SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECrate®2017_int_base = 409

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017　　　　　　　　　　　　　　　　　**Test Date:** Apr-2024

Test Sponsor: Lenovo Global Technology　　　　　　　**Hardware Availability:** Feb-2024

Tested by: Lenovo Global Technology　　　　　　　　**Software Availability:** Mar-2024

Benchmark	Copies	Result
500.perlbench_r	96	314
502.gcc_r	96	337
505.mcf_r	96	618
520.omnetpp_r	96	264
523.xalancbmk_r	96	573
525.x264_r	96	832
531.deepsjeng_r	96	293
541.leela_r	96	289
548.exchange2_r	96	887
557.xz_r	96	211

SPECrate®2017_int_base (409)

Hardware

CPU Name: Intel Xeon Platinum 8558U

Max MHz: 4000

Nominal: 2000

Enabled: 48 cores, 1 chip, 2 threads/core

Orderable: 1 chip

Cache L1: 32 KB I + 48 KB D on chip per core

L2: 2 MB I+D on chip per core

L3: 260 MB I+D on chip per chip

Other: None

Memory: 512 GB (8 x 64 GB 2Rx4 PC5-5600B-R, running at 4800)

Storage: 1 x 960 GB SATA SSD

Other: CPU Cooling: CLC

Software

OS: Red Hat Enterprise Linux 9.2 (Plow)
Kernel 5.14.0-284.11.1.el9_2.x86_64

Compiler: C/C++: Version 2024.0.2 of Intel oneAPI DPC++/C++ Compiler for Linux;
Fortran: Version 2024.0.2 of Intel Fortran Compiler for Linux;

Parallel: No

Firmware: Lenovo BIOS Version ESE123C 3.12 released Feb-2024

File System: xfs

System State: Run level 3 (multi-user)

Base Pointers: 64-bit

Peak Pointers: Not Applicable

Other: None

Power Management: BIOS and OS set to prefer performance at the cost of additional power usage

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base =   409

SPECrate®2017_int_peak = Not Run

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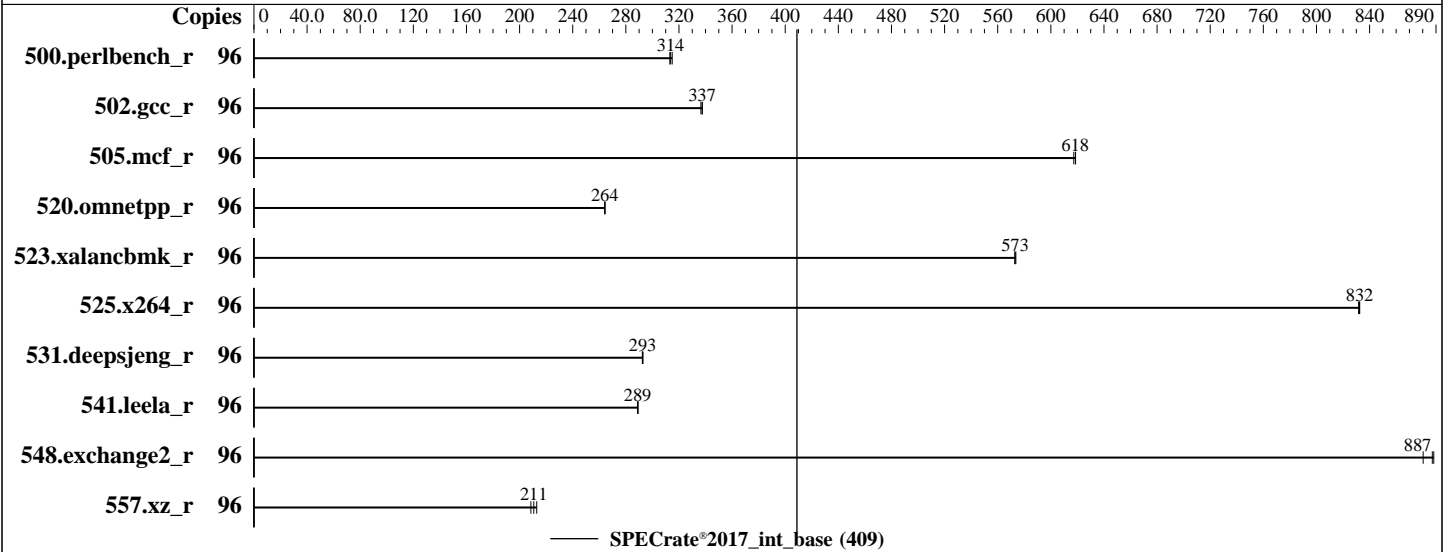**Test Sponsor:** Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Apr-2024
Hardware Availability: Feb-2024
Software Availability: Mar-2024

