Lenovo Global Technology
ThinkSystem ST50 V2
(3.10 GHz, Intel Xeon E-2324G)

SPECrate®2017_int_base = 34.6
SPECrate®2017_int_peak = 35.8

| Copies | 0 | 4.00 | 8.00 | 12.0 | 16.0 | 20.0 | 24.0 | 28.0 | 32.0 | 36.0 | 40.0 | 44.0 | 48.0 | 52.0 | 56.0 | 60.0 | 64.0 | 68.0 | 72.0 | 76.0 | 80.0 | 84.0 |
|--------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 500.perlbench_r | 4 | 502.gcc_r | 4 | 505.mcf_r | 4 | 520.omnetpp_r | 4 | 523.xalancbmk_r | 4 | 525.x264_r | 4 | 531.deepsjeng_r | 4 | 541.leela_r | 4 | 548.exchange2_r | 4 | 557.xz_r | 4 | SPECrate®2017_int_base (34.6) | SPECrate®2017_int_peak (35.8) |

## Hardware

<table>
<thead>
<tr>
<th>CPU Name:</th>
<th>Intel Xeon E-2324G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max MHz:</td>
<td>4600</td>
</tr>
<tr>
<td>Nominal:</td>
<td>3100</td>
</tr>
<tr>
<td>Enabled:</td>
<td>4 cores, 1 chip</td>
</tr>
<tr>
<td>Orderable:</td>
<td>1 chip</td>
</tr>
<tr>
<td>Cache L1:</td>
<td>32 KB I + 48 KB D on chip per core</td>
</tr>
<tr>
<td>L2:</td>
<td>512 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3:</td>
<td>8 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
</tr>
<tr>
<td>Memory:</td>
<td>64 GB (4 x 16 GB 2Rx8 PC4-3200AA-E, running at 2933)</td>
</tr>
<tr>
<td>Storage:</td>
<td>1 x 960 GB SATA SSD</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
</tr>
</tbody>
</table>

## Software

<table>
<thead>
<tr>
<th>OS:</th>
<th>Red Hat Enterprise Linux 8.4 (Ootpa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler:</td>
<td>C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux; Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux; C/C++: Version 2021.1 of Intel C/C++ Compiler Classic Build 20201112 for Linux</td>
</tr>
<tr>
<td>Firmware:</td>
<td>Lenovo BIOS Version TOE101Q released Mar-2022</td>
</tr>
<tr>
<td>File System:</td>
<td>xfs</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers:</td>
<td>64-bit</td>
</tr>
<tr>
<td>Peak Pointers:</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other:</td>
<td>jemalloc memory allocator V5.0.1</td>
</tr>
<tr>
<td>Power Management:</td>
<td>BIOS and OS set to prefer performance at the cost of additional power usage</td>
</tr>
</tbody>
</table>
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>
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<tr>
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<td>4</td>
<td>236</td>
<td>26.9</td>
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<td>26.9</td>
<td>237</td>
<td>26.9</td>
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<tr>
<td>502.gcc_r</td>
<td>4</td>
<td>186</td>
<td>30.4</td>
<td>186</td>
<td>30.4</td>
<td>186</td>
<td>30.4</td>
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<tr>
<td>505.mcf_r</td>
<td>4</td>
<td>117</td>
<td>55.0</td>
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<td>55.1</td>
<td>117</td>
<td>55.1</td>
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<tr>
<td>520.omnetpp_r</td>
<td>4</td>
<td>265</td>
<td>19.8</td>
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<td>19.8</td>
<td>265</td>
<td>19.8</td>
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<tr>
<td>523.xalancbmk_r</td>
<td>4</td>
<td>92.4</td>
<td>45.7</td>
<td>93.0</td>
<td>45.4</td>
<td>92.4</td>
<td>45.7</td>
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<td>525.x264_r</td>
<td>4</td>
<td>88.5</td>
<td>79.2</td>
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<td>88.1</td>
<td>79.5</td>
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<tr>
<td>531.deepsjeng_r</td>
<td>4</td>
<td>173</td>
<td>26.5</td>
<td>173</td>
<td>26.5</td>
<td>173</td>
<td>26.5</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>4</td>
<td>291</td>
<td>22.7</td>
<td>292</td>
<td>22.7</td>
<td>291</td>
<td>22.8</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>4</td>
<td>123</td>
<td>85.0</td>
<td>124</td>
<td>84.7</td>
<td>123</td>
<td>85.0</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>4</td>
<td>289</td>
<td>15.0</td>
<td>289</td>
<td>15.0</td>
<td>289</td>
<td>15.0</td>
</tr>
</tbody>
</table>

Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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/cpu2017-1.1.8-ic2021.1-revB/lib/intel64:/home/cpu2017-1.1.8-ic2021.1-revB/lib/ia32:
/home/cpu2017-1.1.8-ic2021.1-revB/je5.0.1-32"

MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM
memory using Red Hat Enterprise Linux 8.1
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

(Continued on next page)
Lenovo Global Technology
ThinkSystem ST50 V2
(3.10 GHz, Intel Xeon E-2324G)

SPEC®2017 Integer Rate Result

Lenovo Global Technology

SPECrates®2017_int_base = 34.6
SPECrates®2017_int_peak = 35.8

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

Test Date: Apr-2022
Hardware Availability: Apr-2022
Software Availability: May-2021

General Notes (Continued)
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:
C State Support set to C1C3C6

Sysinfo program /home/cpu2017-1.1.8-ic2021.1-revB/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca564d
running on localhost.localdomain Thu Apr 28 10:09:46 2022

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) E-2324G CPU @ 3.10GHz
  1 "physical id"s (chips)
  4 "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 : 4
siblings : 4
physical 0: cores 0 1 2 3

From lscpu from util-linux 2.32.1:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 4
On-line CPU(s) list: 0-3
Thread(s) per core: 1
Core(s) per socket: 4
Socket(s): 1
NUMA node(s): 1
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel(R) Corporation
CPU family: 6

(Continued on next page)
Lenovo Global Technology
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Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: Apr-2022
Hardware Availability: Apr-2022
Software Availability: May-2021

Platform Notes (Continued)

Model: 167
Model name: Intel(R) Xeon(R) E-2324G CPU @ 3.10GHz
BIOS Model name: Intel(R) Xeon(R) E-2324G CPU @ 3.10GHz
Stepping: 1
CPU MHz: 2255.094
CPU max MHz: 4600.0000
CPU min MHz: 800.0000
BogoMIPS: 6192.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 512K
L3 cache: 8192K
NUMA node0 CPU(s): 0-3
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 arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
aperfmpref tsc_known_freq pni pclmulqdq dtscs64 monitor ds_cpl vmx smx est tm2 sse3
sdbg fma cx16 xtrr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer
aes xsave avx f16c rdrand lahf_lm abm 3nowprefetch cpuid_fault epb invpcid_single
ssbd ibrs ibbp stibp ibrs Enhanced tpr_shadow vmni flexpriority ept vpid ept_ad
fsgsbase tsc_adjust bml1 avx2 smep bmi2 erms invpcid mpx avx512f avx512dq rdseed adx
smap avx512ifma clflushopt intel_pt avx512cd sha ni avx512bw avx512vl xsaveopt
xsaves xsaveopt dtherm ida arat pln pts hwp hwp notify hwp act_window hwp epp
hwp_pkg_reg avx512vmbi umip pku ospe avx512_vmbi2 gfn vaes vpclmulqdq avx512_vnni
avx512_bitalg avx512 vpopcntdq rdpid fsrm md_clear flush_l1d arch_capabilities

From /proc/cpuinfo cache data
cache size : 8192 KB

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 1 nodes (0)
node 0 cpus: 0 1 2 3
node 0 size: 63968 MB
node 0 free: 62506 MB
node distances:
node 0
0: 10

From /proc/meminfo
MemTotal: 65503460 kB
 HugePages_Total: 0
 Hugepagesize: 2048 kB

/sbin/tuned-adm active
Current active profile: throughput-performance

(Continued on next page)
## Lenovo Global Technology
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| SPECrate®2017_int_peak = 35.8 |

| CPU2017 License: 9017 | Test Date: Apr-2022 |
| Test Sponsor: Lenovo Global Technology | Hardware Availability: Apr-2022 |
| Tested by: Lenovo Global Technology | Software Availability: May-2021 |

**Platform Notes (Continued)**

```bash
/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has performance

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux release 8.4 (Ootpa)

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux"
      VERSION="8.4 (Ootpa)"
      ID="rhe1"
      ID_LIKE="fedora"
      VERSION_ID="8.4"
      PLATFORM_ID="platform:el8"
      PRETTY_NAME="Red Hat Enterprise Linux 8.4 (Ootpa)"
      ANSI_COLOR="0;31"
   redhat-release: Red Hat Enterprise Linux release 8.4 (Ootpa)
   system-release: Red Hat Enterprise Linux release 8.4 (Ootpa)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:8.4:ga

uname -a:
   Linux localhost.localdomain 4.18.0-305.el8.x86_64 #1 SMP Thu Apr 29 08:54:30 EDT 2021
   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 seccomp
- CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swaps 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 Apr 27 10:25

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

Filesystem Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-root xfs 889G 24G 865G 3% /
```

(Continued on next page)
 SPEC CPU®2017 Integer Rate Result

Lenovo Global Technology
ThinkSystem ST50 V2
(3.10 GHz, Intel Xeon E-2324G)

SPECrater®2017_int_base = 34.6
SPECrater®2017_int_peak = 35.8

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

Platform Notes (Continued)

