Lenovo Global Technology
ThinkSystem SR650 V2
(2.90 GHz, Intel Xeon Gold 6326)

Lenovo Global Technology

SPECRate®2017_fp_base = 287
SPECRate®2017_fp_peak = Not Run

| Copies | 0 | 30 | 60 | 90 | 120 | 150 | 180 | 210 | 240 | 270 | 300 | 330 | 360 | 390 | 420 | 450 | 480 | 510 | 540 | 570 | 600 | 630 | 660 | 690 | 720 |
|--------|---|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 503.bwaves_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 507.cactuBSSN_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 508.namd_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 510.parest_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 511.povray_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 519.lbm_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 521.wrf_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 526.blender_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 527.cam4_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 538.imagick_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 544.nab_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 549.fotonik3d_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |
| 554.roms_r | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 | 64 |

Hardware

CPU Name: Intel Xeon Gold 6326
Max MHz: 3500
Nominal: 2900
Enabled: 32 cores, 2 chips, 2 threads/core
Orderable: 1.2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 1.25 MB I+D on chip per core
L3: 24 MB I+D on chip per chip
Memory: 1 TB (32 x 32 GB 2Rx8 PC4-3200AA-R)
Storage: 1 x 960 GB SATA SSD
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP2 (x86_64)
Kernel 5.3.18-22-default
Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++
Fortran: Version 2021.1 of Intel Fortran Compiler
Parallel: No
Firmware: Lenovo BIOS Version AFE111A 1.02 released May-2021
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage
Lenovo Global Technology
ThinkSystem SR650 V2
(2.90 GHz, Intel Xeon Gold 6326)

SPECraten® 2017 fp_base = 287
SPECraten® 2017 fp_peak = Not Run

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>503.bwaves_r</td>
<td>64</td>
<td>966</td>
<td>664</td>
<td>965</td>
<td>665</td>
<td>965</td>
<td>665</td>
<td>64</td>
<td>966</td>
<td>664</td>
<td>965</td>
<td>665</td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>64</td>
<td>216</td>
<td>375</td>
<td>214</td>
<td>379</td>
<td>214</td>
<td>379</td>
<td>64</td>
<td>216</td>
<td>375</td>
<td>214</td>
<td>379</td>
</tr>
<tr>
<td>508.namd_r</td>
<td>64</td>
<td>310</td>
<td>196</td>
<td>310</td>
<td>196</td>
<td>310</td>
<td>196</td>
<td>64</td>
<td>310</td>
<td>196</td>
<td>310</td>
<td>196</td>
</tr>
<tr>
<td>510.parest_r</td>
<td>64</td>
<td>1033</td>
<td>162</td>
<td>1035</td>
<td>162</td>
<td>1034</td>
<td>162</td>
<td>64</td>
<td>1033</td>
<td>162</td>
<td>1035</td>
<td>162</td>
</tr>
<tr>
<td>511.povray_r</td>
<td>64</td>
<td>507</td>
<td>295</td>
<td>508</td>
<td>294</td>
<td>508</td>
<td>294</td>
<td>64</td>
<td>507</td>
<td>295</td>
<td>508</td>
<td>294</td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>64</td>
<td>288</td>
<td>234</td>
<td>289</td>
<td>234</td>
<td>289</td>
<td>234</td>
<td>64</td>
<td>288</td>
<td>234</td>
<td>289</td>
<td>234</td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>64</td>
<td>532</td>
<td>269</td>
<td>536</td>
<td>267</td>
<td>514</td>
<td>279</td>
<td>64</td>
<td>532</td>
<td>269</td>
<td>536</td>
<td>267</td>
</tr>
<tr>
<td>526.blender_r</td>
<td>64</td>
<td>361</td>
<td>270</td>
<td>361</td>
<td>270</td>
<td>361</td>
<td>270</td>
<td>64</td>
<td>361</td>
<td>270</td>
<td>361</td>
<td>270</td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>64</td>
<td>408</td>
<td>275</td>
<td>408</td>
<td>274</td>
<td>408</td>
<td>274</td>
<td>64</td>
<td>408</td>
<td>275</td>
<td>408</td>
<td>274</td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>64</td>
<td>227</td>
<td>701</td>
<td>227</td>
<td>701</td>
<td>229</td>
<td>697</td>
<td>64</td>
<td>227</td>
<td>701</td>
<td>227</td>
<td>701</td>
</tr>
<tr>
<td>544.nab_r</td>
<td>64</td>
<td>247</td>
<td>436</td>
<td>247</td>
<td>436</td>
<td>247</td>
<td>437</td>
<td>64</td>
<td>247</td>
<td>436</td>
<td>247</td>
<td>437</td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>64</td>
<td>1200</td>
<td>208</td>
<td>1200</td>
<td>208</td>
<td>1199</td>
<td>208</td>
<td>64</td>
<td>1200</td>
<td>208</td>
<td>1200</td>
<td>208</td>
</tr>
<tr>
<td>554.roms_r</td>
<td>64</td>
<td>781</td>
<td>130</td>
<td>780</td>
<td>130</td>
<td>785</td>
<td>130</td>
<td>64</td>
<td>781</td>
<td>130</td>
<td>780</td>
<td>130</td>
</tr>
</tbody>
</table>

