SPEC CPU®2017 Floating Point Rate Result

Lenovo Global Technology

SPECrate®2017_fp_base =   443

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)
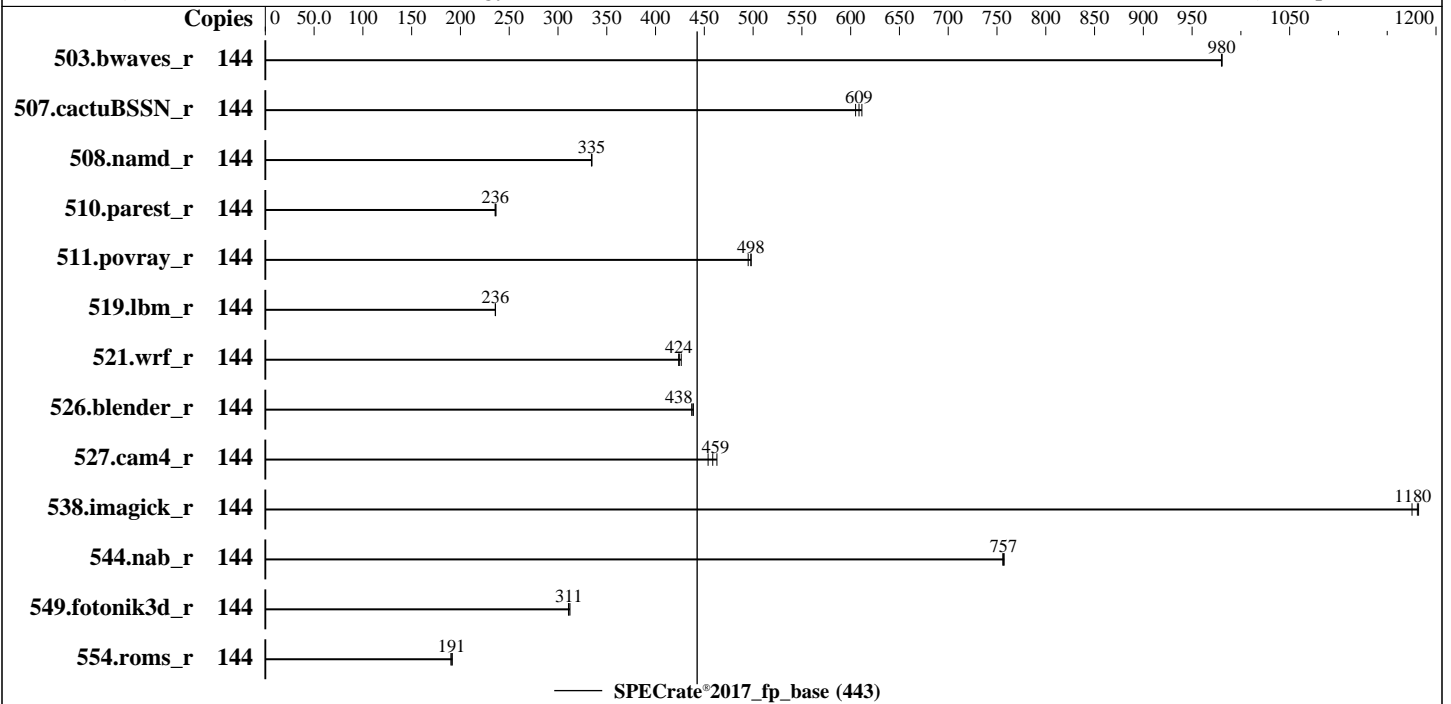
SPECrate®2017_fp_peak = Not Run

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

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

Benchmark	Copies	Result
503.bwaves_r	144	980
507.cactuBSSN_r	144	609
508.namd_r	144	335
510.parest_r	144	236
511.povray_r	144	498
519.lbm_r	144	236
521.wrf_r	144	424
526.blender_r	144	438
527.cam4_r	144	459
538.imagick_r	144	1180
544.nab_r	144	757
549.fotonik3d_r	144	311
554.roms_r	144	191

SPECrate®2017_fp_base (443)

Hardware

CPU Name: Intel Xeon Gold 6240L
 Max MHz: 3900
 Nominal: 2600
Enabled: 72 cores, 4 chips, 2 threads/core
Orderable: 4 chips
Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 24.75 MB I+D on chip per chip
 Other: None
Memory: 1536 GB (48 x 32 GB 2Rx4 PC4-2933Y-R)
Storage: 1 x 960 GB SATA SSD
Other: None

Software

OS: Red Hat Enterprise Linux 8.0
 (Ootpa)
 Kernel 4.18.0-80.el8.x86_64
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 TEE156L 2.61 released May-2020
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 set to prefer performance at the cost of additional power usage