From /sys/devices/virtual/dmi/id
Vendor: LENOVO
Product: 7D8JCTO1WW
Product Family: Lenovo Product
Serial: J300ST50V2

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:
4x Samsung M391A2K43DB1-CWE 16 GB 2 rank 3200, configured at 2933

BIOS:
BIOS Vendor: LENOVO
BIOS Version: TOE101Q
BIOS Date: 03/16/2022
BIOS Revision: 1.41
Firmware Revision: 1.1

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C       | 500.perlbench_r(peak) 557.xz_r(peak)
-----------------------------------------------------------------------------
Intel(R) C 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.
-----------------------------------------------------------------------------

==============================================================================
C       | 502.gcc_r(peak)
-----------------------------------------------------------------------------
Intel(R) oneAPI DPC+/C++ Compiler for applications running on IA-32, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
-----------------------------------------------------------------------------

==============================================================================
C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
| 525.x264_r(base, peak) 557.xz_r(base)
-----------------------------------------------------------------------------
Intel(R) oneAPI DPC+/C++ Compiler for applications running on Intel(R) 64,
Lenovo Global Technology
ThinkSystem ST50 V2
(3.10 GHz, Intel Xeon E-2324G)

SPECrater®2017_int_base = 34.6
SPECrater®2017_int_peak = 35.8

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

Test Date: Apr-2022
Hardware Availability: Apr-2022
Software Availability: May-2021

Compiler Version Notes (Continued)

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

==============================================================================
C       | 500.perlbench_r(peak) 557.xz_r(peak)

Intel(R) C 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.

==============================================================================
C       | 502.gcc_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

==============================================================================
C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_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       | 500.perlbench_r(peak) 557.xz_r(peak)

Intel(R) C 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.

==============================================================================
C       | 502.gcc_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

==============================================================================
C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)

(Continued on next page)
Lenovo Global Technology
ThinkSystem ST50 V2
(3.10 GHz, Intel Xeon E-2324G)

SPECrater®2017_int_base = 34.6
SPECrater®2017_int_peak = 35.8

Compiler Version Notes (Continued)

<table>
<thead>
<tr>
<th>525.x264_r(base, peak) 557.xz_r(base)</th>
</tr>
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------------------------------------------------------------------------------
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++ | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak) 531.deepsjeng_r(base, peak) 541.leea_r(base, peak)
------------------------------------------------------------------------------
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 | 548.exchange2_r(base, peak)
------------------------------------------------------------------------------
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.
-----------------------------------------------------------------------------

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifort

Base Portability Flags

500.perlbench_r: -DSPEC_LP64  -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64  -DSPEC_LINUX
525.x264_r: -DSPEC_LP64

(Continued on next page)
Lenovo Global Technology
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(3.10 GHz, Intel Xeon E-2324G)

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2022 Standard Performance Evaluation Corporation

SPECrate®2017_int_base = 34.6
SPECrate®2017_int_peak = 35.8

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Test Date: Apr-2022
Tested by: Lenovo Global Technology
Hardware Availability: Apr-2022
Software Availability: May-2021

Base Portability Flags (Continued)
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64

Base Optimization Flags
C benchmarks:
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

C++ benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xCORE-AVX2 -O3 -ipo -no-prec-div
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-auto -mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

Peak Compiler Invocation
C benchmarks (except as noted below):
icx

500.perlbench_r: icc
557.xz_r: icc

C++ benchmarks:
icpx

Fortran benchmarks:
ifort
Lenovo Global Technology
ThinkSystem ST50 V2
(3.10 GHz, Intel Xeon E-2324G)

SPECrate®2017_int_base = 34.6
SPECrate®2017_int_peak = 35.8

Peak Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64

Peak Optimization Flags

C benchmarks:

500.perlbench_r: -W1,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)
-xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -fno-strict-overflow
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

502.gcc_r: -m32
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/ia32_lin
-std=gnu89 -W1,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2 -flto
-Ofast(pass 1) -O3 -ffast-math -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc

505.mcf_r: basepeak = yes

520.omnetpp_r: -w -std=c11 -m64 -W1,-z,muldefs -xCORE-AVX2 -flto -O3
-ffast-math -qopt-mem-layout-trans=4 -fno-alias
-mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

525.x264_r: -W1,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/opt/intel/oneapi/compiler/2021.1.1/linux/compiler/lib/intel64_lin
-lqkmalloc

531.deepsjeng_r: -ipo

Continued on next page
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Tested by: Lenovo Global Technology

Test Date: Apr-2022
Hardware Availability: Apr-2022
Software Availability: May-2021

Peak Optimization Flags (Continued)

C++ benchmarks:

520.omnetpp_r: basepeak = yes
523.xalancbmk_r: basepeak = yes
531.deepsjeng_r: basepeak = yes
541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes

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-RocketA-B.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-RocketA-B.xml
http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml

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

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