



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology ThinkSystem SR630 V4 (2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base = 1130

SPECrate®2017_int_energy_base = 1920

SPECrate®2017_int_peak = Not Run

SPECrate®2017_int_energy_peak = Not Run

CPU2017 License: 9017

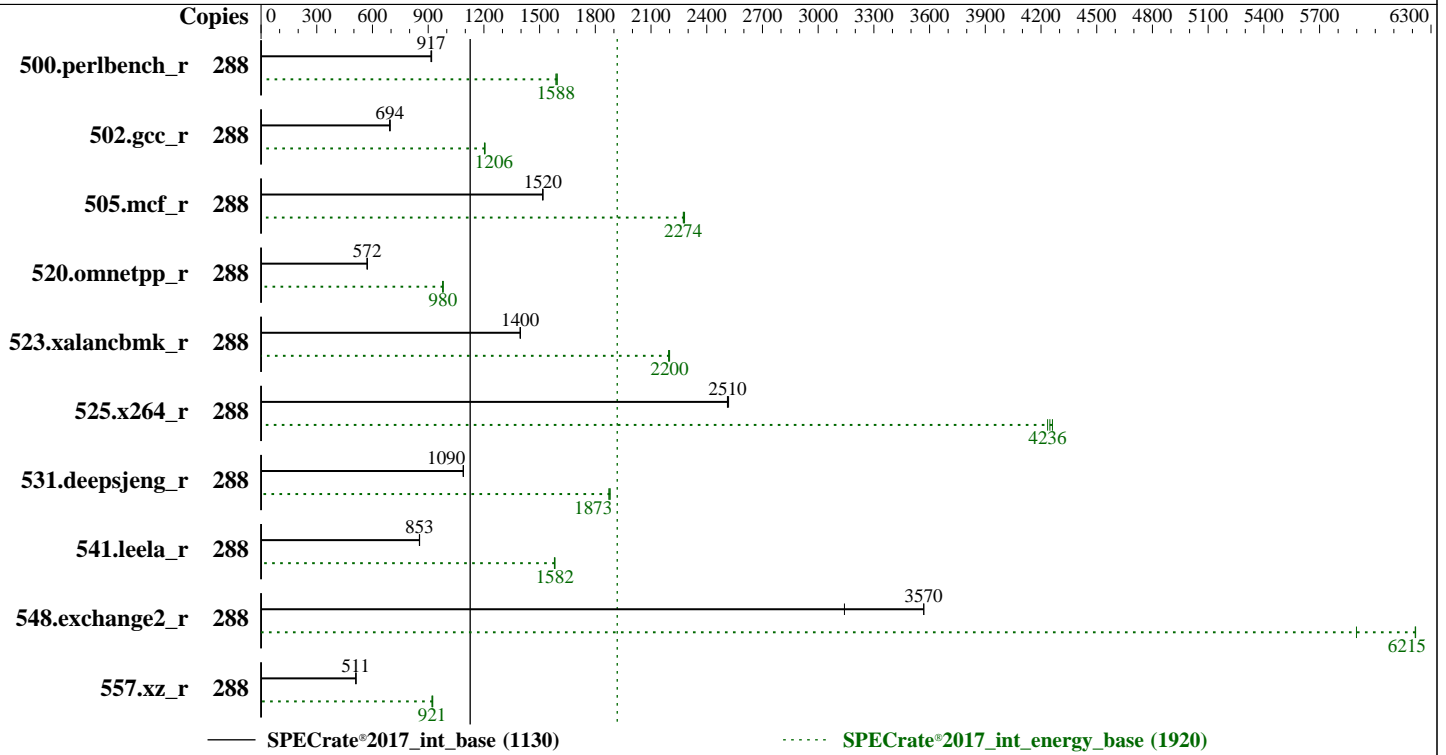
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2024

Hardware Availability: Nov-2024

Software Availability: Jun-2024



Hardware

CPU Name: Intel Xeon 6780E
 Max MHz: 3000
 Nominal: 2200
 Enabled: 288 cores, 2 chips
 Orderable: 1,2 chips
 Cache L1: 64 KB I + 32 KB D on chip per core
 L2: 4 MB I+D on chip per core
 L3: 108 MB I+D on chip per chip
 Other: None
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-6400B-R)
 Storage: 1 x 960GB NVMe SSD
 Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP6
 Kernel 6.4.0-150600.21-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: Lenovo BIOS Version IHE1030 0.20 released Aug-2024
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: Not Applicable
 Other: None
 Power Management: BIOS set to balance power and performance

