SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECrate®2017_int_base = 765

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Benchmark	Copies	Result
500.perlbench_r	176	556
502.gcc_r	176	592
505.mcf_r	176	1170
520.omnetpp_r	176	463
523.xalancbmk_r	176	1360
525.x264_r	176	1590
531.deepsjeng_r	176	565
541.leela_r	176	560
548.exchange2_r	176	1480
557.xz_r	176	379

SPECrate®2017_int_base (765)

Hardware

CPU Name: Intel Xeon Platinum 8458P
Max MHz: 3800
Nominal: 2700
Enabled: 88 cores, 2 chips, 2 threads/core
Orderable: 1,2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 2 MB I+D on chip per core
L3: 82.5 MB I+D on chip per chip
Other: None
Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)
Storage: 1 x 960 GB SATA SSD
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP4 (x86_64)
Kernel 5.14.21-150400.22-default
Compiler: C/C++: Version 2022.1 of Intel oneAPI DPC++/C++ Compiler for Linux;
Fortran: Version 2022.1 of Intel Fortran Compiler for Linux;
Parallel: No
Firmware: Lenovo BIOS Version ESE109L 1.10 released Jan-2023
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

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
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_base = 765
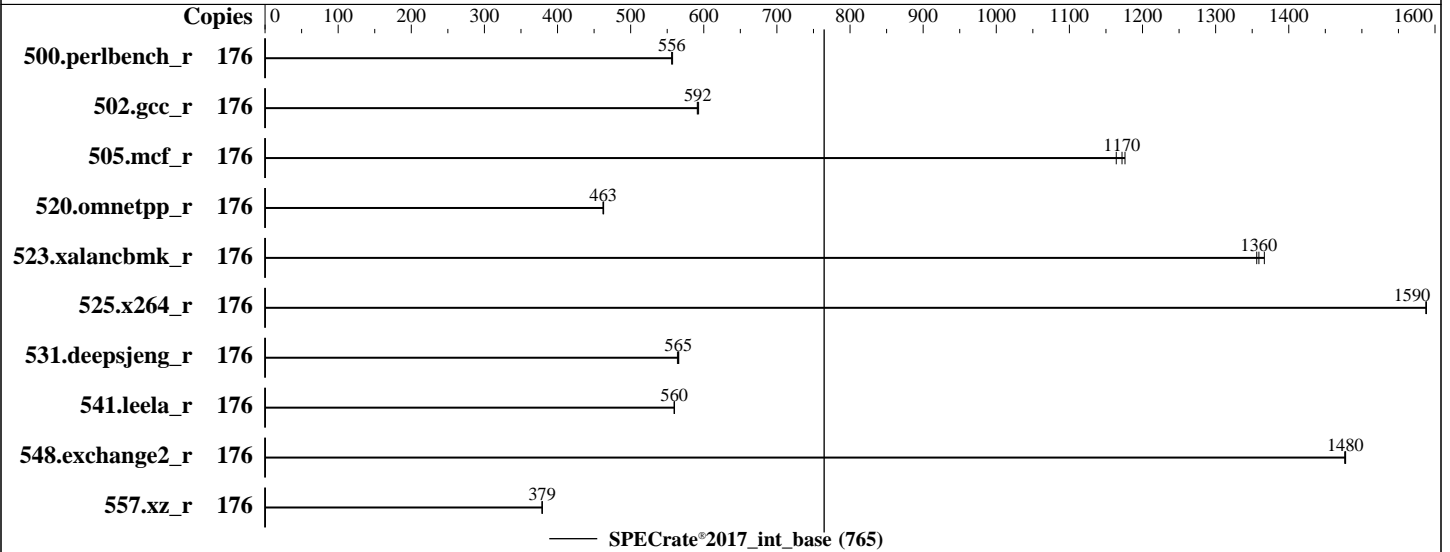
SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	176	503	557	**504**	**556**	504	556							
502.gcc_r	176	420	593	422	591	**421**	**592**							
505.mcf_r	176	**243**	**1170**	242	1180	244	1160							
520.omnetpp_r	176	500	462	**499**	**463**	499	463							
523.xalancbmk_r	176	136	1370	137	1360	**137**	**1360**							
525.x264_r	176	194	1590	194	1590	**194**	**1590**							
531.deepsjeng_r	176	356	566	358	564	**357**	**565**							
541.leela_r	176	521	560	520	560	**521**	**560**							
548.exchange2_r	176	312	1480	**312**	**1480**	312	1480							
557.xz_r	176	**501**	**379**	501	379	502	379							
SPECrate®2017_int_base =	**765**													
SPECrate®2017_int_peak =	Not Run													

