SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology

$SPECspeed®2017\_fp\_base = 276$

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

$SPECspeed®2017\_fp\_peak$ = Not Run

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

Test Date: May-2025
Hardware Availability: May-2025
Software Availability: Jun-2024

Threads — scale: 0 40.0 80.0 120 150 180 210 240 270 300 330 360 390 420 450 480 510 540 570 600 630 660 690 720 790

- 603.bwaves_s 32 — 788
- 607.cactuBSSN_s 32 — 322
- 619.lbm_s 32 — 212
- 621.wrf_s 32 — 260
- 627.cam4_s 32 — 158
- 628.pop2_s 32 — 121
- 638.imagick_s 32 — 546
- 644.nab_s 32 — 436
- 649.fotonik3d_s 32 — 129
- 654.roms_s 32 — 312

—— SPECspeed®2017_fp_base (276)

Hardware

CPU Name: Intel Xeon 6731P
 Max MHz: 4100
 Nominal: 2500
Enabled: 32 cores, 1 chip
Orderable: 1 chip
Cache L1:   64 KB I + 48 KB D on chip per core
 L2:   2 MB I+D on chip per core
 L3:   144 MB I+D on chip per chip
 Other: None
Memory: 256 GB (8 x 32 GB 2Rx8 PC5-6400B-R)
Storage: 1 x 960 GB NVME SSD
Other: CPU Cooling: DLC

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: Yes
Firmware: Lenovo BIOS Version IHE109U 1.20 released Mar-2025
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of additional power usage

SPEC CPU®2017 Floating Point Speed Result
Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base = 276
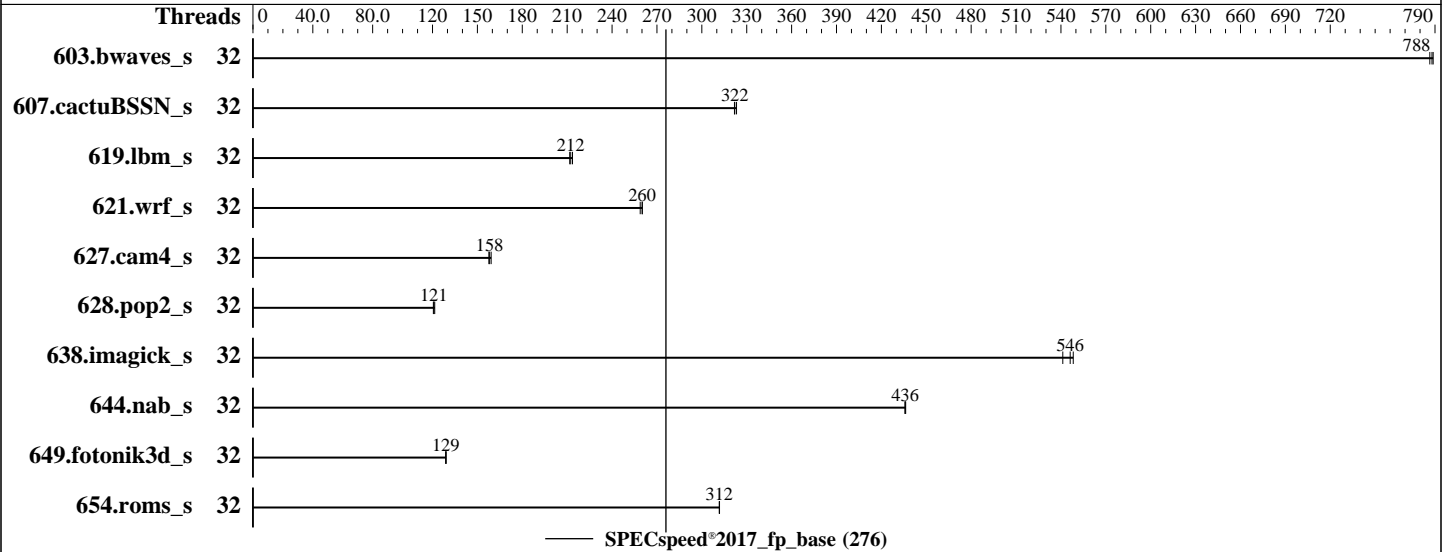
SPECspeed®2017_fp_peak = Not Run

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

Test Date: May-2025
Hardware Availability: May-2025
Software Availability: Jun-2024

Results Table

Benchmark	Threads	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	32	**74.9**	**788**	75.0	787	74.8	789							
607.cactuBSSN_s	32	51.6	323	51.8	322	**51.8**	**322**							
619.lbm_s	32	24.5	214	24.7	212	**24.7**	**212**							
621.wrf_s	32	**50.8**	**260**	50.8	260	51.1	259							
627.cam4_s	32	55.7	159	**56.0**	**158**	56.2	158							
628.pop2_s	32	98.5	121	**98.2**	**121**	97.7	121							
638.imagick_s	32	**26.4**	**546**	26.3	548	26.7	541							
644.nab_s	32	**40.1**	**436**	40.1	436	40.1	436							
649.fotonik3d_s	32	70.6	129	**70.7**	**129**	70.8	129							
654.roms_s	32	**50.5**	**312**	50.5	312	50.5	312							
SPECspeed®2017_fp_base =		**276**												
SPECspeed®2017_fp_peak =		**Not Run**												

