



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR850 V4  
(4.00 GHz, Intel Xeon 6714P)

SPECrate®2017\_fp\_base = 609

SPECrate®2017\_fp\_peak = Not Run

CPU2017 License: 9017

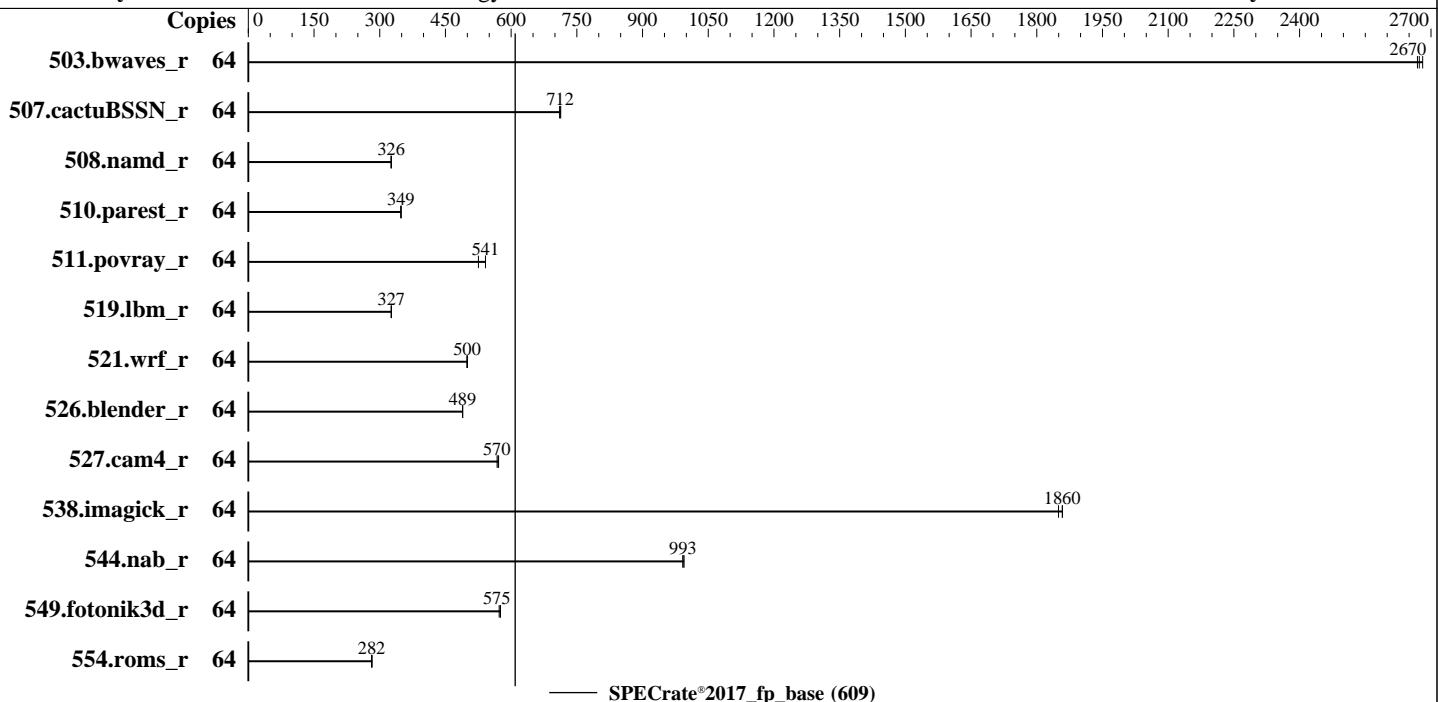
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Aug-2025

Hardware Availability: Nov-2025

Software Availability: Jun-2025



### Hardware

CPU Name: Intel Xeon 6714P  
Max MHz: 4300  
Nominal: 4000  
Enabled: 32 cores, 4 chips, 2 threads/core  
Orderable: 2,4 chips  
Cache L1: 64 KB I + 48 KB D on chip per core  
L2: 2 MB I+D on chip per core  
L3: 48 MB I+D on chip per chip  
Other: None  
Memory: 2 TB (32 x 64 GB 2Rx4 PC5-6400B-R)  
Storage: 1 x 960 GB M.2 NVME SSD  
Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP7  
Compiler: Kernel 6.4.0-150700.51-default  
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 RVE103X 1.10 released Jul-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