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

Compiler Notes

```
SPEC has ruled that the compiler used for this result was performing a compilation
that specifically improves the performance of the 523.xalancbmk_r / 623.xalancbmk_s
benchmarks using a priori knowledge of the SPEC code and dataset to perform a
transformation that has narrow applicability.

In order to encourage optimizations that have wide applicability (see rule 1.4
https://www.spec.org/cpu2017/Docs/runrules.html#rule_1.4), SPEC will no longer
publish results using this optimization.

This result is left in the SPEC results database for historical reference.
```

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-ic2022.1/lib/intel64:/home/cpu2017-1.1.9-ic2022.1/lib/ia32:/home/cpu2017-1.1.9-ic
    2022.1/je5.0.1-32"
MALLOC_CONF = "retain:true"
```

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

Lenovo Global Technology

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_base =   765

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Feb-2023
Software Availability: Jun-2022

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:
Operating Mode set to Maximum Performance and then set it to Custom Mode
MONITOR/MWAIT set to Enabled
SNC set to SNC4
LLC Prefetch set to Disabled
UPI Link Disable set to Disabled 1 Link

 Sysinfo program /home/cpu2017-1.1.9-ic2022.1/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost Sun Jan 29 23:59:35 2023

 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 249 (249.11+suse.124.g2bc0b2c447)
 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
 ------------------------------------------------------------

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

(Continued on next page)

Lenovo Global Technology

SPECrate®2017_int_base =   765

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017		**Test Date:**	Jan-2023
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Feb-2023
Tested by:	Lenovo Global Technology	**Software Availability:**	Jun-2022

Platform Notes (Continued)

```
1. uname -a
  Linux localhost 5.14.21-150400.22-default #1 SMP PREEMPT_DYNAMIC Wed May 11 06:57:18 UTC 2022 (49db222)
  x86_64 x86_64 x86_64 GNU/Linux

----------------------------------------------------------
2. w
   23:59:35 up  5:57,  1 user,  load average: 0.36, 39.33, 107.55
  USER     TTY       FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     tty1      -                18:07    7.00s  1.14s  0.00s -bash

----------------------------------------------------------
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) 2062435
  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) 2062435
  virtual memory          (kbytes, -v) unlimited
  file locks                      (-x) unlimited

----------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize 30
 login -- root
 -bash
 -bash
 -bash
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=176 -c
   ic2022.1-lin-core-avx2-rate-20220316.cfg --define smt-on --define cores=88 --define physicalfirst --define
   invoke_with_interleave --define drop_caches --tune base -o all intrate
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=176 --configfile
   ic2022.1-lin-core-avx2-rate-20220316.cfg --define smt-on --define cores=88 --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/CPU2017.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/cpu2017-1.1.9-ic2022.1

----------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) Platinum 8458P
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 143
    stepping        : 8
    microcode       : 0x2b000161
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_base = 765

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Platform Notes (Continued)

```
    cpu cores       : 44
    siblings        : 88
    2 physical ids (chips)
    176 processors (hardware threads)
    physical id 0: core ids 0-43
    physical id 1: core ids 0-43
    physical id 0: apicids 0-87
    physical id 1: apicids 128-215
  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 2.37.2:
    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):                 176
    On-line CPU(s) list:    0-175
    Vendor ID:              GenuineIntel
    Model name:             Intel(R) Xeon(R) Platinum 8458P
    CPU family:             6
    Model:                  143
    Thread(s) per core:     2
    Core(s) per socket:     44
    Socket(s):              2
    Stepping:               8
    BogoMIPS:               5400.00
    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 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced
                            tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 hle
                            avx2 smep bmi2 erms invpcid rtm 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 avx_vnni avx512_bf16 wbnoinvd dtherm ida
                            arat pln pts 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 avx512_fp16 amx_tile flush_l1d arch_capabilities
    Virtualization:         VT-x
    L1d cache:              4.1 MiB (88 instances)
    L1i cache:              2.8 MiB (88 instances)
    L2 cache:               176 MiB (88 instances)
    L3 cache:               165 MiB (2 instances)
    NUMA node(s):           8
    NUMA node0 CPU(s):      0-10,88-98
    NUMA node1 CPU(s):      11-21,99-109
    NUMA node2 CPU(s):      22-32,110-120
    NUMA node3 CPU(s):      33-43,121-131
    NUMA node4 CPU(s):      44-54,132-142
    NUMA node5 CPU(s):      55-65,143-153
    NUMA node6 CPU(s):      66-76,154-164
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_base =   765

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Platform Notes (Continued)