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

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:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu2017-1.1.9-ic2024.1/lib/intel64:/home/cpu2017-1.1.9-ic2024.1/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"
```

General Notes

```
  Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
  memory using Redhat Enterprise Linux 8.0
  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
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
is mitigated in the system as tested and documented.
  jemalloc, a general purpose malloc implementation
  built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
  sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base =   276

SPECspeed®2017_fp_peak = Not Run

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

Test Date: May-2025
Hardware Availability: May-2025
Software Availability: Jun-2024

Platform Notes

```
BIOS configuration:
Workload Profile set to General Computing - Max Performance
Hyper-Threading set to Disabled
Adjacent Cache Prefetch set to Disabled
LLC Prefetch set to Enabled
Page Policy set to Adaptive

 Sysinfo program /home/cpu2017-1.1.9-ic2024.1/bin/sysinfo
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
 running on localhost Fri May 23 23:24:36 2025

 SUT (System Under Test) info as seen by some common utilities.

 ------------------------------------------------------------
 Table of contents
 ------------------------------------------------------------
  1. uname -a
  2. w
  3. Username
  4. ulimit -a
  5. sysinfo process ancestry
  6. /proc/cpuinfo
  7. lscpu
  8. numactl --hardware
  9. /proc/meminfo
 10. who -r
 11. Systemd service manager version: systemd 254 (254.10+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
    23:24:36 up  1:03,  1 user,  load average: 10.54, 24.09, 26.73
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT


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


 ------------------------------------------------------------
 4. ulimit -a
   core file size          (blocks, -c) unlimited
   data seg size           (kbytes, -d) unlimited
   scheduling priority             (-e) 0
   file size               (blocks, -f) unlimited
```

<div align="center">(Continued on next page)</div>

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base =   276

SPECspeed®2017_fp_peak = Not Run

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

Test Date: May-2025
Hardware Availability: May-2025
Software Availability: Jun-2024

Platform Notes (Continued)

```
   pending signals            (-i) 1030048
   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) 1030048
   virtual memory         (kbytes, -v) unlimited
   file locks                 (-x) unlimited

  ----------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: root [priv]
 sshd: root@notty
 /bin/bash ./02.remote_local_SPECcpu_1.01.sh
 sh Run553-compliant-ic2024.1-lin-sapphirerapids-speedfp-base-smt-off-20240308.sh
 runcpu --nobuild --action validate --define default-platform-flags -c
   ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=32 --tune base -o all --define drop_caches
   fpspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=32 --tune base --output_format all --define
   drop_caches --nopower --runmode speed --tune base --size refspeed fpspeed --nopreenv --note-preenv
   --logfile $SPEC/tmp/CPU2017.713/templogs/preenv.fpspeed.713.0.log --lognum 713.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
 $SPEC = /home/cpu2017-1.1.9-ic2024.1

  ----------------------------------------------------------
6. /proc/cpuinfo
   model name        : Intel(R) Xeon(R) 6731P
   vendor_id         : GenuineIntel
   cpu family        : 6
   model             : 173
   stepping          : 1
   microcode         : 0xa0000c0
   bugs              : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
   cpu cores         : 32
   siblings          : 32
   1 physical ids (chips)
   32 processors (hardware threads)
   physical id 0: core ids 0-31
   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
  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, 57 bits virtual
   Byte Order:                      Little Endian
   CPU(s):                          32
   On-line CPU(s) list:             0-31
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base =   276

SPECspeed®2017_fp_peak = Not Run

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

Test Date: May-2025
Hardware Availability: May-2025
Software Availability: Jun-2024

Platform Notes (Continued)

```
Vendor ID:                            GenuineIntel
BIOS Vendor ID:                       Intel(R) Corporation
Model name:                           Intel(R) Xeon(R) 6731P
BIOS Model name:                      Intel(R) Xeon(R) 6731P UNKNOWN CPU @ 2.5GHz
BIOS CPU family:                      179
CPU family:                           6
Model:                                173
Thread(s) per core:                   1
Core(s) per socket:                   32
Socket(s):                            1
Stepping:                             1
BogoMIPS:                             5000.00
Flags:                                fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
                                      pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx
                                      pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good
                                      nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni
                                      pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
                                      xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt
                                      tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm
                                      3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin cdp_l2
                                      ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept
                                      vpid ept_ad fsgsbase tsc_adjust bmi1 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 user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida
                                      arat pln pts hfi vnmi avx512vbmi umip pku ospke waitpkg avx512_vbmi2
                                      gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq
                                      la57 rdpid bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm
                                      md_clear serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16
                                      amx_tile amx_int8 flush_l1d arch_capabilities
Virtualization:                       VT-x
L1d cache:                            1.5 MiB (32 instances)
L1i cache:                            2 MiB (32 instances)
L2 cache:                             64 MiB (32 instances)
L3 cache:                             144 MiB (1 instance)
NUMA node(s):                         1
NUMA node0 CPU(s):                    0-31
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/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:             Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling;
                                      PBRSB-eIBRS Not affected; BHI BHI_DIS_S
Vulnerability Srbds:                  Not affected
Vulnerability Tsx async abort:        Not affected

