SPEC CPU®2017 Integer Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

$SPECrate^{®}2017\_int\_base = 49.9$
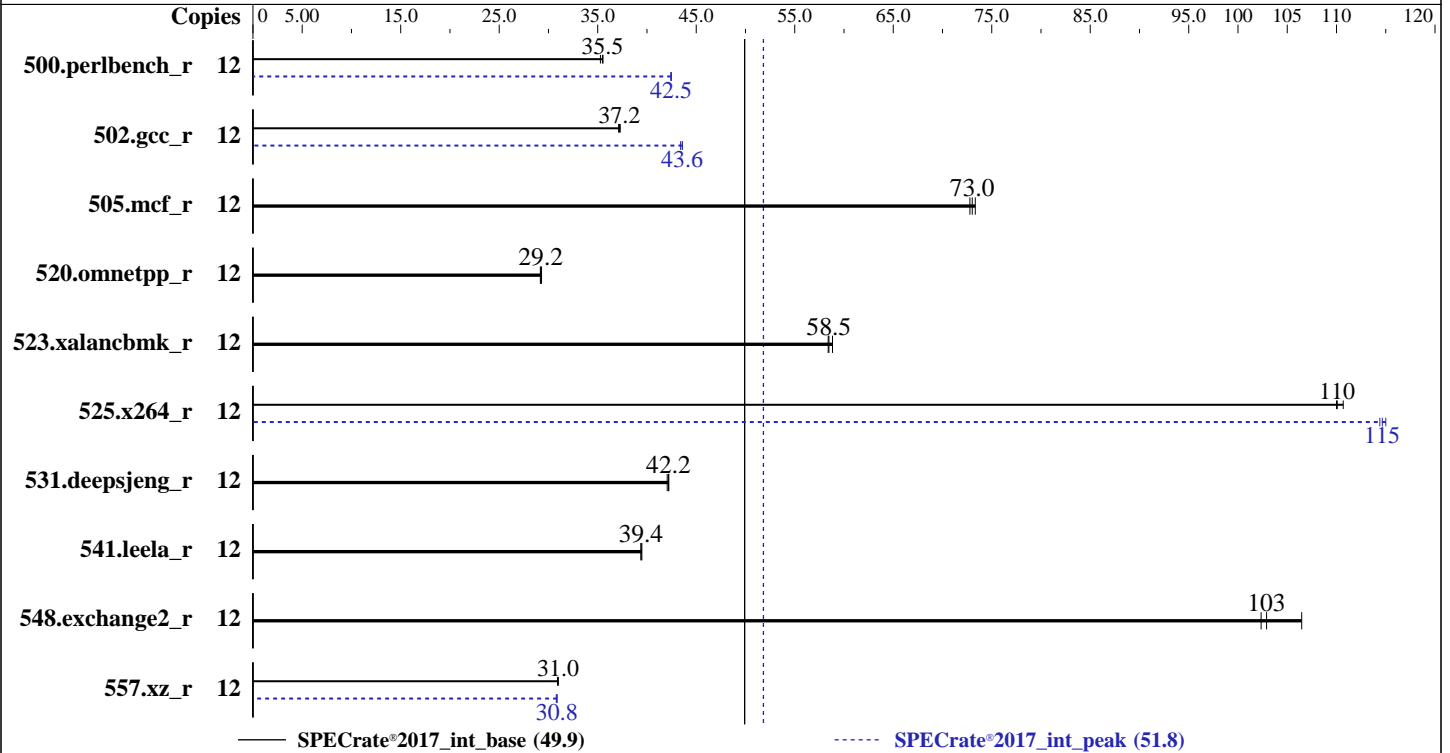
$SPECrate^{®}2017\_int\_peak = 51.8$

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

Test Date: Jun-2020
Hardware Availability: Mar-2020
Software Availability: Apr-2020

Benchmark	Copies	Base	Peak
500.perlbench_r	12	35.5	42.5
502.gcc_r	12	37.2	43.6
505.mcf_r	12	73.0	
520.omnetpp_r	12	29.2	
523.xalancbmk_r	12	58.5	
525.x264_r	12	110	115
531.deepsjeng_r	12	42.2	
541.leela_r	12	39.4	
548.exchange2_r	12	103	
557.xz_r	12	31.0	30.8

