



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkSystem SR850 V3
(2.10 GHz, Intel Xeon Platinum 8468H)

SPECspeed®2017_fp_base = 386

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9017

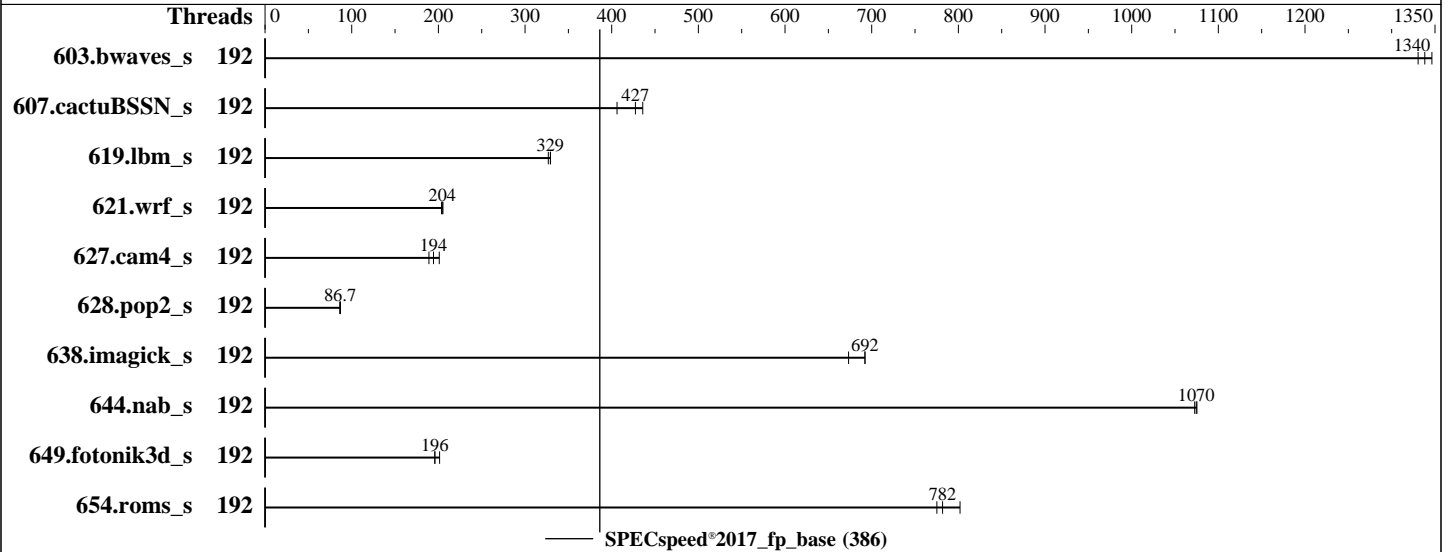
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Oct-2023

Hardware Availability: Jun-2023

Software Availability: Dec-2022



Hardware

CPU Name: Intel Xeon Platinum 8468H
 Max MHz: 3800
 Nominal: 2100
 Enabled: 192 cores, 4 chips
 Orderable: 2,4 chips
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 105 MB I+D on chip per chip
 Other: None
 Memory: 2 TB (32 x 64 GB 2Rx4 PC5-4800B-R)
 Storage: 1 x 960 GB M.2 NVME SSD
 Other: None

Software

OS: Red Hat Enterprise Linux 9.1 (Plow) (x86_64)
 Kernel 5.14.0-162.6.1.el9_1.x86_64
 Compiler: C/C++: Version 2023.0 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2023.0 of Intel Fortran Compiler for Linux;
 Parallel: Yes
 Firmware: Lenovo BIOS Version RSE109C 3.10 released Sep-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



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Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	192	<u>44.1</u>	<u>1340</u>	43.8	1350	44.3	1330							
607.cactuBSSN_s	192	<u>39.0</u>	<u>427</u>	38.2	436	41.0	406							
619.lbm_s	192	15.9	329	16.0	327	<u>15.9</u>	<u>329</u>							
621.wrf_s	192	<u>64.7</u>	<u>204</u>	65.0	204	64.4	205							
627.cam4_s	192	46.9	189	<u>45.6</u>	<u>194</u>	44.1	201							
628.pop2_s	192	<u>137</u>	<u>86.7</u>	137	87.0	138	86.3							
638.imagick_s	192	21.4	673	<u>20.8</u>	<u>692</u>	20.8	692							
644.nab_s	192	<u>16.3</u>	<u>1070</u>	16.2	1080	16.3	1070							
649.fotonik3d_s	192	<u>46.5</u>	<u>196</u>	45.3	201	46.5	196							
654.roms_s	192	20.3	775	<u>20.1</u>	<u>782</u>	19.6	802							

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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-ic2023.0-2/lib/intel64:/home/cpu2017-1.1.9-ic2023.0-2/je5.0.1-64"
MALLOC_CONF = "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.
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

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Platform Notes (Continued)

DCU IP Prefetcher set to Disabled
Hyper-Threading set to Disabled
Adjacent Cache Prefetch set to Disabled