Power

Max. Power (W): 771.5
 Idle Power (W): 189.06
 Min. Temperature (C): 20.63
 Elevation (m): 43
 Line Standard: 220 V / 50 Hz / 1 phase / 3 wires
 Provisioning: Line-powered



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR630 V4

(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base = 1130
SPECrate®2017_int_energy_base = 1920
SPECrate®2017_int_peak = Not Run
SPECrate®2017_int_energy_peak = Not Run

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Sep-2024
Hardware Availability: Nov-2024
Software Availability: Jun-2024

Power Settings

Management FW: Version 0.38 of IHX403L
Memory Mode: Normal

Power-Relevant Hardware

Power Supply: 2 x 1300 W (redundant)
Details: ThinkSystem V3 1300W 230V / 115V Titanium Power Supply 4P57A88621
Backplane: 10 x 2.5-inch HDD back plane
Other Storage: None
Storage Model #s: 4XB7A93066
NICs Installed: 1 x ThinkSystem Ethernet 4-port Adaptor @ 10 / 25 Gb
NICs Enabled (FW/OS): 4 / 1
NICs Connected/Speed: 1 @ 10 Gb
Other HW Model #s: 4 x performance fan

Power Analyzer

Power Analyzer: WIN:9888
Hardware Vendor: YOKOGAWA, Inc.
Model: YokogawaWT310E
Serial Number: C3UG05013E
Input Connection: Default
Metrology Institute: CNAS
Calibration By: GRG METROLOGY & TEST (BEIJING) CO., LTD.
Calibration Label: J202308266858A-0004
Calibration Date: 16-Oct-2023
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
500.perlbench_r	288	501	915	312	1590	623	738	499	919	312	1590	626	737	500	917	313	1590	626	739
502.gcc_r	288	589	692	368	1200	625	718	587	694	367	1210	625	716	587	695	368	1200	627	719
505.mcf_r	288	307	1520	224	2280	729	772	307	1520	223	2280	728	769	307	1520	224	2270	730	765
520.omnetpp_r	288	660	572	417	981	632	641	662	571	419	978	632	648	661	572	418	980	632	642
523.xalancbmk_r	288	218	1400	150	2200	687	746	218	1400	150	2200	689	750	218	1400	150	2200	688	745
525.x264_r	288	201	2510	128	4260	639	669	201	2510	129	4240	643	682	200	2520	129	4250	642	672
531.deepsjeng_r	288	303	1090	191	1880	630	686	303	1090	192	1870	632	683	303	1090	191	1880	630	684
541.leela_r	288	559	853	327	1580	584	625	559	854	326	1580	584	623	559	853	326	1580	583	625
548.exchange2_r	288	211	3570	132	6220	622	635	211	3570	132	6220	622	635	240	3140	139	5900	577	634
557.xz_r	288	609	511	367	921	602	702	609	511	367	921	603	701	609	510	366	925	600	699

SPECrate®2017_int_base = 1130

SPECrate®2017_int_energy_base = 1920

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.



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base =	1130
SPECrate®2017_int_energy_base =	1920
SPECrate®2017_int_peak =	Not Run
SPECrate®2017_int_energy_peak =	Not Run

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Sep-2024
Hardware Availability: Nov-2024
Software Availability: Jun-2024

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/lib/ia32:/home/cpu2017-1.1.9-ic
2024.1/je5.0.1-32"
MALLOC_CONF = "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.

Platform Notes

BIOS configuration:
Workload Profile set to General Computing - Power Efficiency and then set it to Custom
Turbo Mode set to Disabled
UPI Link Disable set to Minimum Number Of Links Enabled
DCU Streamer Prefetcher set to Disabled

```
Sysinfo program /home/cpu2017-1.1.9-ic2024.1/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Sun Sep 8 11:45:36 2024
```

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

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base =	1130
SPECrate®2017_int_energy_base =	1920
SPECrate®2017_int_peak =	Not Run
SPECrate®2017_int_energy_peak =	Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2024

Hardware Availability: Nov-2024

Software Availability: Jun-2024

Platform Notes (Continued)

```

9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
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 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)
x86_64 x86_64 x86_64 GNU/Linux

