# SPEC CPU®2017 Floating Point Rate Result

## Lenovo Global Technology

ThinkSystem SR650 V3  
(2.20 GHz, Intel Xeon Gold 6454S)

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

### SPECrate®2017_fp_base = 653
### SPECrate®2017_fp_peak = Not Run

<table>
<thead>
<tr>
<th>Program</th>
<th>Copies</th>
<th>SPECrate®2017_fp_base</th>
<th>SPECrate®2017_fp_peak</th>
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<tr>
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<td>128</td>
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<td>Not Run</td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>128</td>
<td>726</td>
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</tr>
<tr>
<td>508.namd_r</td>
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<tr>
<td>510.parest_r</td>
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<tr>
<td>511.povray_r</td>
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<td>527.cam4_r</td>
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<tr>
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<tr>
<td>549.fotonik3d_r</td>
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<tr>
<td>554.roms_r</td>
<td>128</td>
<td>268</td>
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</tr>
</tbody>
</table>

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## Hardware

- **CPU Name:** Intel Xeon Gold 6454S  
- **Max MHz:** 3400  
- **Nominal:** 2200  
- **Enabled:** 64 cores, 2 chips, 2 threads/core  
- **Orderable:** 1,2 chips  
- **Cache L1:** 32 KB I + 48 KB D on chip per core  
- **Cache L2:** 2 MB I+D on chip per core  
- **Cache L3:** 60 MB I+D on chip per chip  
- **Memory:** 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)  
- **Storage:** 1 x 480 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 2023.0 of Intel oneAPI DPC++/C++ Compiler for Linux; Fortran: Version 2023.0 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:** jemalloc memory allocator V5.0.1  
- **Power Management:** BIOS and OS set to prefer performance at the cost of additional power usage
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Results Table

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<tr>
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<th>Peak Ratio</th>
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</tbody>
</table>

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-ic2023.0/lib/intel64:/home/cpu2017-1.1.9-ic2023.0/j
e5.0.1-64"
MALLOCC_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
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General Notes (Continued)

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.
jemalloc, a general purpose malloc implementation
    built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

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
XPT Prefetcher set to Disabled

Sysinfo program /home/cpu2017-1.1.9-ic2023.0/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Thu Feb 9 02:15:35 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

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Platform Notes (Continued)

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

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
   02:15:35 up 1 min,  1 user,  load average: 4.32, 2.57, 0.99
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -                02:14    7.00s  1.13s  0.01s -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) 2062486
   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) 2062486
   virtual memory          (kbytes, -v) unlimited
   file locks              (-x) unlimited

5. sysinfo process ancestry

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Platform Notes (Continued)

/usr/lib/systemd/systemd --switched-root --system --deserialize 30
login -- root
-bash
-bash
-bash
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 -c
ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=64 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base -o all fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 --configfile
ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=64 --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/CPU2017.039/templogs/preenv.fprate.039.0.log --lognum 039.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2023.0

------------------------------------------------------------
6. /proc/cpuinfo

model name : Intel(R) Xeon(R) Gold 6454S
vendor_id : GenuineIntel
cpu family : 6
model : 143
stepping : 8
microcode : 0x2b000161
bugs : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores : 32
siblings : 64
2 physical ids (chips)
128 processors (hardware threads)
physical id 0: core ids 0-31
physical id 1: core ids 0-31
physical id 0: apicids 0-63
physical id 1: apicids 128-191
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): 128
On-line CPU(s) list: 0-127
Vendor ID: GenuineIntel

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Platform Notes (Continued)

Model name: Intel(R) Xeon(R) Gold 6454S
CPU family: 6
Model: 143
Thread(s) per core: 2
Core(s) per socket: 32
Socket(s): 2
Stepping: 8
BogoMIPS: 4400.00

Flags: fpu vme de pse tsc msr pae mce cmov pat pse36
clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtsscp
lm constant_tsc art arch_perfmon pebs bts rep_good nopl mce
xtopology
nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor
ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pclid 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
invpcid_single intel_pni cdp_12 ssbd mba ibrs lbpb stibp ibrs_enhanced

Virtualization: VT-x
L1d cache: 3 MiB (64 instances)
L1i cache: 2 MiB (64 instances)
L2 cache: 128 MiB (64 instances)
L3 cache: 120 MiB (2 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0-7, 64-71
NUMA node1 CPU(s): 8-15, 72-79
NUMA node2 CPU(s): 16-23, 80-87
NUMA node3 CPU(s): 24-31, 88-95
NUMA node4 CPU(s): 32-39, 96-103
NUMA node5 CPU(s): 40-47, 104-111
NUMA node6 CPU(s): 48-55, 112-119
NUMA node7 CPU(s): 56-63, 120-127
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/swappgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbdts: Not affected

(Date continued on next page)
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#### Platform Notes (Continued)

Vulnerability Tsx async abort: Not affected

From lscpu --cache:

<table>
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<th>NAME ONE-SIZE ALL-SIZE WAYS TYPE</th>
<th>LEVEL</th>
<th>SETS</th>
<th>PHY-LINE</th>
<th>COHERENCY-SIZE</th>
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<td>48K</td>
<td>3M</td>
<td>12 Data</td>
<td>1</td>
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<tr>
<td>L1i</td>
<td>32K</td>
<td>2M</td>
<td>8 Instruction</td>
<td>1</td>
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<tr>
<td>L2</td>
<td>2M</td>
<td>128M</td>
<td>16 Unified</td>
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<tr>
<td>L3</td>
<td>60M</td>
<td>120M</td>
<td>15 Unified</td>
<td>3</td>
</tr>
</tbody>
</table>