Sysinfo program /home/cpu2017-1.1.9-ic2023.0-2/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost.localdomain Tue Oct 10 21:04:47 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 250 (250-12.e19_1)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
16. tuned-adm active
17. sysctl
18. /sys/kernel/mm/transparent_hugepage
19. /sys/kernel/mm/transparent_hugepage/khugepaged
20. OS release
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS

1. uname -a
Linux localhost.localdomain 5.14.0-162.6.1.el9_1.x86_64 #1 SMP PREEMPT_DYNAMIC Fri Sep 30 07:36:03 EDT 2022
x86_64 x86_64 x86_64 GNU/Linux

2. w
21:04:47 up 3:32, 1 user, load average: 47.90, 133.03, 152.48
USER TTY LOGIN@ IDLE JCPU PCPU WHAT
root tty1 17:36 3:27m 1.00s 0.00s /bin/bash ./run_SR850V3.sh

3. Username
From environment variable \$USER: root

4. ulimit -a
real-time non-blocking time (microseconds, -R) unlimited
core file size (blocks, -c) 0
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0

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Platform Notes (Continued)

```

file size                (blocks, -f) unlimited
pending signals          (-i) 8255614
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) 8255614
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
/bin/bash ./run_SR850V3.sh
/bin/bash ./run_SR850V3.sh
runcpu --nobuild --action validate --define default-platform-flags -c
  ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=192 --tune base -o all --define drop_caches
  fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
  ic2023.0-lin-sapphirerapids-speed-20221201.cfg --define cores=192 --tune base --output_format all --define
  drop_caches --nopower --runmode speed --tune base --size refspeed fpspeed --nopreenv --note-preenv
  --logfile $SPEC/tmp/CPU2017.169/templogs/preenv.fpspeed.169.0.log --lognum 169.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2023.0-2

```

```

-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) Platinum 8468H
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping      : 8
microcode     : 0x2b0004d0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores     : 48
siblings      : 48
4 physical ids (chips)
192 processors (hardware threads)
physical id 0: core ids 0-47
physical id 1: core ids 0-47
physical id 2: core ids 0-47
physical id 3: core ids 0-47
physical id 0: apicids
0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72
,74,76,78,80,82,84,86,88,90,92,94
physical id 1: apicids
128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,1
80,182,184,186,188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222
physical id 2: apicids
256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286,288,290,292,294,296,298,300,302,304,306,3
08,310,312,314,316,318,320,322,324,326,328,330,332,334,336,338,340,342,344,346,348,350
physical id 3: apicids
384,386,388,390,392,394,396,398,400,402,404,406,408,410,412,414,416,418,420,422,424,426,428,430,432,434,4
36,438,440,442,444,446,448,450,452,454,456,458,460,462,464,466,468,470,472,474,476,478

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Platform Notes (Continued)

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 2.37.4:

```

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):                 192
On-line CPU(s) list:   0-191
Vendor ID:              GenuineIntel
BIOS Vendor ID:        Intel(R) Corporation
Model name:             Intel(R) Xeon(R) Platinum 8468H
BIOS Model name:       Intel(R) Xeon(R) Platinum 8468H
CPU family:             6
Model:                  143
Thread(s) per core:    1
Core(s) per socket:    48
Socket(s):              4
Stepping:               8
BogoMIPS:               4200.00
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 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 cat_l2 cdp_l3 invpcid_single
                        intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi
                        flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms
                        invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt
                        clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1
                        xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect
                        avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts avx512vbmi umip pku
                        ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg
                        tme avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote movdiri movdir64b
                        enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr amx_bf16
                        avx512_fp16 amx_tile amx_int8 flush_lld arch_capabilities

Virtualization:        VT-x
L1d cache:             9 MiB (192 instances)
L1i cache:             6 MiB (192 instances)
L2 cache:              384 MiB (192 instances)
L3 cache:              420 MiB (4 instances)
NUMA node(s):          4
NUMA node0 CPU(s):    0-47
NUMA node1 CPU(s):    48-95
NUMA node2 CPU(s):    96-143
NUMA node3 CPU(s):    144-191
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:    Not affected
Vulnerability Mds:     Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSE-eIBRS SW

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Platform Notes (Continued)

sequence
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	9M	12	Data	1	64	1	64
L1i	32K	6M	8	Instruction	1	64	1	64
L2	2M	384M	16	Unified	2	2048	1	64
L3	105M	420M	15	Unified	3	114688	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

```

available: 4 nodes (0-3)
node 0 cpus: 0-47
node 0 size: 515747 MB
node 0 free: 513074 MB
node 1 cpus: 48-95
node 1 size: 516085 MB
node 1 free: 514731 MB
node 2 cpus: 96-143
node 2 size: 516046 MB
node 2 free: 514792 MB
node 3 cpus: 144-191
node 3 size: 516063 MB
node 3 free: 514847 MB
node distances:
node  0  1  2  3
  0: 10 21 21 21
  1: 21 10 21 21
  2: 21 21 10 21
  3: 21 21 21 10

