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 =   1350

SPECrate®2017_int_peak = Not Run
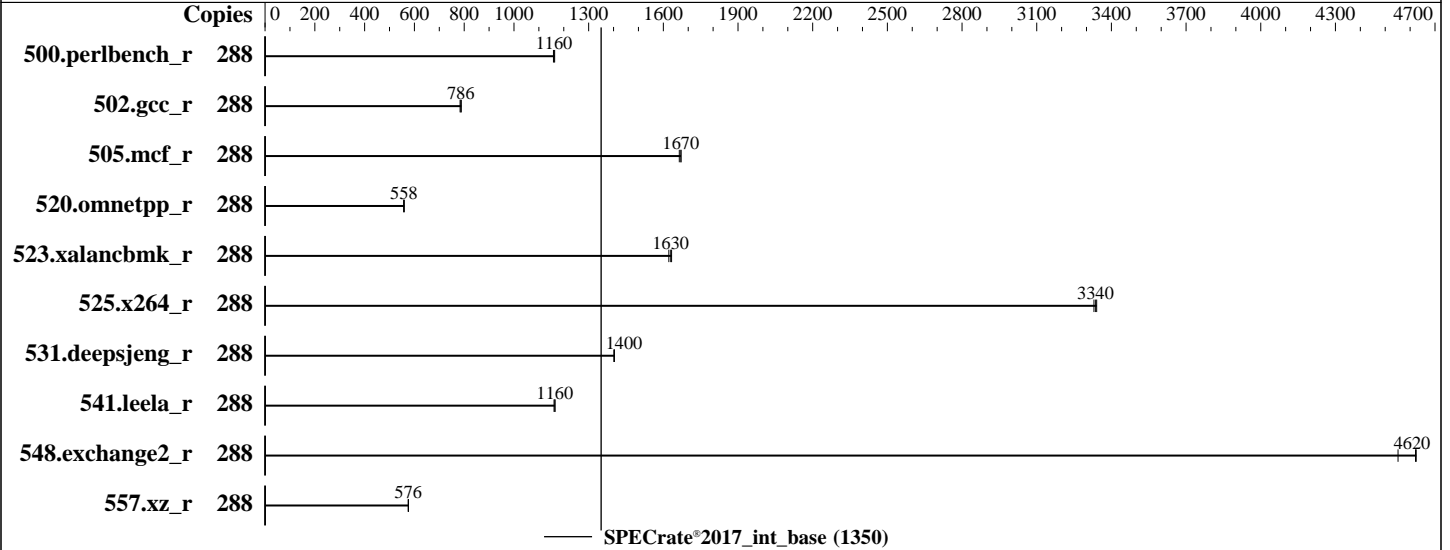
CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-2024

Benchmark	Copies	Result
500.perlbench_r	288	1160
502.gcc_r	288	786
505.mcf_r	288	1670
520.omnetpp_r	288	558
523.xalancbmk_r	288	1630
525.x264_r	288	3340
531.deepsjeng_r	288	1400
541.leela_r	288	1160
548.exchange2_r	288	4620
557.xz_r	288	576

SPECrate®2017_int_base (1350)

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 3.84 TB NVME SSD
Other: CPU Cooling: Air

Software

OS: Red Hat Enterprise Linux 9.4 (Plow)
 Kernel 5.14.0-427.13.1.el9_4.x86_64
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 IHE103O 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 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 SR630 V4
(2.20 GHz, Intel Xeon 6780E)

SPECrate®2017_int_base =   1350

SPECrate®2017_int_peak = Not Run

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

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-2024

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	288	394	1160	**395**	**1160**	396	1160							
502.gcc_r	288	520	783	**519**	**786**	517	788							
505.mcf_r	288	**279**	**1670**	280	1660	279	1670							
520.omnetpp_r	288	676	559	**677**	**558**	679	557							
523.xalancbmk_r	288	186	1630	187	1620	**187**	**1630**							
525.x264_r	288	151	3340	**151**	**3340**	151	3330							
531.deepsjeng_r	288	**235**	**1400**	235	1400	235	1400							
541.leela_r	288	**410**	**1160**	409	1160	411	1160							
548.exchange2_r	288	166	4550	**163**	**4620**	163	4620							
557.xz_r	288	**540**	**576**	540	576	541	575							
SPECrate®2017_int_base =	**1350**													
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-ic2024.1/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.
```

(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 =   1350

SPECrate®2017_int_peak = Not Run

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

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-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 Workload Profile set to High Performance Computing
UPI Link Disable set to Minimum Number of Links Enabled

 Sysinfo program /home/cpu2017-1.1.9-ic2024.1/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost.localdomain Sat Aug  3 09:02:50 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 (252-32.el9_4)
 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.localdomain 5.14.0-427.13.1.el9_4.x86_64 #1 SMP PREEMPT_DYNAMIC Wed Apr 10 10:29:16 EDT
   2024 x86_64 x86_64 x86_64 GNU/Linux


 ------------------------------------------------------------
 2. w
    09:02:50 up  6:30,  1 user,  load average: 8.28, 138.97, 223.81
    USER     TTY        LOGIN@   IDLE   JCPU   PCPU WHAT
    root     tty1       02:33    6:28m  1.38s  0.03s /bin/bash ./speccpu_hydra.sh

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


 ------------------------------------------------------------
 4. ulimit -a
```