SPECraten® 2017 fp_base = 287
SPECraten® 2017 fp_peak = Not Run

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

Submit Notes
The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes
Stack size set to unlimited using "ulimit -s unlimited"

Environment Variables Notes
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
MALLOCONF = "retain:true"

General Notes
Binaries compiled on a system with 1x Intel Core i9-7940X CPU + 64GB RAM memory using openSUSE Leap 15.2
Transparent Huge Pages enabled by default

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR650 V2
(2.90 GHz, Intel Xeon Gold 6326)

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 numaclt 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:
Choose Operating Mode set to Maximum Performance
DCU Streamer Prefetcher set to Disabled
DCU IP Prefetcher set to Disabled
SNC set to Enabled
Patrol Scrub set to Disabled

Sysinfo program /home/cpu2017-1.1.8-ic2021.1-revA-update1/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca64d64unning on localhost Mon Jul 19 04:32:40 2021

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see
https://www.spec.org/cpu2017/Docs/config.html#sysinfo

From /proc/cpuinfo
  model name : Intel(R) Xeon(R) Gold 6326 CPU @ 2.90GHz
     2 "physical id"s (chips)
     64 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following
excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 16
siblings : 32
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

From lscpu from util-linux 2.33.1:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Lenovo Global Technology
ThinkSystem SR650 V2
(2.90 GHz, Intel Xeon Gold 6326)

```
CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Test Date: Jul-2021
Hardware Availability: Jul-2021
Tested by: Lenovo Global Technology
Software Availability: Dec-2020
```

<table>
<thead>
<tr>
<th>Platform Notes (Continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Byte Order: Little Endian</td>
</tr>
<tr>
<td>Address sizes: 46 bits physical, 57 bits virtual</td>
</tr>
<tr>
<td>CPU(s): 64</td>
</tr>
<tr>
<td>On-line CPU(s) list: 0-63</td>
</tr>
<tr>
<td>Thread(s) per core: 2</td>
</tr>
<tr>
<td>Core(s) per socket: 16</td>
</tr>
<tr>
<td>Socket(s): 2</td>
</tr>
<tr>
<td>NUMA node(s): 4</td>
</tr>
<tr>
<td>Vendor ID: GenuineIntel</td>
</tr>
<tr>
<td>CPU family: 6</td>
</tr>
<tr>
<td>Model: 106</td>
</tr>
<tr>
<td>Model name: Intel(R) Xeon(R) Gold 6326 CPU @ 2.90GHz</td>
</tr>
<tr>
<td>Stepping: 6</td>
</tr>
<tr>
<td>CPU MHz: 3300.000</td>
</tr>
<tr>
<td>BogoMIPS: 5800.00</td>
</tr>
<tr>
<td>Virtualization: VT-x</td>
</tr>
<tr>
<td>L1d cache: 48K</td>
</tr>
<tr>
<td>L1i cache: 32K</td>
</tr>
<tr>
<td>L2 cache: 1280K</td>
</tr>
<tr>
<td>L3 cache: 24576K</td>
</tr>
<tr>
<td>NUMA node0 CPU(s): 0-7, 32-39</td>
</tr>
<tr>
<td>NUMA node1 CPU(s): 8-15, 40-47</td>
</tr>
<tr>
<td>NUMA node2 CPU(s): 16-23, 48-55</td>
</tr>
<tr>
<td>NUMA node3 CPU(s): 24-31, 56-63</td>
</tr>
</tbody>
</table>
| Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 cli flush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_time arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf pni pclmulqdq dtses64 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 3nowprefetch cpuid_fault epb cat_l3 invpcid_single ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vmmi flexpriority ept vpid ept_ad fs.gs base 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 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local wbinvd dtherm ida arat pfn pts avx512vmbi umip pkp oskpe avx512_vbmi2 genv vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdrpid md_clear pconfig flush_l1d arch_capabilities /proc/cpuinfo cache data cache size: 24576 KB

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 4 5 6 7 32 33 34 35 36 37 38 39
node 0 size: 257634 MB
node 0 free: 257345 MB

