## Lenovo Global Technology

**ThinkSystem SR630 V3**
*(2.20 GHz, Intel Xeon Gold 6416H)*

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

### Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>36</td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>36</td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>36</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>36</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>36</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>36</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>36</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>36</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>36</td>
</tr>
<tr>
<td>654.roms_s</td>
<td>36</td>
</tr>
</tbody>
</table>

### SPECspeed®2017_fp_base = 232

**SPECspeed®2017_fp_peak = Not Run**

### Hardware

- **CPU Name:** Intel Xeon Gold 6416H  
- **Max MHz:** 4200  
- **Nominal:** 2200  
- **Enabled:** 36 cores, 2 chips  
- **Orderable:** 1.2 chips  
- **Cache L1:** 32 KB I + 48 KB D on chip per core  
- **L2:** 2 MB I+D on chip per core  
- **L3:** 45 MB I+D on chip per chip  
- **Other:** None  
- **Memory:** 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)  
- **Storage:** 1 x 960 GB SATA SSD  
- **Other:** None

### Software

- **OS:** SUSE Linux Enterprise Server 15 SP4 (x86_64)  
- **Kernel:** 5.14.21-150400.22-default  
- **Compiler:** C/C++: Version 2022.1 of Intel oneAPI DPC++/C++ Compiler for Linux; Fortran: Version 2022.1 of Intel Fortran Compiler for Linux;  
- **Parallel:** Yes  
- **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
SPEC CPU®2017 Floating Point Speed Result

Lenovo Global Technology
ThinkSystem SR630 V3
(2.20 GHz, Intel Xeon Gold 6166H)

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

SPECspeed®2017_fp_base = 232
SPECspeed®2017_fp_peak = Not Run

Hardware Availability: Feb-2023
Software Availability: Jun-2022

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Base Seconds</th>
<th>Base Ratio</th>
<th>Peak Seconds</th>
<th>Peak Ratio</th>
<th>Peak Seconds</th>
<th>Peak Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>36</td>
<td>62.6</td>
<td>943</td>
<td>62.9</td>
<td>937</td>
<td>62.5</td>
<td>943</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>36</td>
<td>62.7</td>
<td>266</td>
<td>62.8</td>
<td>265</td>
<td>63.5</td>
<td>262</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>36</td>
<td>24.0</td>
<td>218</td>
<td>23.9</td>
<td>219</td>
<td>23.9</td>
<td>219</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>36</td>
<td>78.2</td>
<td>169</td>
<td>77.9</td>
<td>170</td>
<td>78.3</td>
<td>169</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>36</td>
<td>72.9</td>
<td>122</td>
<td>72.8</td>
<td>122</td>
<td>72.5</td>
<td>122</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>36</td>
<td>148</td>
<td>80.4</td>
<td>148</td>
<td>80.4</td>
<td>149</td>
<td>79.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>36</td>
<td>33.6</td>
<td>430</td>
<td>33.8</td>
<td>426</td>
<td>34.0</td>
<td>425</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>644.nab_s</td>
<td>36</td>
<td>51.9</td>
<td>337</td>
<td>51.9</td>
<td>337</td>
<td>51.9</td>
<td>337</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>36</td>
<td>61.8</td>
<td>147</td>
<td>61.9</td>
<td>147</td>
<td>62.0</td>
<td>147</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>654.roms_s</td>
<td>36</td>
<td>65.8</td>
<td>239</td>
<td>66.1</td>
<td>238</td>
<td>66.2</td>
<td>238</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPECspeed®2017_fp_base = 232
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-ic2022.1/lib/intel64:/home/cpu2017-1.1.9-ic2022.1/jre5.0.1-64"
MALLOCONF = "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.

(Continued on next page)
General Notes (Continued)

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:
Choose Operating Mode set to Maximum Performance and then set it to Custom Mode
Hyper-Threading set to Disabled
C-state set to Legacy

Sysinfo program /home/cpu2017-1.1.9-ic2022.1/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on test1 Thu Feb 2 15:40:01 2023

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

Table of contents

1. uname -a
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. 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

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR630 V3
(2.20 GHz, Intel Xeon Gold 6416H)

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

SPECspeed®2017_fp_base = 232
SPECspeed®2017_fp_peak = Not Run

Platform Notes (Continued)

Linux test1 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
15:40:01 up 4 min, 1 user, load average: 0.07, 0.02, 0.00
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 15:39 9.00s 0.73s 0.00s -bash

