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=5caa0f87-5156-4d0e-b8a9-eafcf70a6b5a
splash=silent
mitigations=auto
quiet
security=apparmor

14. cpupower frequency-info
analyzing CPU 333:
Unable to determine current policy
boost state support:
Supported: no
Active: no

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)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460
SPECrate®2017_fp_energy_base = 1500
SPECrate®2017_fp_peak = Not Run
SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

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/cpu2017-1.1.9-ic2024.1
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p3 xfs 890G 48G 843G 6% /
```

```
-----
20. /sys/devices/virtual/dmi/id
Vendor:      Lenovo
Product:     ThinkSystem SR850 V4
Product Family: ThinkSystem
Serial:      9876543210
```

```
-----
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:
10x Samsung M321R8GA0PB2-CCPEC 64 GB 2 rank 6400
5x Samsung M321R8GA0PB2-CCPKC 64 GB 2 rank 6400
11x Samsung M321R8GA0PB2-CCPPC 64 GB 2 rank 6400
6x Samsung M321R8GA0PB2-CCPWC 64 GB 2 rank 6400
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460
SPECrate®2017_fp_energy_base = 1500
SPECrate®2017_fp_peak = Not Run
SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Platform Notes (Continued)

22. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: Lenovo
BIOS Version: RVE103X-1.10
BIOS Date: 07/17/2025
BIOS Revision: 1.10
Firmware Revision: 1.42

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 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

=====

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

=====

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

=====

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

=====

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

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

=====

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

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base =	2460
SPECrate®2017_fp_energy_base =	1500
SPECrate®2017_fp_peak =	Not Run
SPECrate®2017_fp_energy_peak =	Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

Compiler Version Notes (Continued)

Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

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



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base =	2460
SPECrate®2017_fp_energy_base =	1500
SPECrate®2017_fp_peak =	Not Run
SPECrate®2017_fp_energy_peak =	Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

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-Birchstream-F.html>

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html>



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR850 V4
(2.0 GHZ, Intel Xeon 6788P)

SPECrate®2017_fp_base = 2460

SPECrate®2017_fp_energy_base = 1500

SPECrate®2017_fp_peak = Not Run

SPECrate®2017_fp_energy_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025

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-Birchstream-F.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

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

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

Tested with SPEC CPU®2017 v1.1.9 on 2025-09-06 13:57:23-0400.

Report generated on 2025-09-23 16:56:13 by CPU2017 PDF formatter v6716.

Originally published on 2025-09-23.