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	64	<u><b>240</b></u>	<u><b>2670</b></u>	239	2680	240	2670							
507.cactusBSSN_r	64	114	713	114	711	<u><b>114</b></u>	<u><b>712</b></u>							
508.namd_r	64	186	326	<u><b>186</b></u>	<u><b>326</b></u>	186	326							
510.parest_r	64	<u><b>480</b></u>	<u><b>349</b></u>	481	348	480	349							
511.povray_r	64	284	525	276	541	<u><b>276</b></u>	<u><b>541</b></u>							
519.lbm_r	64	207	327	207	326	<u><b>207</b></u>	<u><b>327</b></u>							
521.wrf_r	64	287	499	287	500	<u><b>287</b></u>	<u><b>500</b></u>							
526.blender_r	64	199	489	<u><b>199</b></u>	<u><b>489</b></u>	199	489							
527.cam4_r	64	<u><b>196</b></u>	<u><b>570</b></u>	197	568	196	571							
538.imagick_r	64	85.6	1860	<u><b>85.7</b></u>	<u><b>1860</b></u>	86.1	1850							
544.nab_r	64	108	995	<u><b>109</b></u>	<u><b>993</b></u>	109	992							
549.fotonik3d_r	64	<u><b>434</b></u>	<u><b>575</b></u>	436	573	433	576							
554.roms_r	64	<u><b>361</b></u>	<u><b>282</b></u>	360	283	362	281							

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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/je5.0.1-64"  
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.

(Continued on next page)



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## General Notes (Continued)

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>

## Platform Notes

BIOS configuration:

Workload Profile set to General Computing - Max Performance and then set it to Custom  
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 Sun Aug 31 13:49:54 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 (254.24+suse.148.g83b9060b6e)  
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 6.4.0-150700.51-default #1 SMP PREEMPT\_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611)  
x86\_64 x86\_64 x86\_64 GNU/Linux  
-----

2. w  
13:49:54 up 5 min, 1 user, load average: 0.11, 0.94, 0.60  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
-----

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## Platform Notes (Continued)

### 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) 8255481
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) 8255481
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_1.02.sh
sh Run503-compliant-ic2024.1-lin-sapphirerapids-ratefp-base-smt-on-20240308.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 -c
  ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=32 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base -o all fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 --configfile
  ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=32 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base --output_format all --nopower --runmode
  rate --tune base --size refrate fprate --nopreenv --note-preenv --logfile
  $SPEC/tmp/CPU2017.428/templogs/preenv.fprate.428.0.log --lognum 428.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2024.1
```

### 6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6714P
vendor_id       : GenuineIntel
cpu family     : 6
model          : 173
stepping        : 1
microcode       : 0x10003d0
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores       : 8
siblings        : 16
4 physical ids (chips)
64 processors (hardware threads)
physical id 0: core ids 0-7
physical id 1: core ids 0-7
physical id 2: core ids 0-7
physical id 3: core ids 0-7
physical id 0: apicids 0-15
physical id 1: apicids 128-143
```

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## Platform Notes (Continued)

```
physical id 2: apicids 256-271
physical id 3: apicids 384-399
```

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 2.40.4:

```
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): 64
On-line CPU(s) list: 0-63
Vendor ID: GenuineIntel
Model name: Intel(R) Xeon(R) 6714P
CPU family: 6
Model: 173
Thread(s) per core: 2
Core(s) per socket: 8
Socket(s): 4
Stepping: 1
BogoMIPS: 8000.00
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 aperfmpf tsc_known_freq pn
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_13 cat_12 cdp_13 intel_ppin cdp_12
ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept
vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid cq
rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb
intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1
xsaves cq_mllc cq_moccup_llc cq_mmbm_total cq_mmbm_local
split_lock_detect user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida
arat pln pts vnmi avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni
vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpocndq 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_lld 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: 192 MiB (4 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-7,32-39
NUMA node1 CPU(s): 8-15,40-47
NUMA node2 CPU(s): 16-23,48-55
NUMA node3 CPU(s): 24-31,56-63
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
```

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## Platform Notes (Continued)

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
Vulnerability Srbds:	Not affected; BHI BHI_DIS_S
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	48M	192M	16	Unified	3	49152	1	64