```

```

-----
2. w
 11:45:36 up 1 day, 22:24,  1 user,  load average: 0.29, 0.06, 0.02
USER      TY  FROM      LOGIN@    IDLE   JCPU   PCPU   WHAT
root      pts/0    172.29.241.254  Fri13    48.00s  2.75s  0.04s  sh
Run702-compliant-ic2024.1-lin-sierraforest-rateint-base-20240308.sh

```

```

-----
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) 2062205
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) 2062205
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@pts/0

```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base =	1130
SPECrate®2017_int_energy_base =	1920
SPECrate®2017_int_peak =	Not Run
SPECrate®2017_int_energy_peak =	Not Run

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Sep-2024
Hardware Availability: Nov-2024
Software Availability: Jun-2024

Platform Notes (Continued)

```
-bash
/bin/bash ./run_SR630V4.sh
sh Run702-compliant-ic2024.1-lin-sierraforest-rate-int-base-20240308.sh
runcpu --power --nobuild --action validate --define default-platform-flags --define numcopies=288 -c
ic2024.1-lin-sierraforest-rate-20240308.cfg --define smt-on --define cores=288 --define physicalfirst
--define invoke_with_interleave --define drop_caches --reportable --tune base -o all intrate
runcpu --power --nobuild --action validate --define default-platform-flags --define numcopies=288
--configfile ic2024.1-lin-sierraforest-rate-20240308.cfg --define smt-on --define cores=288 --define
physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base
--output_format all --runmode rate --tune base --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.292/temlogs/preenv.intrate.292.0.log --lognum 292.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2024.1
```

```
-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) 6780E
vendor_id      : GenuineIntel
cpu family     : 6
model          : 175
stepping       : 3
microcode      : 0x3000211
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores     : 144
siblings      : 144
2 physical ids (chips)
288 processors (hardware threads)
physical id 0: core ids 0-143
physical id 1: core ids 0-143
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
,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,1
32,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,18
4,186,188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224,226,228,230,232,234,236
,238,240,242,244,246,248,250,252,254,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286
physical id 1: apicids
512,514,516,518,520,522,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,5
64,566,568,570,572,574,576,578,580,582,584,586,588,590,592,594,596,598,600,602,604,606,608,610,612,614,61
6,618,620,622,624,626,628,630,632,634,636,638,640,642,644,646,648,650,652,654,656,658,660,662,664,666,668
,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,
722,724,726,728,730,732,734,736,738,740,742,744,746,748,750,752,754,756,758,760,762,764,766,768,770,772,7
74,776,778,780,782,784,786,788,790,792,794,796,798
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 2.39.3:
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:         52 bits physical, 48 bits virtual
Byte Order:            Little Endian
CPU(s):                288
On-line CPU(s) list:   0-287
Vendor ID:             GenuineIntel
BIOS Vendor ID:       Intel(R) Corporation
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology ThinkSystem SR630 V4 (2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base =	1130
SPECrate®2017_int_energy_base =	1920
SPECrate®2017_int_peak =	Not Run
SPECrate®2017_int_energy_peak =	Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2024

Hardware Availability: Nov-2024

Software Availability: Jun-2024

Platform Notes (Continued)

```

Model name: Intel(R) Xeon(R) 6780E
BIOS Model name: Intel(R) Xeon(R) 6780E UNKNOWN CPU @ 2.2GHz
BIOS CPU family: 179
CPU family: 6
Model: 175
Thread(s) per core: 1
Core(s) per socket: 144
Socket(s): 2
Stepping: 3
BogoMIPS: 4400.00
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 bml avx2 smep bmi2 erms invpcid cqm
rdt_a rdseed adx smap clflushopt clwb intel_pt sha_ni xsaveopt xsavec
xgetbv1 xsavec cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
split_lock_detect user_shstk avx_vnni lam wbnoinvd dtherm arat pln
pts vnmi umip pku ospke waitpkg gfni vaes vpcmlmulqdq tme rdpid
bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear
serialize pconfig arch_lbr ibt flush_lld arch_capabilities
VT-x
Virtualization: VT-x
L1d cache: 9 MiB (288 instances)
L1i cache: 18 MiB (288 instances)
L2 cache: 288 MiB (72 instances)
L3 cache: 216 MiB (2 instances)
NUMA node(s): 2
NUMA node0 CPU(s): 0-143
NUMA node1 CPU(s): 144-287
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/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	32K	9M	8	Data	1	64	1	64
L1i	64K	18M	8	Instruction	1	128	1	64
L2	4M	288M	16	Unified	2	4096	1	64
L3	108M	216M	12	Unified	3	147456	1	64