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECrate®2017_fp_base = 443

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 9017	**Test Date:**	Oct-2020
Test Sponsor: Lenovo Global Technology	**Hardware Availability:**	Jun-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
503.bwaves_r	144	1473	980	**1473**	**980**	1472	981							
507.cactuBSSN_r	144	298	612	**300**	**609**	301	605							
508.namd_r	144	**409**	**335**	409	335	409	334							
510.parest_r	144	1593	236	**1597**	**236**	1599	236							
511.povray_r	144	675	498	679	495	**676**	**498**							
519.lbm_r	144	644	236	643	236	**643**	**236**							
521.wrf_r	144	**760**	**424**	761	424	757	426							
526.blender_r	144	500	439	502	437	**500**	**438**							
527.cam4_r	144	**549**	**459**	555	454	544	463							
538.imagick_r	144	305	1180	**303**	**1180**	303	1180							
544.nab_r	144	320	757	321	756	**320**	**757**							
549.fotonik3d_r	144	1806	311	1797	312	**1803**	**311**							
554.roms_r	144	1194	192	1203	190	**1198**	**191**							
SPECrate®2017_fp_base =			**443**											
SPECrate®2017_fp_peak =			**Not Run**											

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 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/cpu2017-1.1.0-ic19.1.1/lib/intel64:/home/cpu2017-1.1.0-ic19.1.1/j
     e5.0.1-64"
MALLOC_CONF = "retain:true"
```

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_base = 443

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 9017		**Test Date:**	Oct-2020
Test Sponsor:	Lenovo Global Technology	**Hardware Availability:**	Jun-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
 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
 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
MONITOR/MWAIT set to Enable
CPU P-state Control set to Cooperative
SNC set to Enable

 Sysinfo program /home/cpu2017-1.1.0-ic19.1.1/bin/sysinfo
 Rev: r6365 of 2019-08-21 295195f888a3d7edb1e6e46a485a0011
 running on localhost.localdomain Fri Oct 30 00:05:00 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) Gold 6240L CPU @ 2.60GHz
       4  "physical id"s (chips)
       144 "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 : 18
       siblings  : 36
       physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 2: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
       physical 3: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_base = 443

SPECrate®2017_fp_peak = Not Run

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

Platform Notes (Continued)

```
  From lscpu:
       Architecture:          x86_64
       CPU op-mode(s):        32-bit, 64-bit
       Byte Order:            Little Endian
       CPU(s):                144
       On-line CPU(s) list:   0-143
       Thread(s) per core:    2
       Core(s) per socket:    18
       Socket(s):             4
       NUMA node(s):          8
       Vendor ID:             GenuineIntel
       CPU family:            6
       Model:                 85
       Model name:            Intel(R) Xeon(R) Gold 6240L CPU @ 2.60GHz
       Stepping:              7
       CPU MHz:               2337.286
       CPU max MHz:           3900.0000
       CPU min MHz:           1000.0000
       BogoMIPS:              5200.00
       Virtualization:        VT-x
       L1d cache:             32K
       L1i cache:             32K
       L2 cache:              1024K
       L3 cache:              25344K
       NUMA node0 CPU(s):     0-2,5,6,9,10,14,15,72-74,77,78,81,82,86,87
       NUMA node1 CPU(s):     3,4,7,8,11-13,16,17,75,76,79,80,83-85,88,89
       NUMA node2 CPU(s):     18-20,23,24,27,28,32,33,90-92,95,96,99,100,104,105
       NUMA node3 CPU(s):     21,22,25,26,29-31,34,35,93,94,97,98,101-103,106,107
       NUMA node4 CPU(s):     36-38,41,42,45,46,50,51,108-110,113,114,117,118,122,123
       NUMA node5 CPU(s):     39,40,43,44,47-49,52,53,111,112,115,116,119-121,124,125
       NUMA node6 CPU(s):     54-56,59,60,63,64,68,69,126-128,131,132,135,136,140,141
       NUMA node7 CPU(s):     57,58,61,62,65-67,70,71,129,130,133,134,137-139,142,143
       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 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_l3 cdp_l3
    invpcid_single intel_ppin ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi
    flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm
    cqm mpx rdt_a avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt avx512cd
    avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
    cqm_mbm_local dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req pku
    ospke avx512_vnni flush_l1d arch_capabilities

  /proc/cpuinfo cache data
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_base =   443