SPECrate®2017_int_base (49.9) ——— SPECrate®2017_int_peak (51.8) ········

Hardware

CPU Name: Intel Xeon E-2236
 Max MHz: 4800
 Nominal: 3400
Enabled: 6 cores, 1 chip, 2 threads/core
Orderable: 1 chip
Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 256 KB I+D on chip per core
 L3: 12 MB I+D on chip per chip
 Other: None
Memory: 128 GB (4 x 32 GB 2Rx4 PC4-2666V-E)
Storage: 1 x 960 GB SATA SSD
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP1 (x86_64)
 Kernel 4.12.14-195-default
Compiler: C/C++: Version 19.1.1.217 of Intel C/C++
 Compiler for Linux;
 Fortran: Version 19.1.1.217 of Intel Fortran
 Compiler for Linux
Parallel: No
Firmware: Lenovo BIOS Version ISE115D 2.10 released Apr-2020
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of additional power usage

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

CPU2017 License: 9017		**Test Date:** Jun-2020
Test Sponsor: Lenovo Global Technology		**Hardware Availability:** Mar-2020
Tested by: Lenovo Global Technology		**Software Availability:** Apr-2020

Results Table

Benchmark	Base						Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	12	**539**	**35.5**	542	35.3	538	35.5	12	450	42.5	**450**	**42.5**	450	42.4
502.gcc_r	12	458	37.1	456	37.3	**457**	**37.2**	12	391	43.4	390	43.6	**390**	**43.6**
505.mcf_r	12	264	73.3	266	72.8	**266**	**73.0**	12	264	73.3	266	72.8	**266**	**73.0**
520.omnetpp_r	12	537	29.3	**539**	**29.2**	540	29.2	12	537	29.3	**539**	**29.2**	540	29.2
523.xalancbmk_r	12	217	58.4	215	58.8	**217**	**58.5**	12	217	58.4	215	58.8	**217**	**58.5**
525.x264_r	12	**191**	**110**	190	111	191	110	12	**183**	**115**	184	114	183	115
531.deepsjeng_r	12	327	42.1	**326**	**42.2**	326	42.2	12	327	42.1	**326**	**42.2**	326	42.2
541.leela_r	12	503	39.5	504	39.4	**504**	**39.4**	12	503	39.5	504	39.4	**504**	**39.4**
548.exchange2_r	12	307	102	**306**	**103**	295	106	12	307	102	**306**	**103**	295	106
557.xz_r	12	**418**	**31.0**	418	31.0	419	30.9	12	**420**	**30.8**	420	30.9	421	30.8
SPECrate®2017_int_base =		**49.9**										
SPECrate®2017_int_peak =		**51.8**										

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

Compiler Notes

```
The inconsistent Compiler version information under Compiler Version section is due to a discrepancy in Intel Compiler.
The correct version of C/C++ compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux
The correct version of Fortran compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux
```

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/cpu2017-1.1.0-ic19.1.1/lib/intel64:/home/cpu2017-1.1.0-ic19.1.1/l
     ib/ia32:/home/cpu2017-1.1.0-ic19.1.1/je5.0.1-32"
MALLOC_CONF = "retain:true"
```

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

CPU2017 License: 9017		**Test Date:**	Jun-2020
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Mar-2020
Tested by:	Lenovo Global Technology	**Software Availability:**	Apr-2020

General Notes

```
 Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB 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
Yes: 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
 sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

Platform Notes

```
BIOS configuration:
Choose Operating Mode set to Maximum Performance and then set it to Custom Mode
Energy Efficient Turbo set to Enable
Zero Output set to Advanced Mode
Intel Virtualization Technology set to Disable
Hardware Prefetcher set to Disable
Adjacent Cache Prefetch set to Disable

 Sysinfo program /home/cpu2017-1.1.0-ic19.1.1/bin/sysinfo
 Rev: r6365 of 2019-08-21 295195f888a3d7edb1e6e46a485a0011
 running on linux-bfbk Mon Jun  8 18:05:17 2020

 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-2236 CPU @ 3.40GHz
       1  "physical id"s (chips)
       12 "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 : 6
       siblings  : 12
       physical 0: cores 0 1 2 3 4 5

 From lscpu:
       Architecture:         x86_64
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Jun-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Platform Notes (Continued)