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	96	485	315	**487**	**314**	488	313							
502.gcc_r	96	403	338	**403**	**337**	404	337							
505.mcf_r	96	**251**	**618**	251	617	251	619							
520.omnetpp_r	96	**477**	**264**	477	264	477	264							
523.xalancbmk_r	96	177	574	**177**	**573**	177	573							
525.x264_r	96	202	832	**202**	**832**	202	832							
531.deepsjeng_r	96	376	292	376	293	**376**	**293**							
541.leela_r	96	550	289	550	289	**550**	**289**							
548.exchange2_r	96	283	888	286	880	**283**	**887**							
557.xz_r	96	**492**	**211**	487	213	497	209							
SPECrate®2017_int_base =		**409**												
SPECrate®2017_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/cpu2017-1.1.9-ic2024.0.2/lib/intel64:/home/cpu2017-1.1.9-ic2024.0.2/lib/ia32:/home/cpu2017-1.1.
    9-ic2024.0.2/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.
```

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)

https://www.spec.org/

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base =   409

SPECrate®2017_int_peak = Not Run

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

Test Date: Apr-2024
Hardware Availability: Feb-2024
Software Availability: Mar-2024

General Notes (Continued)

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:
Choose Operating Mode set to Maximum Performance and then set it to Custom Mode
C-States set to Legacy
LLC Prefetch set to Disabled
SNC set to SNC2

 Sysinfo program /home/cpu2017-1.1.9-ic2024.0.2/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost.localdomain Tue Apr 16 04:20:01 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
  9. /proc/meminfo
 10. who -r
 11. Systemd service manager version: systemd 252 (252-13.el9_2)
 12. Services, from systemctl list-unit-files
 13. Linux kernel boot-time arguments, from /proc/cmdline
 14. cpupower frequency-info
 15. tuned-adm active
 16. sysctl
 17. /sys/kernel/mm/transparent_hugepage
 18. /sys/kernel/mm/transparent_hugepage/khugepaged
 19. OS release
 20. Disk information
 21. /sys/devices/virtual/dmi/id
 22. dmidecode
 23. BIOS
 ---------------------------------------------------------------


 ---------------------------------------------------------------
 1. uname -a
   Linux localhost.localdomain 5.14.0-284.11.1.el9_2.x86_64 #1 SMP PREEMPT_DYNAMIC Wed Apr 12 10:45:03 EDT
   2023 x86_64 x86_64 x86_64 GNU/Linux


 ---------------------------------------------------------------
 2. w
    04:20:01 up 1 min,  1 user,  load average: 0.32, 0.17, 0.06
   USER     TTY         LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1        04:19    8.00s  0.82s  0.01s -bash


 ---------------------------------------------------------------
 3. Username
   From environment variable $USER:  root
```

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base =   409

SPECrate®2017_int_peak = Not Run

Platform Notes (Continued)

```
    ----------------------------------------------------------
    4. ulimit -a
      real-time non-blocking time  (microseconds, -R) unlimited
      core file size              (blocks, -c) 0
      data seg size               (kbytes, -d) unlimited
      scheduling priority             (-e) 0
      file size                   (blocks, -f) unlimited
      pending signals                 (-i) 2062609
      max locked memory           (kbytes, -l) 64
      max memory size             (kbytes, -m) unlimited
      open files                      (-n) 1024
      pipe size            (512 bytes, -p) 8
      POSIX message queues         (bytes, -q) 819200
      real-time priority              (-r) 0
      stack size                  (kbytes, -s) unlimited
      cpu time                   (seconds, -t) unlimited
      max user processes              (-u) 2062609
      virtual memory              (kbytes, -v) unlimited
      file locks                      (-x) unlimited


    ----------------------------------------------------------
    5. sysinfo process ancestry
     /usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
     login -- root
     -bash
     -bash
     runcpu --nobuild --action validate --define default-platform-flags --define numcopies=96 -c
       ic2024.0.2-lin-sapphirerapids-rate-20231213.cfg --define smt-on --define cores=48 --define physicalfirst
       --define invoke_with_interleave --define drop_caches --tune base -o all intrate
     runcpu --nobuild --action validate --define default-platform-flags --define numcopies=96 --configfile
       ic2024.0.2-lin-sapphirerapids-rate-20231213.cfg --define smt-on --define cores=48 --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/CPU2017.092/templogs/preenv.intrate.092.0.log --lognum 092.0 --from_runcpu 2
     specperl $SPEC/bin/sysinfo
    $SPEC = /home/cpu2017-1.1.9-ic2024.0.2


    ----------------------------------------------------------
    6. /proc/cpuinfo
        model name      : INTEL(R) XEON(R) PLATINUM 8558U
        vendor_id       : GenuineIntel
        cpu family      : 6
        model           : 207
        stepping        : 2
        microcode       : 0x21000200
        bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
        cpu cores       : 48
        siblings        : 96
        1 physical ids (chips)
        96 processors (hardware threads)
        physical id 0: core ids 0-47
        physical id 0: apicids 0-95
      Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
      virtualized systems.  Use the above data carefully.


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

    From lscpu from util-linux 2.37.4:
```