```

9. /proc/meminfo

MemTotal: 2113477552 kB

10. who -r

run-level 3 Oct 10 17:32

11. Systemd service manager version: systemd 250 (250-12.el9_1)

Default Target	Status
multi-user	degraded

12. Failed units, from systemctl list-units --state=failed

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
* NetworkManager-wait-online.service	loaded	failed	failed	Network Manager Wait Online
* systemd-sysctl.service	loaded	failed	failed	Apply Kernel Variables

13. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chronyd crond dbus-broker getty@ irqbalance kdump low-memory-monitor mdmonitor microcode nis-domainname rhsmcertd rsyslog rtkit-daemon selinux-autorelabel-mark sshd sssd systemd-network-generator tuned udisks2 upower

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Platform Notes (Continued)

```

enabled-runtime  systemd-remount-fs
disabled         canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot
                 chrony-wait console-getty cpupower debug-shell firewalld kvm_stat
                 man-db-restart-cache-update nftables pesign rdisc rhsm rhsm-facts rpmdb-rebuild
                 serial-getty@ sshd-keygen@ systemd-boot-check-no-failures systemd-pstore systemd-sysext
generated        ntp_sync
indirect         sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo

```

```

-----
14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd3,gpt3)/boot/vmlinuz-5.14.0-162.6.1.el9_1.x86_64
root=UUID=43a7f1b1-66b0-456a-8c3f-451305a00281
ro
resume=UUID=58delc40-542f-453b-bb6a-6bbd3510660a

```

```

-----
15. cpupower frequency-info
analyzing CPU 0:
  Unable to determine current policy
  boost state support:
    Supported: yes
    Active: yes

```

```

-----
16. tuned-adm active
  Current active profile: throughput-performance

```

```

-----
17. 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                 40
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                  10
vm.watermark_boost_factor     15000
vm.watermark_scale_factor     10
vm.zone_reclaim_mode          0

```

```

-----
18. /sys/kernel/mm/transparent_hugepage
defrag          always defer defer+madvice [madvice] never
enabled        [always] madvice never
hpage_pmd_size 2097152
shmem_enabled  always within_size advise [never] deny force

```

```

-----
19. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs 60000
defrag                 1

```

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Platform Notes (Continued)

max_ptes_none	511
max_ptes_shared	256
max_ptes_swap	64
pages_to_scan	4096
scan_sleep_millisecs	10000

 20. OS release
 From /etc/*-release /etc/*-version
 os-release Red Hat Enterprise Linux 9.1 (Plow)
 redhat-release Red Hat Enterprise Linux release 9.1 (Plow)
 system-release Red Hat Enterprise Linux release 9.1 (Plow)

 21. Disk information
 SPEC is set to: /home/cpu2017-1.1.9-ic2023.0-2

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p4	xf	819G	28G	791G	4%	/home

 22. /sys/devices/virtual/dmi/id
 Vendor: Lenovo
 Product: ThinkSystem SR850 V3
 Product Family: ThinkSystem
 Serial: None

 23. dmidecode
 Additional information from dmidecode 3.3 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:
 7x Samsung M321R8GA0BB0-CQKDG 64 GB 2 rank 4800
 3x Samsung M321R8GA0BB0-CQKEG 64 GB 2 rank 4800
 3x Samsung M321R8GA0BB0-CQKMG 64 GB 2 rank 4800
 6x Samsung M321R8GA0BB0-CQKVE 64 GB 2 rank 4800
 13x Samsung M321R8GA0BB0-CQKVG 64 GB 2 rank 4800

 24. BIOS
 (This section combines info from /sys/devices and dmidecode.)
 BIOS Vendor: Lenovo
 BIOS Version: RSE109C-3.10
 BIOS Date: 09/26/2023
 BIOS Revision: 3.10
 Firmware Revision: 3.10

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 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
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Compiler Version Notes (Continued)

C++, C, Fortran | 607.cactuBSSN_s(base)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

=====
Fortran | 603.bwaves_s(base) 649.fotonik3d_s(base) 654.roms_s(base)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

=====
Fortran, C | 621.wrf_s(base) 627.cam4_s(base) 628.pop2_s(base)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
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

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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

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Lenovo Global Technology

SPECspeed®2017_fp_base = 386

ThinkSystem SR850 V3
(2.10 GHz, Intel Xeon Platinum 8468H)

SPECspeed®2017_fp_peak = Not Run

CPU2017 License: 9017

Test Date: Oct-2023

Test Sponsor: Lenovo Global Technology

Hardware Availability: Jun-2023

Tested by: Lenovo Global Technology

Software Availability: Dec-2022

Base Portability Flags (Continued)

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 -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:

```
-m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsapphirerapids -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 -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using Fortran, C, and C++:

```
-m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-mprefer-vector-width=512 -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-AA.html>
http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64_revB.2023-10-11.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-Eaglestream-AA.xml>
http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64_revB.2023-10-11.xml



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