```
        CPU op-mode(s):        32-bit, 64-bit
        Byte Order:            Little Endian
        Address sizes:         39 bits physical, 48 bits virtual
        CPU(s):                12
        On-line CPU(s) list:   0-11
        Thread(s) per core:    2
        Core(s) per socket:    6
        Socket(s):             1
        NUMA node(s):          1
        Vendor ID:             GenuineIntel
        CPU family:            6
        Model:                 158
        Model name:            Intel(R) Xeon(R) E-2236 CPU @ 3.40GHz
        Stepping:              10
        CPU MHz:               3400.000
        CPU max MHz:           4800.0000
        CPU min MHz:           800.0000
        BogoMIPS:              6816.00
        Virtualization:        VT-x
        L1d cache:             32K
        L1i cache:             32K
        L2 cache:              256K
        L3 cache:              12288K
        NUMA node0 CPU(s):     0-11
        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
    aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3
    sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer
    aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb invpcid_single
    pti ssbd ibrs ibpb stibp tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust
    bmi1 hle avx2 smep bmi2 erms invpcid rtm mpx rdseed adx smap clflushopt intel_pt
    xsaveopt xsavec xgetbv1 xsaves dtherm ida arat pln pts hwp hwp_notify hwp_act_window
    hwp_epp md_clear flush_l1d

 /proc/cpuinfo cache data
    cache size : 12288 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 4 5 6 7 8 9 10 11
    node 0 size: 128864 MB
    node 0 free: 128249 MB
    node distances:
    node     0
      0:  10
```

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)　　　https://www.spec.org/

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:       131957504 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="SLES"
      VERSION="15-SP1"
      VERSION_ID="15.1"
      PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
      ID="sles"
      ID_LIKE="suse"
      ANSI_COLOR="0;32"
      CPE_NAME="cpe:/o:suse:sles:15:sp1"

uname -a:
   Linux linux-bfbk 4.12.14-195-default #1 SMP Tue May 7 10:55:11 UTC 2019 (8fba516)
   x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-3620 (L1 Terminal Fault):      Mitigation: PTE Inversion; VMX: conditional
                                        cache flushes, SMT vulnerable
Microarchitectural Data Sampling:       Mitigation: Clear CPU buffers; SMT vulnerable
CVE-2017-5754 (Meltdown):               Mitigation: PTI
CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled
                                        via prctl and seccomp
CVE-2017-5753 (Spectre variant 1):      Mitigation: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):      Mitigation: Indirect Branch Restricted
                                       Speculation, IBPB: conditional, IBRS_FW, STIBP:
                                        conditional, RSB filling

run-level 3 Jun 8 18:03

SPEC is set to: /home/cpu2017-1.1.0-ic19.1.1
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda3       xfs   893G   63G  830G   8% /

From /sys/devices/virtual/dmi/id
   BIOS:    Lenovo -[ISE115D-2.10]- 04/24/2020
   Vendor:  Lenovo
   Product: ThinkSystem ST250 -[7Y45CTO0WW]-
   Product Family: ThinkSystem
   Serial:  1234567890
```

(Continued on next page)

SPEC CPU®2017 Integer Rate Result

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

CPU2017 License: 9017		**Test Date:**	Jun-2020
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Mar-2020
Tested by:	Lenovo Global Technology	**Software Availability:**	Apr-2020

Platform Notes (Continued)

```
 Additional information from dmidecode 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 SK Hynix HMAA4GU7AJR8N-VK 32767 MB 2 rank 2666

 (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
C         | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
  Build 20200304
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) C Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
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 for applications running on Intel(R) 64,
  Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
------------------------------------------------------------------------------


==============================================================================
C         | 502.gcc_r(peak)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
  Build 20200304
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)

Standard Performance Evaluation Corporation (info@spec.org)   https://www.spec.org/

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

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

Test Date: Jun-2020
Hardware Availability: Mar-2020
Software Availability: Apr-2020

Compiler Version Notes (Continued)