 From lscpu --cache:
     NAME ONE-SIZE ALL-SIZE WAYS TYPE          LEVEL   SETS PHY-LINE COHERENCY-SIZE
     L1d      48K     1.5M   12 Data            1     64       1              64
     L1i      64K       2M   16 Instruction     1     64       1              64
     L2        2M      64M   16 Unified         2   2048       1              64
     L3      144M     144M   16 Unified         3 147456       1              64
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base = 276

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9017		**Test Date:**	May-2025
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	May-2025
Tested by:	Lenovo Global Technology	**Software Availability:**	Jun-2024

Platform Notes (Continued)

```
------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 1 nodes (0)
  node 0 cpus: 0-31
  node 0 size: 257538 MB
  node 0 free: 255579 MB
  node distances:
  node   0
    0:  10


------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       263719548 kB


------------------------------------------------------------
10. who -r
   run-level 3 May 23 22:21


------------------------------------------------------------
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 nvmefc-boot-connections nvmf-autoconnect postfix
                  purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked wickedd-auto4
                  wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
  enabled-runtime systemd-remount-fs
  disabled        autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
                  chronyd console-getty cups cups-browsed debug-shell ebtables exchange-bmc-os-info
                  firewalld fsidd gpm grub2-once haveged ipmi ipmievd issue-add-ssh-keys kexec-load lunmask
                  man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd serial-getty@
                  smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures systemd-confext
                  systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd
  generated       ntp_sync
  indirect        systemd-userdbd wickedd


------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
  root=UUID=c5be0e33-36a7-4fb1-a8dd-78aa43a6d2d8
  splash=silent
  mitigations=auto
  quiet
  security=apparmor


------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 31:
    Unable to determine current policy
    boost state support:
      Supported: yes
      Active: yes


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

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base = 276

SPECspeed®2017_fp_peak = Not Run

Platform Notes (Continued)

```
 15. sysctl
   kernel.numa_balancing              0
   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 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/nvme0n1p3 xfs   893G   49G  844G   6% /


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

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base =   276

SPECspeed®2017_fp_peak = Not Run

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

Test Date: May-2025
Hardware Availability: May-2025
Software Availability: Jun-2024

Platform Notes (Continued)

```
    determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the
    "DMTF SMBIOS" standard.
    Memory:
       6x Samsung M321R4GA3PB2-CCPKC 32 GB 2 rank 6400
       2x Samsung M321R4GA3PB2-CCPPC 32 GB 2 rank 6400


    -------------------------------------------------------------
 22. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       Lenovo
    BIOS Version:      IHE109U-1.20
    BIOS Date:         03/15/2025
    BIOS Revision:     1.20
    Firmware Revision: 1.20
```

Compiler Version Notes

```
==============================================================================================
C             | 619.lbm_s(base) 638.imagick_s(base) 644.nab_s(base)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
C++, C, Fortran | 607.cactuBSSN_s(base)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
Fortran       | 603.bwaves_s(base) 649.fotonik3d_s(base) 654.roms_s(base)
----------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
Fortran, C    | 621.wrf_s(base) 627.cam4_s(base) 628.pop2_s(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.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:

icx

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base =   276

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: May-2025

Hardware Availability: May-2025

Software Availability: Jun-2024

Base Compiler Invocation (Continued)

Fortran benchmarks:
```
ifx
```

Benchmarks using both Fortran and C:
```
ifx icx
```

Benchmarks using Fortran, C, and C++:
```
icpx icx ifx
```

Base Portability Flags

603.bwaves_s: `-DSPEC_LP64`
607.cactuBSSN_s: `-DSPEC_LP64`
619.lbm_s: `-DSPEC_LP64`
621.wrf_s: `-DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian`
627.cam4_s: `-DSPEC_LP64 -DSPEC_CASE_FLAG`
628.pop2_s: `-DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian`
`-assume byterecl`
638.imagick_s: `-DSPEC_LP64`
644.nab_s: `-DSPEC_LP64`
649.fotonik3d_s: `-DSPEC_LP64`
654.roms_s: `-DSPEC_LP64`

Base Optimization Flags

C benchmarks:
```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:
```
-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using both Fortran and C:
```
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR630 V4
(2.50 GHz, Intel Xeon 6731P)

SPECspeed®2017_fp_base = 276

SPECspeed®2017_fp_peak = Not Run

CPU2017 License:	9017	**Test Date:**	May-2025
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	May-2025
Tested by:	Lenovo Global Technology	**Software Availability:**	Jun-2024

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):
```
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using Fortran, C, and C++:
```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-mprefer-vector-width=512 -nostandard-realloc-lhs -align array32byte
-auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

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-C.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-C.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 2025-05-23 11:24:36-0400.
Report generated on 2025-06-17 18:13:17 by CPU2017 PDF formatter v6716.
Originally published on 2025-06-17.