(Continued on next page)

Lenovo Global Technology

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

SPECrate®2017_int_base =   1350

SPECrate®2017_int_peak = Not Run

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

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-2024

Platform Notes (Continued)

```
   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) 2062353
   max locked memory           (kbytes, -l) unlimited
   max memory size             (kbytes, -m) unlimited
   open files                     (-n) 102400
   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) 2062353
   virtual memory              (kbytes, -v) unlimited
   file locks                     (-x) unlimited


   -------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize 31
 login -- root
 -bash
 /bin/bash ./speccpu_hydra.sh
 /bin/bash ./speccpu_hydra.sh
 runcpu --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 --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
   --nopower --runmode rate --tune base --size refrate intrate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.268/templogs/preenv.intrate.268.0.log --lognum 268.0 --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
   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
```

(Continued on next page)

Lenovo Global Technology

SPECrate®2017_int_base =   1350

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

SPECrate®2017_int_peak = Not Run

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

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-2024

Platform Notes (Continued)

```
    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 2.37.4:
  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
  Model name:                  Intel(R) Xeon(R) 6780E
  BIOS Model name:             Intel(R) Xeon(R) 6780E
  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 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
                               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 rdseed adx smap clflushopt clwb intel_pt sha_ni xsaveopt
                               xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
                               split_lock_detect avx_vnni lam wbnoinvd dtherm ida arat pln pts vnmi
                               umip pku ospke waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect
                               cldemote movdiri movdir64b enqcmd fsrm md_clear serialize pconfig
                               arch_lbr ibt flush_l1d arch_capabilities
  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 Retbleed:            Not affected
  Vulnerability Spec rstack overflow: Not affected
  Vulnerability Spec store bypass:    Mitigation; Speculative Store Bypass disabled via prctl
```

(Continued on next page)

Lenovo Global Technology

SPECrate®2017_int_base =   1350

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

SPECrate®2017_int_peak = Not Run

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

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-2024

Platform Notes (Continued)

```
   Vulnerability Spectre v1:         Mitigation; usercopy/swapgs barriers and __user pointer sanitization
   Vulnerability Spectre v2:         Mitigation; Enhanced / Automatic IBRS, IBPB conditional, RSB filling,
                                     PBRSB-eIBRS Not affected
   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


-------------------------------------------------------------
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: 257683 MB
  node 0 free: 255823 MB
  node 1 cpus: 144-287
  node 1 size: 257943 MB
  node 1 free: 256197 MB
  node distances:
  node   0   1
    0:  10  21
    1:  21  10


-------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       528002772 kB


-------------------------------------------------------------
10. who -r
  run-level 3 Aug 3 02:33


-------------------------------------------------------------
11. Systemd service manager version: systemd 252 (252-32.el9_4)
  Default Target  Status
  multi-user      running


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


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

(Continued on next page)

Lenovo Global Technology

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

SPECrate®2017_int_base =   1350

SPECrate®2017_int_peak = Not Run

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

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-2024

Platform Notes (Continued)

```
13. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=(hd0,gpt2)/boot/vmlinuz-5.14.0-427.13.1.el9_4.x86_64
    root=UUID=218263b5-b938-4bb9-acd2-fdd6e13af967
    ro
    resume=UUID=28b98cc0-6b11-4f02-b151-4d764447b0f5

    ----------------------------------------------------------
14. cpupower frequency-info
    analyzing CPU 251:
      Unable to determine current policy
      boost state support:
        Supported: yes
        Active: yes

    ----------------------------------------------------------
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+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     Red Hat Enterprise Linux 9.4 (Plow)
    redhat-release Red Hat Enterprise Linux release 9.4 (Plow)
    system-release Red Hat Enterprise Linux release 9.4 (Plow)
```

Lenovo Global Technology

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

SPECrate®2017_int_base =   1350

SPECrate®2017_int_peak = Not Run

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

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-2024

Platform Notes (Continued)

```
-------------------------------------------------------------
19. Disk information
SPEC is set to: /home/cpu2017-1.1.9-ic2024.1
  Filesystem    Type  Size  Used Avail Use% Mounted on
  /dev/nvme0n1p4 xfs   3.5T   40G  3.4T   2% /home

-------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:        Lenovo
    Product:       ThinkSystem SR630 V4
    Product Family: ThinkSystem
    Serial:        0987654321

-------------------------------------------------------------
21. dmidecode
  Additional information from dmidecode 3.5 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 M321R4GA3PB2-CCPEC 32 GB 2 rank 6400


-------------------------------------------------------------
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:
    BIOS Version:     IHE103O-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.
----------------------------------------------------------------------------------------------
```

Lenovo Global Technology

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

SPECrate®2017_int_base =   1350

SPECrate®2017_int_peak = Not Run

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

Test Date: Aug-2024
Hardware Availability: Nov-2024
Software Availability: Aug-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 -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 =   1350

SPECrate®2017_int_peak = Not Run

CPU2017 License: 9017		**Test Date:**	Aug-2024
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Nov-2024
Tested by:	Lenovo Global Technology	**Software Availability:**	Aug-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

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 2024-08-02 21:02:49-0400.
Report generated on 2024-09-04 10:04:50 by CPU2017 PDF formatter v6716.
Originally published on 2024-09-03.