SPECrate®2017_fp_peak = Not Run

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

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

Platform Notes (Continued)

```
      cache size : 25344 KB

 From numactl --hardware  WARNING: a numactl 'node' might or might not correspond to a
 physical chip.
   available: 8 nodes (0-7)
   node 0 cpus: 0 1 2 5 6 9 10 14 15 72 73 74 77 78 81 82 86 87
   node 0 size: 193148 MB
   node 0 free: 192890 MB
   node 1 cpus: 3 4 7 8 11 12 13 16 17 75 76 79 80 83 84 85 88 89
   node 1 size: 193507 MB
   node 1 free: 193131 MB
   node 2 cpus: 18 19 20 23 24 27 28 32 33 90 91 92 95 96 99 100 104 105
   node 2 size: 193532 MB
   node 2 free: 193326 MB
   node 3 cpus: 21 22 25 26 29 30 31 34 35 93 94 97 98 101 102 103 106 107
   node 3 size: 193532 MB
   node 3 free: 193335 MB
   node 4 cpus: 36 37 38 41 42 45 46 50 51 108 109 110 113 114 117 118 122 123
   node 4 size: 193532 MB
   node 4 free: 193341 MB
   node 5 cpus: 39 40 43 44 47 48 49 52 53 111 112 115 116 119 120 121 124 125
   node 5 size: 193532 MB
   node 5 free: 192541 MB
   node 6 cpus: 54 55 56 59 60 63 64 68 69 126 127 128 131 132 135 136 140 141
   node 6 size: 193532 MB
   node 6 free: 193287 MB
   node 7 cpus: 57 58 61 62 65 66 67 70 71 129 130 133 134 137 138 139 142 143
   node 7 size: 193529 MB
   node 7 free: 193330 MB
   node distances:
   node   0   1   2   3   4   5   6   7
     0:  10  11  21  21  21  21  21  21
     1:  11  10  21  21  21  21  21  21
     2:  21  21  10  11  21  21  21  21
     3:  21  21  11  10  21  21  21  21
     4:  21  21  21  21  10  11  21  21
     5:  21  21  21  21  11  10  21  21
     6:  21  21  21  21  21  21  10  11
     7:  21  21  21  21  21  21  11  10

 From /proc/meminfo
    MemTotal:       1584995212 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 From /etc/*release* /etc/*version*
    os-release:
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_base =   443

SPECrate®2017_fp_peak = Not Run

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

Platform Notes (Continued)

```
      NAME="Red Hat Enterprise Linux"
      VERSION="8.0 (Ootpa)"
      ID="rhel"
      ID_LIKE="fedora"
      VERSION_ID="8.0"
      PLATFORM_ID="platform:el8"
      PRETTY_NAME="Red Hat Enterprise Linux 8.0 (Ootpa)"
      ANSI_COLOR="0;31"
   redhat-release: Red Hat Enterprise Linux release 8.0 (Ootpa)
   system-release: Red Hat Enterprise Linux release 8.0 (Ootpa)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:8.0:ga

 uname -a:
   Linux localhost.localdomain 4.18.0-80.el8.x86_64 #1 SMP Wed Mar 13 12:02:46 UTC 2019
   x86_64 x86_64 x86_64 GNU/Linux

 Kernel self-reported vulnerability status:

 CVE-2018-3620 (L1 Terminal Fault):        Not affected
 Microarchitectural Data Sampling:         No status reported
 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: __user pointer sanitization
 CVE-2017-5715 (Spectre variant 2):        Mitigation: Enhanced IBRS, IBPB: conditional,
                                           RSB filling

 run-level 3 Oct 30 00:03

 SPEC is set to: /home/cpu2017-1.1.0-ic19.1.1
    Filesystem       Type  Size  Used Avail Use% Mounted on
    /dev/sda4        xfs   839G   22G  817G   3% /home

 From /sys/devices/virtual/dmi/id
    BIOS:    Lenovo -[TEE156L-2.61]- 05/20/2020
    Vendor:  Lenovo
    Product: ThinkSystem SR850P -[7D2HCTO1WW]-
    Product Family: ThinkSystem
    Serial:  1234567890

 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:
    48x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933
```

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_base =   443

SPECrate®2017_fp_peak = Not Run

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

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

Platform Notes (Continued)

```
 (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
C                  | 519.lbm_r(base) 538.imagick_r(base) 544.nab_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++                | 508.namd_r(base) 510.parest_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++, C             | 511.povray_r(base) 526.blender_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.
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++, C, Fortran | 507.cactuBSSN_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.
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.
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.
------------------------------------------------------------------------------


==============================================================================
```

(Continued on next page)

SPEC CPU®2017 Floating Point Rate Result

Lenovo Global Technology

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_base = 443

SPECrate®2017_fp_peak = Not Run

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

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

Compiler Version Notes (Continued)

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


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

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Fortran benchmarks:
`ifort`

Benchmarks using both Fortran and C:
`ifort icc`

Benchmarks using both C and C++:
`icpc icc`

Benchmarks using Fortran, C, and C++:
`icpc icc ifort`

Base Portability Flags

503.bwaves_r: `-DSPEC_LP64`
507.cactuBSSN_r: `-DSPEC_LP64`
508.namd_r: `-DSPEC_LP64`

(Continued on next page)

Lenovo Global Technology

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_base = 443

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Oct-2020

Hardware Availability: Jun-2020

Software Availability: Apr-2020

Base Portability Flags (Continued)

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:
```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

C++ benchmarks:
```
-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:
```
-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-auto -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using both Fortran and C:
```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs
-align array32byte -auto -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Lenovo Global Technology

ThinkSystem SR850P
(2.60 GHz, Intel Xeon Gold 6240L)

SPECrate®2017_fp_base =   443

SPECrate®2017_fp_peak = Not Run

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

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

Base Optimization Flags (Continued)

Benchmarks using both C and C++:
```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using Fortran, C, and C++:
```
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs
-align array32byte -auto -mbranches-within-32B-boundaries
-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/Intel-ic19.1u1-official-linux64_revA.html
http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-CLX-I.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-CLX-I.xml

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

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