```
   NUMA node7 CPU(s):            77-87,165-175
   Vulnerability Itlb multihit:    Not affected
   Vulnerability L1tf:             Not affected
   Vulnerability Mds:              Not affected
   Vulnerability Meltdown:         Not affected
   Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
   Vulnerability Spectre v1:       Mitigation; usercopy/swapgs barriers and __user pointer sanitization
   Vulnerability Spectre v2:       Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
   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     4.1M   12 Data           1    64      1            64
     L1i     32K     2.8M    8 Instruction    1    64      1            64
     L2       2M     176M   16 Unified        2  2048      1            64
     L3    82.5M     165M   15 Unified        3 90112      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: 0-10,88-98
   node 0 size: 64169 MB
   node 0 free: 52761 MB
   node 1 cpus: 11-21,99-109
   node 1 size: 64506 MB
   node 1 free: 59667 MB
   node 2 cpus: 22-32,110-120
   node 2 size: 64506 MB
   node 2 free: 59517 MB
   node 3 cpus: 33-43,121-131
   node 3 size: 64471 MB
   node 3 free: 59576 MB
   node 4 cpus: 44-54,132-142
   node 4 size: 64506 MB
   node 4 free: 55506 MB
   node 5 cpus: 55-65,143-153
   node 5 size: 64506 MB
   node 5 free: 59650 MB
   node 6 cpus: 66-76,154-164
   node 6 size: 64506 MB
   node 6 free: 59678 MB
   node 7 cpus: 77-87,165-175
   node 7 size: 64459 MB
   node 7 free: 59507 MB
   node distances:
   node   0   1   2   3   4   5   6   7
     0:  10  12  12  12  21  21  21  21
     1:  12  10  12  12  21  21  21  21
     2:  12  12  10  12  21  21  21  21
     3:  12  12  12  10  21  21  21  21
     4:  21  21  21  21  10  12  12  12
     5:  21  21  21  21  12  10  12  12
     6:  21  21  21  21  12  12  10  12
     7:  21  21  21  21  12  12  12  10

   --------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       528008052 kB
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_base =   765

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Jan-2023

Hardware Availability: Feb-2023

Software Availability: Jun-2022

Platform Notes (Continued)

```
        ----------------------------------------------------------
        10. who -r
          run-level 3 Jan 29 18:02


        ----------------------------------------------------------
        11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)
          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@ haveged irqbalance
                             issue-generator kbdsettings klog lvm2-monitor nscd postfix purge-kernels rollback rsyslog
                             smartd sshd wicked wickedd wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
          enabled-runtime    systemd-remount-fs
          disabled           autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
                             chronyd console-getty cups cups-browsed debug-shell ebtables exchange-bmc-os-info
                             firewalld gpm grub2-once haveged-switch-root ipmi ipmievd issue-add-ssh-keys kexec-load
                             lunmask man-db-create multipathd nfs nfs-blkmap rdisc rpcbind rpmconfigcheck rsyncd
                             sapconf serial-getty@ smartd_generate_opts snmpd snmptrapd sysstat
                             systemd-boot-check-no-failures systemd-network-generator systemd-sysext
                             systemd-time-wait-sync systemd-timesyncd tuned
          indirect           uuidd wickedd


        ----------------------------------------------------------
        13. Linux kernel boot-time arguments, from /proc/cmdline
          BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
          root=UUID=461ffbd6-8da0-4c20-adb7-d9d3143b6aa5
          splash=silent
          mitigations=auto
          quiet
          security=apparmor


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


        ----------------------------------------------------------
        15. tuned-adm active
          It seems that tuned daemon is not running, preset profile is not activated.
          Preset profile: virtual-guest


        ----------------------------------------------------------
        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                  20
          vm.dirty_writeback_centisecs    500
          vm.dirtytime_expire_seconds     43200
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_base =   765

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Platform Notes (Continued)

```
  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


  -------------------------------------------------------------
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 SUSE Linux Enterprise Server 15 SP4


  -------------------------------------------------------------
20. Disk information
SPEC is set to: /home/cpu2017-1.1.9-ic2022.1
  Filesystem      Type  Size  Used Avail Use% Mounted on
  /dev/sda3       xfs   889G   66G  823G   8% /


  -------------------------------------------------------------
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 3.2 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:
    16x Samsung M321R4GA3BB0-CQKVG 32 GB 2 rank 4800


  -------------------------------------------------------------
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:     Lenovo
    BIOS Version:    ESE109L-1.10
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_base =   765

SPECrate®2017_int_peak = Not Run

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

Test Date: Jan-2023
Hardware Availability: Feb-2023
Software Availability: Jun-2022

Platform Notes (Continued)

```
    BIOS Date:        01/07/2023
    BIOS Revision:    1.10
    Firmware Revision: 1.0
```

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 2022.1.0 Build 20220316
Copyright (C) 1985-2022 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 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------


==============================================================================
Fortran | 548.exchange2_r(base)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

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`

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR650 V3
(2.70 GHz, Intel Xeon Platinum 8458P)

SPECrate®2017_int_base = 765

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017		**Test Date:**	Jan-2023
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Feb-2023
Tested by:	Lenovo Global Technology	**Software Availability:**	Jun-2022

Base Portability Flags (Continued)

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 -xCORE-AVX2 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

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-N.html
http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.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-N.xml
http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.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 2023-01-29 10:59:34-0500.
Report generated on 2024-01-29 17:23:30 by CPU2017 PDF formatter v6716.
Originally published on 2023-02-28.