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

<table>
<thead>
<tr>
<th>node</th>
<th>cpus</th>
<th>size</th>
<th>free</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8 9 10 11 12 13 14 15 40 41 42 43 44 45 46 47</td>
<td>258043 MB</td>
<td>257693 MB</td>
</tr>
<tr>
<td>2</td>
<td>16 17 18 19 20 21 22 23 48 49 50 51 52 53 54 55</td>
<td>258043 MB</td>
<td>257726 MB</td>
</tr>
<tr>
<td>3</td>
<td>24 25 26 27 28 29 30 31 56 57 58 59 60 61 62 63</td>
<td>258007 MB</td>
<td>257771 MB</td>
</tr>
</tbody>
</table>

From `/proc/meminfo`

- MemTotal: 1056491172 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

```
/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 15 SP2
```

```
From /etc/*release* /etc/*version*
```

```
os-release:
NAME="SLES"
VERSION="15-SP2"
VERSION_ID="15.2"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP2"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp2"
```

```
uname -a:
Linux localhost 5.3.18-22-default #1 SMP Wed Jun 3 12:16:43 UTC 2020 (720aeba) x86_64
x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

- **CVE-2018-12207 (iTLB Multihit):** Not affected
- **CVE-2018-3620 (L1 Terminal Fault):** Not affected
- **Microarchitectural Data Sampling:** Not affected
- **CVE-2017-5754 (Meltdown):** Not affected
- **CVE-2018-3639 (Speculative Store Bypass):** Mitigation: Speculative Store Bypass disabled via prctl and

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR650 V2
(2.90 GHz, Intel Xeon Gold 6326)

<table>
<thead>
<tr>
<th>Spec CPU®2017 Floating Point Rate Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenovo Global Technology</td>
</tr>
<tr>
<td>SPECrate®2017_fp_base = 287</td>
</tr>
<tr>
<td>SPECrate®2017_fp_peak = Not Run</td>
</tr>
</tbody>
</table>

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

Test Date: Jul-2021
Hardware Availability: Jul-2021
Software Availability: Dec-2020

### Platform Notes (Continued)

CVE-2017-5753 (Spectre variant 1):  
Mitigation: seccomp
Mitigation: usercopy/swapgs barriers and __user pointer sanitization

CVE-2017-5715 (Spectre variant 2):  
Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling

CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 3 Jul 19 04:30

SPEC is set to: /home/cpu2017-1.1.8-ic2021.1-revA-update1

Filesystem     Type  Size  Used Avail Use% Mounted on  
/dev/sdb2      xfs   893G  105G  788G  12% /

From /sys/devices/virtual/dmi/id
Vendor: Lenovo
Product: ThinkSystem SR650 V2 MB
Product Family: ThinkSystem
Serial: 1234567890

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:
32x Samsung M393A4G43AB3-CWE 32 GB 2 rank 3200

BIOS:
BIOS Vendor: Lenovo
BIOS Version: AFE111A-1.02
BIOS Date: 05/07/2021
BIOS Revision: 1.2
Firmware Revision: 1.10

(End of data from sysinfo program)

### Compiler Version Notes