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8. numactl --hardware

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

available: 8 nodes (0-7)  
node 0 cpus: 0-7,64-71  
node 0 size: 64171 MB  
node 0 free: 63538 MB  
node 1 cpus: 8-15,72-79  
node 1 size: 64507 MB  
node 1 free: 64217 MB  
node 2 cpus: 16-23,80-87  
node 2 size: 64507 MB  
node 2 free: 64250 MB  
node 3 cpus: 24-31,88-95  
node 3 size: 64507 MB  
node 3 free: 64191 MB  
node 4 cpus: 32-39,96-103  
node 4 size: 64507 MB  
node 4 free: 64282 MB  
node 5 cpus: 40-47,104-111  
node 5 size: 64473 MB  
node 5 free: 64205 MB  
node 6 cpus: 48-55,112-119  
node 6 size: 64507 MB  
node 6 free: 64247 MB  
node 7 cpus: 56-63,120-127  
node 7 size: 64461 MB  
node 7 free: 64218 MB  

node distances:

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Platform Notes (Continued)

-----------------------------
9. /proc/meminfo
    MemTotal: 528021064 kB

-----------------------------
10. who -r
    run-level 3 Feb 9 02:14

-----------------------------
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 iscsi
           issue-generator kbdsettings lvm2-monitor nsd postfix purge-kernels rollback rsyslog
           smartd sshd wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
    enabled-runtime systemctl-remount-fs
    disabled autosf autost-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 iscsi-init iscsid iscsiulo
           issue-add-ssh-keys kexec-load lvmmask man-db-create multipathd nfs nfs-blkmap nmb rdisc
           rpchbind rpmconfigcheck rsysdrcd serial-getty@ smartd_generate_opts smb snmpd snmptrapd
           systemd-boot-check-no-failures systemd-network-generator systemd-sysxt
           systemd-time-wait-sync systemd-timesyncd udisks2
    indirect wicked

-----------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
    root=UUID=cf0c8526-2665-4565-b656-0513c168d1bb
    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

(Continued on next page)
### Lenovo Global Technology

ThinkSystem SR650 V3  
(2.20 GHz, Intel Xeon Gold 6144S)

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base</th>
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<tr>
<td>SPECrate®2017_fp_peak</td>
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**CPU2017 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology  
**Test Date:** Feb-2023  
**Hardware Availability:** Feb-2023  
**Software Availability:** Dec-2022

---

#### Platform Notes (Continued)

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
```none
From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP4
```

---

19. Disk information
```none
SPEC is set to: /home/cpu2017-1.1.9-ic2023.0
```

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR650 V3
(2.20 GHz, Intel Xeon Gold 6454S)

SPECrate®2017_fp_base = 653
SPECrate®2017_fp_peak = Not Run

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology
Test Date: Feb-2023
Hardware Availability: Feb-2023
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Platform Notes (Continued)

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sda3</td>
<td>xfs</td>
<td>446G</td>
<td>80G</td>
<td>366G</td>
<td>18%</td>
<td>/</td>
</tr>
</tbody>
</table>

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

21. 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:
9x Samsung M321R4GA3BB0-CQKEG 32 GB 2 rank 4800
7x Samsung M321R4GA3BB0-CQKVG 32 GB 2 rank 4800

22. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: Lenovo
BIOS Version: ESE109L-1.10
BIOS Date: 01/07/2023
BIOS Revision: 1.10
Firmware Revision: 1.0

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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

C++    | 508.namd_r(base) 510.parest_r(base)
-----------------------------------------------
Intel(R) oneAPI DPC+/C++ Compiler for applications running on Intel(R) 64,
Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Lenovo Global Technology
ThinkSystem SR650 V3
(2.20 GHz, Intel Xeon Gold 6454S)

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**SPEC CPU®2017 Floating Point Rate Result**

Copyright 2017-2023 Standard Performance Evaluation Corporation

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**Compiler Version Notes (Continued)**

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<th>Compiler Architecture</th>
<th>Test Programs</th>
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<td><code>C++, C</code></td>
<td>511.povray_r(base) 526.blender_r(base)</td>
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<tr>
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<td></td>
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<td></td>
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<tr>
<td><code>C++, C, Fortran</code></td>
<td>507.cactuBSSN_r(base)</td>
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</tr>
<tr>
<td><code>Fortran</code></td>
<td>503.bwaves_r(base) 549.fotonik3d_r(base) 554.roms_r(base)</td>
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<td></td>
<td>Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201</td>
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<tr>
<td><code>Fortran, C</code></td>
<td>521.wrf_r(base) 527.cam4_r(base)</td>
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<tr>
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**SPECrate®2017_fp_peak = Not Run**
**SPEC CPU®2017 Floating Point Rate Result**

**Lenovo Global Technology**

ThinkSystem SR650 V3  
(2.20 GHz, Intel Xeon Gold 6145S)

---

**SPECRate®2017_fp_base = 653**

**SPECRate®2017_fp_peak = Not Run**

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<td>Feb-2023</td>
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<td>Dec-2022</td>
</tr>
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---

**Base Compiler Invocation**

C benchmarks:
- icx

C++ benchmarks:
- icpx

Fortran benchmarks:
- ifx

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

(Continued on next page)
Lenovo Global Technology

ThinkSystem SR650 V3
(2.20 GHz, Intel Xeon Gold 6454S)

SPECrater®2017_fp_base = 653
SPECrater®2017_fp_peak = Not Run

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

Test Date: Feb-2023
Hardware Availability: Feb-2023
Software Availability: Dec-2022

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
-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
-1jemalloc -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-Eaglestream-N.html
http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Eaglestream-N.xml
http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.xml

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