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

------------------------------------------------------------
4. ulimit -a
  core file size (blocks, -c) unlimited
  data seg size (kbytes, -d) unlimited
  scheduling priority (e) 0
  file size (blocks, -f) unlimited
  pending signals (i) 2062689
  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) 2062689
  virtual memory (kbytes, -v) unlimited
  file locks (x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize 30
login -- root
  -bash
  -bash
runcpu --nobuild --action validate --define default-platform-flags -c
  ic2022.1-lin-core-avx512-speed-20220316.cfg --define cores=36 --tune base -o all --define drop_caches
  fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
  ic2022.1-lin-core-avx512-speed-20220316.cfg --define cores=36 --tune base --output_format all --define
  drop_caches --nopower --runmode speed --tune base --size refspeed fpspeed --nopreenv --note-preenv
  --logfile $SPEC/tmp/CPU2017.022/templogs/preenv.fpspeed.022.0.log --lognum 022.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2022.1

(Continued on next page)
Lenovo Global Technology

ThinkSystem SR630 V3
(2.20 GHz, Intel Xeon Gold 6416H)

SPECspeed\textsuperscript{2017\_fp\_base} = 232
SPECspeed\textsuperscript{2017\_fp\_peak} = Not Run

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

---

### Platform Notes (Continued)

6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) Gold 6416H
vendor_id       : GenuineIntel
cpu family      : 6
model           : 143
stepping        : 8
microcode       : 0x2b000161
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores       : 18
siblings        : 18
2 physical ids (chips)
36 processors (hardware threads)
physical id 0: core ids 0-17
physical id 1: core ids 0-17
physical id 0: apicids 0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34
physical id 1: apicids 128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162
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):                        36
On-line CPU(s) list:           0-35
Vendor ID:                     GenuineIntel
Model name:                    Intel(R) Xeon(R) Gold 6416H
CPU family:                    6
Model:                         143
Thread(s) per core:            1
Core(s) per socket:            18
Socket(s):                     2
Stepping:                      8
BogoMIPS:                      4400.00
```

Flags:

```
fpu vme de pse tsx aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor
mtm constant_tsc 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_13 cat_12 cdp_13
```
Platform Notes (Continued)

invpcid_single intel_pinn cdq_l2 ssbd mba ibis ibtp ibrs ibrs_enhanced
tpr_shadow flexpriority ept vpid ept_ad fsqmbase 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
xsaves opt xsavex qgetbv1 xsaves cqm_l1c cqm_occup_l1c cqm_mbm_total
cqm_mbm_local split_lock_detect avx_vnni avx512_bf16 wbnoinvd dtherm ida
arat pln pts avx512vbmi umip pku ospk waitpkg avx512_vbmi2 gfn vaes
vpc1mugdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq ia57 rdpid
bus_lock_detect cldenote movd sr movdir64b enqcmd fsrm md_clear serialize
txtdtrk pconfig arch_lbr avx512_fp16 amx_tile flush_l1d arch_capabilities

Virtualization: VT-x
L1d cache: 1.7 MiB (36 instances)
L1i cache: 1.1 MiB (36 instances)
L2 cache: 72 MiB (36 instances)
L3 cache: 90 MiB (2 instances)
NUMA node(s): 2
NUMA node0 CPU(s): 0-17
NUMA node1 CPU(s): 18-35
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/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbd: Not affected
Vulnerability Tsx async abort: Not affected

From lscpu --cache:

<table>
<thead>
<tr>
<th>NAME</th>
<th>ONE-SIZE</th>
<th>ALL-SIZE</th>
<th>WAYS</th>
<th>TYPE</th>
<th>LEVEL</th>
<th>SETS</th>
<th>PHY-LINE</th>
<th>COHERENCY-SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1d</td>
<td>48K</td>
<td>1.7M</td>
<td>12</td>
<td>Data</td>
<td>1</td>
<td>64</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>L1i</td>
<td>32K</td>
<td>1.1M</td>
<td>8</td>
<td>Instruction</td>
<td>1</td>
<td>64</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>L2</td>
<td>2M</td>
<td>72M</td>
<td>16</td>
<td>Unified</td>
<td>2</td>
<td>2048</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>L3</td>
<td>45M</td>
<td>90M</td>
<td>15</td>
<td>Unified</td>
<td>3</td>
<td>49152</td>
<td>1</td>
<td>64</td>
</tr>
</tbody>
</table>

8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
available: 2 nodes (0-1)
node 0 cpus: 0-17
node 0 size: 257672 MB
node 0 free: 256964 MB
node 1 cpus: 18-35
node 1 size: 258023 MB
node 1 free: 257421 MB
distance:
node 0 1

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

**ThinkSystem SR630 V3**
(2.20 GHz, Intel Xeon Gold 6146H)

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9017</th>
<th>Test Date:</th>
<th>Feb-2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Lenovo Global Technology</td>
<td>Hardware Availability:</td>
<td>Feb-2023</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Lenovo Global Technology</td>
<td>Software Availability:</td>
<td>Jun-2022</td>
</tr>
</tbody>
</table>

**SPECspeed®2017_fp_base = 232**
**SPECspeed®2017_fp_peak = Not Run**

#### Platform Notes (Continued)

0:  10  21
1:  21  10