-----  
8. numactl --hardware

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

```
available: 4 nodes (0-3)
node 0 cpus: 0-7,32-39
node 0 size: 515689 MB
node 0 free: 514885 MB
node 1 cpus: 8-15,40-47
node 1 size: 516091 MB
node 1 free: 515364 MB
node 2 cpus: 16-23,48-55
node 2 size: 516052 MB
node 2 free: 515384 MB
node 3 cpus: 24-31,56-63
node 3 size: 516063 MB
node 3 free: 515461 MB
node distances:
node 0 1 2 3
 0: 10 21 31 21
 1: 21 10 21 31
 2: 31 21 10 21
 3: 21 31 21 10
```

-----  
9. /proc/meminfo

```
MemTotal: 2113431204 kB
```

-----  
10. who -r

```
run-level 3 Aug 31 13:45
```

-----  
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)

```
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 nsqd nvmefc-boot-connections nvmf-autocconnect postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime	systemd-remount-fs

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## Platform Notes (Continued)

```
disabled      autofs  autoyast-initscripts  blk-availability  boot-sysctl  ca-certificates  chrony-wait
               chronyd  console-getty  cups  cups-browsed  debug-shell  ebttables  exchange-bmc-os-info
               firewalld  fsidd  gpm  grub2-once  haveged  hwloc-dump-hwdata  ipmi  ipmievfd  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  tuned
generated      ntp_sync
indirect       systemd-userdbd  wickedd
```

---

```
13. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
    root=UUID=046d33f2-f70b-4b84-99e2-9faaacc21c2a
    splash=silent
    mitigations=auto
    quiet
    security=apparmor
```

---

```
14. cpupower frequency-info
    analyzing CPU 50:
        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: desktop
```

---

```
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
    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
```

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## Platform Notes (Continued)

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 SP7

20. 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 46G 848G 6% /

21. /sys/devices/virtual/dmi/id  
Vendor: Lenovo  
Product: ThinkSystem SR850 V4  
Product Family: ThinkSystem  
Serial: 9876543210

22. dmidecode  
Additional information from dmidecode 3.6 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:  
18x Samsung M321R8GA0PB1-CCPPC 64 GB 2 rank 6400  
1x Samsung M321R8GA0PB1-CCPQC 64 GB 2 rank 6400  
11x Samsung M321R8GA0PB1-CCPYC 64 GB 2 rank 6400  
2x Samsung M321R8GA0PB2-CCPPC 64 GB 2 rank 6400

23. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: Lenovo  
BIOS Version: RVE103X-1.10  
BIOS Date: 07/17/2025  
BIOS Revision: 1.10  
Firmware Revision: 1.40

## Compiler Version Notes

=====

C | 519.lbm\_r(base) 538.imagick\_r(base) 544.nab\_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.

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## Compiler Version Notes (Continued)

=====

C++ | 508.namd\_r(base) 510.parest\_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++, C | 511.povray\_r(base) 526.blender\_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.

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 | 507.cactusBSSN\_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.

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 | 503.bwaves\_r(base) 549.fotonik3d\_r(base) 554.roms\_r(base)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308

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=====

Fortran, C | 521.wrf\_r(base) 527.cam4\_r(base)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308

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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308

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## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

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## Lenovo Global Technology

ThinkSystem SR850 V4  
(4.00 GHz, Intel Xeon 6714P)

SPECrate®2017\_fp\_base = 609

SPECrate®2017\_fp\_peak = Not Run

CPU2017 License: 9017

Test Date: Aug-2025

Test Sponsor: Lenovo Global Technology

Hardware Availability: Nov-2025

Tested by: Lenovo Global Technology

Software Availability: Jun-2025

## Base Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Base Portability Flags

503.bwaves\_r: -DSPEC\_LP64  
507.cactuBSSN\_r: -DSPEC\_LP64  
508.namd\_r: -DSPEC\_LP64  
510.parest\_r: -DSPEC\_LP64  
511.povray\_r: -DSPEC\_LP64  
519.lbm\_r: -DSPEC\_LP64  
521.wrf\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian  
526.blender\_r: -DSPEC\_LP64 -DSPEC\_LINUX -funsigned-char  
527.cam4\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG  
538.imagick\_r: -DSPEC\_LP64  
544.nab\_r: -DSPEC\_LP64  
549.fotonik3d\_r: -DSPEC\_LP64  
554.roms\_r: -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  
-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:

-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:

-w -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

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Software Availability: Jun-2025

## Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

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  
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs  
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both 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 -Wno-implicit-int -mprefer-vector-width=512  
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using Fortran, C, and C++:

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

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-F.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-F.xml>  
<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

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