```
<table>
<thead>
<tr>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>519.ibm_r(base) 538.imagick_r(base) 544.nab_r(base)</td>
</tr>
</tbody>
</table>
```

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Lenovo Global Technology
ThinkSystem SR650 V2
(2.90 GHz, Intel Xeon Gold 6326)

SPECrate®2017_fp_base = 287
SPECrate®2017_fp_peak = Not Run

---

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 2021.1 Build 20201113
Copyright (C) 1985-2020 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 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

C++, C, Fortran | 507.cactuBSSN_r(base)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Fortran | 503.bwaves_r(base) 549.fotonik3d_r(base) 554.roms_r(base)

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Fortran, C | 521.wrf_r(base) 527.cam4_r(base)

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
Intel(R) 64, Version 2021.1 Build 20201112_000000

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR650 V2
(2.90 GHz, Intel Xeon Gold 6326)

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

SPECrater®2017_fp_base = 287
SPECrater®2017_fp_peak = Not Run

Test Date: Jul-2021
Hardware Availability: Jul-2021
Software Availability: Dec-2020

Compiler Version Notes (Continued)

Copyright (C) 1985–2020 Intel Corporation. All rights reserved.
Intel (R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985–2020 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
    icx

C++ benchmarks:
    icpx

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    ifort icx

Benchmarks using both C and C++:
    icpx icx

Benchmarks using Fortran, C, and C++:
    icpx icx ifort

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
Lenovo Global Technology
ThinkSystem SR650 V2
(2.90 GHz, Intel Xeon Gold 6326)

SPEC®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Base Optimization Flags

C benchmarks:
-\( -w \) -\texttt{std=c11} -\texttt{m64} -\texttt{Wl,-z,muldefs} -\texttt{xCORE-AVX512} -\texttt{Ofast} -\texttt{-ffast-math}
-\texttt{-flto} -\texttt{-mfpmath=sse} -\texttt{-funroll-loops} -\texttt{-qopt-mem-layout-trans=4}
-\texttt{-mbranches-within-32B-boundaries} -\texttt{-ljemalloc}
-\texttt{-L/usr/local/jemalloc64-5.0.1/lib}

C++ benchmarks:
-\( -w \) -\texttt{m64} -\texttt{Wl,-z,muldefs} -\texttt{xCORE-AVX512} -\texttt{Ofast} -\texttt{-ffast-math} -\texttt{-flto}
-\texttt{-mfpmath=sse} -\texttt{-funroll-loops} -\texttt{-qopt-mem-layout-trans=4}
-\texttt{-mbranches-within-32B-boundaries} -\texttt{-ljemalloc}
-\texttt{-L/usr/local/jemalloc64-5.0.1/lib}

Fortran benchmarks:
-\( -w \) -\texttt{m64} -\texttt{Wl,-z,muldefs} -\texttt{xCORE-AVX512} -\texttt{-O3} -\texttt{-ipo} -\texttt{-no-prec-div}
-\texttt{-qopt-prefetch} -\texttt{-ffinite-math-only}
-\texttt{-qopt-multiple-gather-scatter-by-shuffles} -\texttt{-qopt-mem-layout-trans=4}
-\texttt{-nostandard-realloc-lhs} -\texttt{-align array32byte} -\texttt{-auto}
-\texttt{-mbranches-within-32B-boundaries} -\texttt{-ljemalloc}
-\texttt{-L/usr/local/jemalloc64-5.0.1/lib}

Benchmarks using both Fortran and C:
-\( -w \) -\texttt{m64} -\texttt{Wl,-z,muldefs} -\texttt{xCORE-AVX512} -\texttt{Ofast} -\texttt{-ffast-math}
-\texttt{-flto} -\texttt{-mfpmath=sse} -\texttt{-funroll-loops} -\texttt{-qopt-mem-layout-trans=4} -\texttt{-O3} -\texttt{-ipo}
-\texttt{-no-prec-div} -\texttt{-qopt-prefetch} -\texttt{-ffinite-math-only}
-\texttt{-qopt-multiple-gather-scatter-by-shuffles}
-\texttt{-mbranches-within-32B-boundaries} -\texttt{-nostandard-realloc-lhs}
-\texttt{-align array32byte} -\texttt{-auto} -\texttt{-ljemalloc} -\texttt{-L/usr/local/jemalloc64-5.0.1/lib}

Benchmarks using both C and C++:
-\( -w \) -\texttt{m64} -\texttt{Wl,-z,muldefs} -\texttt{xCORE-AVX512} -\texttt{Ofast} -\texttt{-ffast-math}
-\texttt{-flto} -\texttt{-mfpmath=sse} -\texttt{-funroll-loops} -\texttt{-qopt-mem-layout-trans=4}
-\texttt{-mbranches-within-32B-boundaries} -\texttt{-ljemalloc}
-\texttt{-L/usr/local/jemalloc64-5.0.1/lib}

Benchmarks using Fortran, C, and C++:
-\( -w \) -\texttt{m64} -\texttt{Wl,-z,muldefs} -\texttt{xCORE-AVX512} -\texttt{Ofast} -\texttt{-ffast-math}
-\texttt{-flto} -\texttt{-mfpmath=sse} -\texttt{-funroll-loops} -\texttt{-qopt-mem-layout-trans=4} -\texttt{-O3}
-\texttt{-no-prec-div} -\texttt{-qopt-prefetch} -\texttt{-ffinite-math-only}
-\texttt{-qopt-multiple-gather-scatter-by-shuffles}
-\texttt{-mbranches-within-32B-boundaries} -\texttt{-nostandard-realloc-lhs}
-\texttt{-align array32byte} -\texttt{-auto} -\texttt{-ljemalloc} -\texttt{-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-ICElake-F.html
**SPEC CPU®2017 Floating Point Rate Result**

**Lenovo Global Technology**

ThinkSystem SR650 V2  
(2.90 GHz, Intel Xeon Gold 6326)  

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base</th>
<th>287</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_fp_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Jul-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability:</td>
<td>Jul-2021</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Dec-2020</td>
</tr>
</tbody>
</table>

You can also download the XML flags sources by saving the following links:


---

SPEC CPU and SPECrate 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 v1.1.8 on 2021-07-18 16:32:40-0400.  
Report generated on 2021-08-04 18:44:52 by CPU2017 PDF formatter v6442.  
Originally published on 2021-08-03.