```
9. /proc/meminfo
   MemTotal: 528072792 kB
```

10. who -r
   run-level 3 Feb 2 15:35

```
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

```
<table>
<thead>
<tr>
<th>STATE</th>
<th>UNIT FILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>enabled</td>
<td>YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron getty@ haveged irqbalance iscsi issue-generator kbdsettings lvm2-monitor nscd postfix purge-kernels rollback rsyslog smartd sshd wicked wicked-auto4 wicked-dhcp4 wicked-dhcp6 wickedd-nanny</td>
</tr>
<tr>
<td>enabled-runtime</td>
<td>systemd-remount-fs</td>
</tr>
<tr>
<td>generated</td>
<td>ntp_sync</td>
</tr>
<tr>
<td>indirect</td>
<td>wickedd</td>
</tr>
</tbody>
</table>
```

13. Linux kernel boot-time arguments, from /proc/cmdline

```
BOOT_IMAGE=/boot/vmlinux-5.14.21-150400.22-default
root=UUID=f976c541-a329-4c54-ba84-4be16556ee18
splash=silent
mitigations=auto
quiet
security=apparmor
```

14. cpupower frequency-info

```
analyzing CPU 0:
   Unable to determine current policy
boost state support:
```

(Continued on next page)
Lenovo Global Technology  
ThinkSystem SR630 V3  
(2.20 GHz, Intel Xeon Gold 6166H)  

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>Lenovo Global Technology</th>
<th>SPECspeed®2017_fp_base =</th>
<th>232</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Lenovo Global Technology</td>
<td>SPECspeed®2017_fp_peak =</td>
<td>Not Run</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Lenovo Global Technology</td>
<td>Test Date:</td>
<td>Feb-2023</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hardware Availability:</td>
<td>Feb-2023</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Software Availability:</td>
<td>Jun-2022</td>
</tr>
</tbody>
</table>

Platform Notes (Continued)

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
   shmemb_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 SP4
Platform Notes (Continued)

19. Disk information
SPEC is set to: /home/cpu2017-1.1.9-ic2022.1
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 894G 69G 825G 8% /

20. /sys/devices/virtual/dmi/id
Vendor: Lenovo
Product: ThinkSystem SR630 V3
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:
1x Samsung M321R4GA3BB0-CQKEG 32 GB 2 rank 4800
5x Samsung M321R4GA3BB0-CQKMG 32 GB 2 rank 4800
10x 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               | 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 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

C++, C, Fortran | 607.cactuBSSN_s(base)
Lenovo Global Technology

ThinkSystem SR630 V3
(2.20 GHz, Intel Xeon Gold 6416H)

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

SPECspeed®2017_fp_base = 232
SPECspeed®2017_fp_peak = Not Run

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

Compiler Version Notes (Continued)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2022.1.0 Build 20220316
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

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

Base Compiler Invocation

C benchmarks:
icx

Fortran benchmarks:
ifx

Benchmarks using both Fortran and C:
ifx icx

Benchmarks using Fortran, C, and C++:
icpx icx ifx
Lenovo Global Technology
ThinkSystem SR630 V3
(2.20 GHz, Intel Xeon Gold 6416H)

SPEC®2017_fp_base = 232
SPEC®2017_fp_peak = Not Run

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

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:
-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:
-m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512 -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:
-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using Fortran, C, and C++:
-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -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-Eaglestream-N.html
Lenovo Global Technology
ThinkSystem SR630 V3
(2.20 GHz, Intel Xeon Gold 6416H)

SPECspeed®2017_fp_base = 232
SPECspeed®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: Jun-2022

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

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

Tested with SPEC CPU®2017 v1.1.9 on 2023-02-02 02:40:01-0500.
Report generated on 2023-03-02 11:26:40 by CPU2017 PDF formatter v6442.
Originally published on 2023-02-28.