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base =   409

SPECrate®2017_int_peak = Not Run

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

Test Date: Apr-2024
Hardware Availability: Feb-2024
Software Availability: Mar-2024

Platform Notes (Continued)

```
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):                          96
On-line CPU(s) list:             0-95
Vendor ID:                       GenuineIntel
BIOS Vendor ID:                  Intel(R) Corporation
Model name:                      INTEL(R) XEON(R) PLATINUM 8558U
BIOS Model name:                 INTEL(R) XEON(R) PLATINUM 8558U
CPU family:                      6
Model:                           207
Thread(s) per core:              2
Core(s) per socket:              48
Socket(s):                       1
Stepping:                        2
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
                                 invpcid_single cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow
                                 vnmi 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 avx_vnni
                                 avx512_bf16 wbnoinvd dtherm ida arat pln pts hfi 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:                       2.3 MiB (48 instances)
L1i cache:                       1.5 MiB (48 instances)
L2 cache:                        96 MiB (48 instances)
L3 cache:                        260 MiB (1 instance)
NUMA node(s):                    2
NUMA node0 CPU(s):               0-23,48-71
NUMA node1 CPU(s):               24-47,72-95
Vulnerability Itlb multihit:     Not affected
Vulnerability L1tf:              Not affected
Vulnerability Mds:               Not affected
Vulnerability Meltdown:          Not affected
Vulnerability Mmio stale data:   Not affected
Vulnerability Retbleed:          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 IBRS, IBPB conditional, RSB filling, PBRSB-eIBRS SW
                                 sequence
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     2.3M   12 Data            1     64        1             64
    L1i       32K     1.5M    8 Instruction    1     64        1             64
    L2         2M      96M   16 Unified         2   2048        1             64
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base = 409

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Apr-2024

Hardware Availability: Feb-2024

Software Availability: Mar-2024

Platform Notes (Continued)

```
     L3        260M      260M    20 Unified          3 212992       1              64


   -------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 2 nodes (0-1)
  node 0 cpus: 0-23,48-71
  node 0 size: 257701 MB
  node 0 free: 256830 MB
  node 1 cpus: 24-47,72-95
  node 1 size: 257993 MB
  node 1 free: 257256 MB
  node distances:
  node   0   1
    0:  10  12
    1:  12  10


   -------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       528071160 kB


   -------------------------------------------------------------
10. who -r
   run-level 3 Apr 16 04:18


   -------------------------------------------------------------
11. Systemd service manager version: systemd 252 (252-13.el9_2)
   Default Target  Status
   multi-user      running


   -------------------------------------------------------------
12. Services, from systemctl list-unit-files
   STATE            UNIT FILES
   enabled          NetworkManager NetworkManager-dispatcher NetworkManager-wait-online atd auditd bluetooth
                    chronyd crond dbus-broker firewalld getty@ insights-client-boot irqbalance iscsi
                    iscsi-onboot kdump libstoragemgmt low-memory-monitor lvm2-monitor mcelog mdmonitor
                    microcode multipathd nis-domainname nvmefc-boot-connections rhsmcertd rsyslog rtkit-daemon
                    selinux-autorelabel-mark smartd sshd sssd systemd-boot-update systemd-network-generator
                    tuned udisks2 upower
   enabled-runtime  systemd-remount-fs
   disabled         arp-ethers blk-availability canberra-system-bootup canberra-system-shutdown
                    canberra-system-shutdown-reboot chrony-wait console-getty cpupower debug-shell
                    dnf-system-upgrade iprdump iprinit iprupdate iscsid iscsiuio kpatch kvm_stat ledmon
                    man-db-restart-cache-update nftables nvmf-autoconnect pesign psacct rdisc rhcd rhsm
                    rhsm-facts rpmdb-rebuild selinux-check-proper-disable serial-getty@ sshd-keygen@
                    systemd-boot-check-no-failures systemd-pstore systemd-sysext
   indirect         sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo systemd-sysupdate
                    systemd-sysupdate-reboot