```
        | 525.x264_r(base, peak) 557.xz_r(base)
-------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
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 for applications running on Intel(R) 64,
  Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
-------------------------------------------------------------------------------


===============================================================================
C       | 502.gcc_r(peak)
-------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on IA-32, Version 2021.1 NextGen
  Build 20200304
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) C Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
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 for applications running on Intel(R) 64,
  Version 19.1.1.217 Build 20200306
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.leela_r(base, peak)
-------------------------------------------------------------------------------
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
  NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Jun-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Compiler Version Notes (Continued)

```
--------------------------------------------------------------------------

==========================================================================
Fortran | 548.exchange2_r(base, peak)
--------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
  64, Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation.  All rights reserved.
--------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

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`
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:
`-m64 -qnextgen -std=c11`
`-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs`
`-xCORE-AVX2 -O3 -ffast-math -flto -mfpmath=sse -funroll-loops`
`-fuse-ld=gold -qopt-mem-layout-trans=4`

(Continued on next page)

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

CPU2017 License: 9017		**Test Date:**	Jun-2020
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Mar-2020
Tested by:	Lenovo Global Technology	**Software Availability:**	Apr-2020

Base Optimization Flags (Continued)

C benchmarks (continued):
```
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

C++ benchmarks:
```
-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -xCORE-AVX2 -O3 -ffast-math -flto -mfpmath=sse
-funroll-loops -fuse-ld=gold -qopt-mem-layout-trans=4
-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

Fortran benchmarks:
```
-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -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/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin
-lqkmalloc
```

Peak Compiler Invocation

C benchmarks:
```
icc
```

C++ benchmarks:
```
icpc
```

Fortran benchmarks:
```
ifort
```

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`

(Continued on next page)

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

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

Test Date: Jun-2020
Hardware Availability: Mar-2020
Software Availability: Apr-2020

Peak Portability Flags (Continued)

557.xz_r: `-DSPEC_LP64`

Peak Optimization Flags

C benchmarks:

500.perlbench_r: `-Wl,-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/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin`
`-lqkmalloc`

502.gcc_r: `-m32`
`-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/ia32_lin`
`-std=gnu89`
`-Wl,-plugin-opt=-x86-branches-within-32B-boundaries`
`-Wl,-z,muldefs` `-fprofile-generate`(pass 1)
`-fprofile-use=default.profdata`(pass 2) `-xCORE-AVX2` `-flto`
`-Ofast`(pass 1) `-O3` `-ffast-math` `-qnextgen` `-fuse-ld=gold`
`-qopt-mem-layout-trans=4` `-L/usr/local/jemalloc32-5.0.1/lib`
`-ljemalloc`

505.mcf_r: basepeak = yes

525.x264_r: `-m64` `-qnextgen` `-std=c11`
`-Wl,-plugin-opt=-x86-branches-within-32B-boundaries`
`-Wl,-z,muldefs` `-xCORE-AVX2` `-flto` `-O3` `-ffast-math`
`-fuse-ld=gold` `-qopt-mem-layout-trans=4` `-fno-alias`
`-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin`
`-lqkmalloc`

557.xz_r: `-Wl,-z,muldefs` `-xCORE-AVX2` `-ipo` `-O3` `-no-prec-div`
`-qopt-mem-layout-trans=4` `-mbranches-within-32B-boundaries`
`-L/usr/local/IntelCompiler19/compilers_and_libraries_2020.1.217/linux/compiler/lib/intel64_lin`
`-lqkmalloc`

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: basepeak = yes

(Continued on next page)

Lenovo Global Technology

ThinkSystem ST250
(3.40 GHz, Intel Xeon E-2236)

SPECrate®2017_int_base = 49.9

SPECrate®2017_int_peak = 51.8

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Jun-2020

Hardware Availability: Mar-2020

Software Availability: Apr-2020

Peak Optimization Flags (Continued)

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/Intel-ic19.1u1-official-linux64_revA.html`
`http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-J.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revA.xml`
`http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-J.xml`

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

Tested with SPEC CPU®2017 v1.1.0 on 2020-06-08 06:05:16-0400.
Report generated on 2020-07-07 14:34:18 by CPU2017 PDF formatter v6255.
Originally published on 2020-07-07.