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base = 1130
SPECrate®2017_int_energy_base = 1920
SPECrate®2017_int_peak = Not Run
SPECrate®2017_int_energy_peak = Not Run

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Sep-2024
Hardware Availability: Nov-2024
Software Availability: Jun-2024

Platform Notes (Continued)

8. numactl --hardware

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

```
available: 2 nodes (0-1)
node 0 cpus: 0-143
node 0 size: 257646 MB
node 0 free: 255911 MB
node 1 cpus: 144-287
node 1 size: 257931 MB
node 1 free: 255795 MB
node distances:
node  0  1
  0: 10 21
  1: 21 10
```

9. /proc/meminfo

```
MemTotal: 527951760 kB
```

10. who -r

```
run-level 3 Sep 6 13:21
```

11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)

```
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 nvmmf-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 autofsd 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 ipmievdev 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-6.4.0-150600.21-default
root=UUID=8c76b9eb-7cab-4e58-a0ba-c4f6030335e5
splash=silent
mitigations=auto
quiet
security=apparmor
```

14. cpupower frequency-info

```
analyzing CPU 197:
```

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base = 1130
SPECrate®2017_int_energy_base = 1920
SPECrate®2017_int_peak = Not Run
SPECrate®2017_int_energy_peak = Not Run

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Sep-2024
Hardware Availability: Nov-2024
Software Availability: Jun-2024

Platform Notes (Continued)

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
vm.min_unmapped_ratio 1
vm.nr_hugepages 0
vm.nr_hugepages_mempolicy 0
vm.nr_overcommit_hugepages 0
vm.swappiness 60
vm.watermark_boost_factor 15000
vm.watermark_scale_factor 10
vm.zone_reclaim_mode 0

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

17. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs 60000
defrag 1
max_ptes_none 511
max_ptes_shared 256
max_ptes_swap 64
pages_to_scan 4096
scan_sleep_millisecs 10000

18. OS release
From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP6

19. Disk information
SPEC is set to: /home/cpu2017-1.1.9-ic2024.1
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p2 xfs 893G 76G 818G 9% /

20. /sys/devices/virtual/dmi/id

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base = 1130
SPECrate®2017_int_energy_base = 1920
SPECrate®2017_int_peak = Not Run
SPECrate®2017_int_energy_peak = Not Run

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Sep-2024
Hardware Availability: Nov-2024
Software Availability: Jun-2024

Platform Notes (Continued)

Vendor: Lenovo
Product: ThinkSystem SR630 V4
Product Family: ThinkSystem
Serial: 0987654321

21. dmidecode

Additional information from dmidecode 3.4 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:

11x Samsung M321R4GA3PB1-CCPPC 32 GB 2 rank 6400
5x Samsung M321R4GA3PB1-CCPYC 32 GB 2 rank 6400

22. BIOS

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

BIOS Vendor:
BIOS Version: IHE1030-0.20
BIOS Date: 08/01/2024
BIOS Revision: 0.20
Firmware Revision: 0.38

Compiler Version Notes

C | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base) 557.xz_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++ | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_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.

Fortran | 548.exchange2_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.

Base Compiler Invocation

C benchmarks:
icx

(Continued on next page)



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base =	1130
SPECrate®2017_int_energy_base =	1920
SPECrate®2017_int_peak =	Not Run
SPECrate®2017_int_energy_peak =	Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Sep-2024

Hardware Availability: Nov-2024

Software Availability: Jun-2024

Base Compiler Invocation (Continued)

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Base Portability Flags

```
500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64
```

Base Optimization Flags

C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xsierraforest -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc
```

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsierraforest -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xsierraforest -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc
```



SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base =	1130
SPECrate®2017_int_energy_base =	1920
SPECrate®2017_int_peak =	Not Run
SPECrate®2017_int_energy_peak =	Not Run

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Sep-2024
Hardware Availability: Nov-2024
Software Availability: Jun-2024

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-A.html>
<http://www.spec.org/cpu2017/flags/Intel-ic2024-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-Birchstream-A.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 2024-09-07 23:45:35-0400.
 Report generated on 2024-09-25 09:18:17 by CPU2017 PDF formatter v6716.
 Originally published on 2024-09-24.