   -------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
   BOOT_IMAGE=(hd3,gpt2)/vmlinuz-5.14.0-284.11.1.el9_2.x86_64
   root=/dev/mapper/rhel-root
   ro
   resume=/dev/mapper/rhel-swap
   rd.lvm.lv=rhel/root
   rd.lvm.lv=rhel/swap
   rhgb
   quiet
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base =   409

SPECrate®2017_int_peak = Not Run

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

Test Date: Apr-2024
Hardware Availability: Feb-2024
Software Availability: Mar-2024

Platform Notes (Continued)

```
----------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 0:
    Unable to determine current policy
    boost state support:
      Supported: yes
      Active: yes


----------------------------------------------------------
15. tuned-adm active
  Current active profile: throughput-performance


----------------------------------------------------------
16. 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                   40
  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                    10
  vm.watermark_boost_factor     15000
  vm.watermark_scale_factor        10
  vm.zone_reclaim_mode              0


----------------------------------------------------------
17. /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


----------------------------------------------------------
18. /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


----------------------------------------------------------
19. OS release
  From /etc/*-release /etc/*-version
  os-release     Red Hat Enterprise Linux 9.2 (Plow)
  redhat-release Red Hat Enterprise Linux release 9.2 (Plow)
  system-release Red Hat Enterprise Linux release 9.2 (Plow)


----------------------------------------------------------
20. Disk information
```

(Continued on next page)

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base =   409

SPECrate®2017_int_peak = Not Run

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

Test Date: Apr-2024
Hardware Availability: Feb-2024
Software Availability: Mar-2024

Platform Notes (Continued)

```
 SPEC is set to: /home/cpu2017-1.1.9-ic2024.0.2
   Filesystem            Type  Size  Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs   819G   69G  750G   9% /home


  ----------------------------------------------------------
 21. /sys/devices/virtual/dmi/id
     Vendor:         Lenovo
     Product:        ThinkSystem SR650 V3 MB,EGS,DDR5,SH,2U
     Product Family: ThinkSystem
     Serial:         1234567890


  ----------------------------------------------------------
 22. dmidecode
   Additional information from dmidecode 3.3 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:
       2x Samsung M321R8GA0PB0-CWMKH 64 GB 2 rank 5600, configured at 4800
       6x Samsung M321R8GA0PB0-CWMXH 64 GB 2 rank 5600, configured at 4800


  ----------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
     BIOS Vendor:      Lenovo
     BIOS Version:     ESE123C-3.12
     BIOS Date:        02/22/2024
     BIOS Revision:    3.12
     Firmware Revision: 3.90
```

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 2024.0.2 Build 20231213
Copyright (C) 1985-2023 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 2024.0.2 Build 20231213
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran | 548.exchange2_r(base)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base = 409

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Apr-2024

Hardware Availability: Feb-2024

Software Availability: Mar-2024

Base Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc
```

C++ benchmarks:
```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc
```

Fortran benchmarks:
```
-w -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/opt/intel/oneapi/compiler/2024.0/lib -lqkmalloc
```

Standard Performance Evaluation Corporation (info@spec.org)　　　https://www.spec.org/

SPEC CPU®2017 Integer Rate Result

Lenovo Global Technology

ThinkSystem SR650 V3
(2.00 GHz, Intel Xeon Platinum 8558U)

SPECrate®2017_int_base = 409

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017		**Test Date:**	Apr-2024
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Feb-2024
Tested by:	Lenovo Global Technology	**Software Availability:**	Mar-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-Eaglestream-AA.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-Eaglestream-AA.xml
http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml

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 2024-04-16 04:20:01-0400.
Report generated on 2024-05-07 22:19:43 by CPU2017 PDF formatter v6716.
Originally published on 2024-05-07.