# SPEC CPU®2017 Floating Point Speed Result

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## xFusion

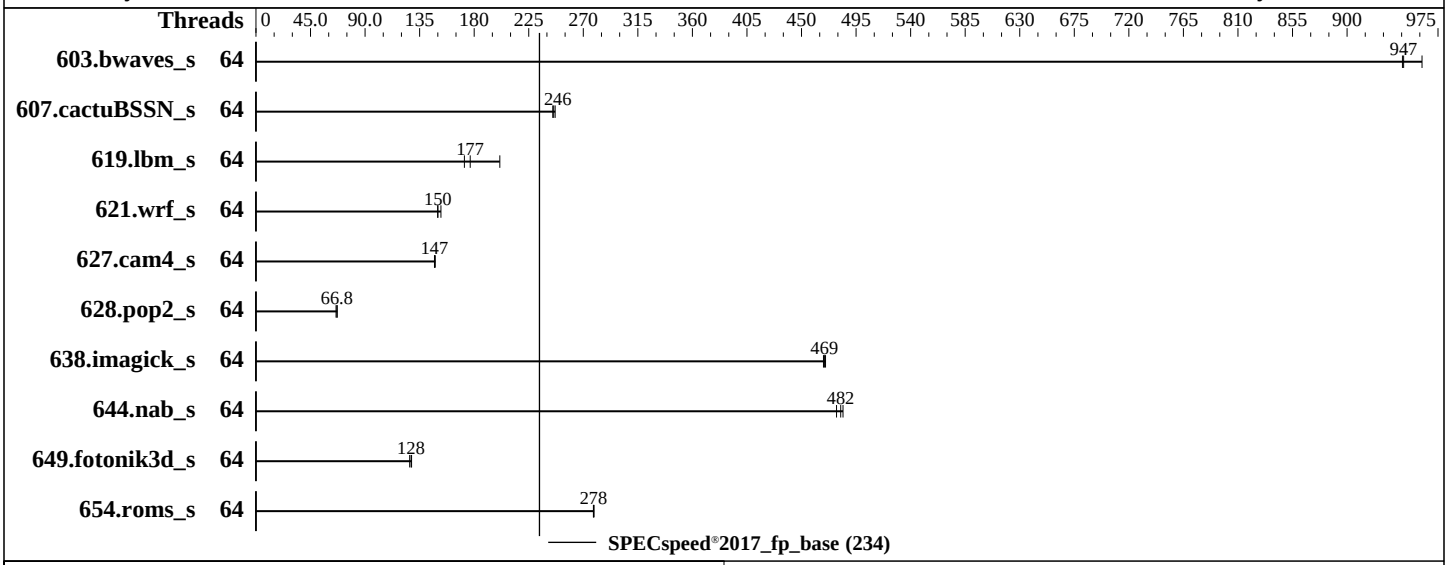
FusionServer 2488H V6 (Intel Xeon Gold 6328H)

SPECspeed®2017_fp_base = 234

SPECspeed®2017_fp_peak = Not Run

**CPU2017 License:** 6488
**Test Sponsor:** xFusion
**Tested by:** xFusion

**Test Date:** May-2023
**Hardware Availability:** Sep-2020
**Software Availability:** Dec-2022




## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon Gold 6328H |
| Max MHz: | 4300 |
| Nominal: | 2800 |
| Enabled: | 64 cores, 4 chips |
| Orderable: | 1,2,4 chips |
| Cache L1: | 32 KB I + 32 KB D on chip per core |
| L2: | 1 MB I+D on chip per core |
| L3: | 22 MB I+D on chip per chip |
| Other: | None |
| Memory: | 1536 GB (48 x 32 GB 2Rx8 PC4-3200AA-R, running at 2933) |
| Storage: | 1 x 480 GB SATA SSD |
| Other: | None |

## Software

| | |
|---|---|
| OS: | Red Hat Enterprise Linux 8.4 (Ootpa)<br>4.18.0-305.el8.x86_64 |
| Compiler: | C/C++: Version 2023.0 of Intel oneAPI DPC++/C++ Compiler for Linux;<br>Fortran: Version 2023.0 of Intel Fortran Compiler for Linux; |
| Parallel: | Yes |
| Firmware: | Version 1.03 Released Feb-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 | 64 | **62.3** | **947** | 61.3 | 962 | 62.4 | 946 | | | | | | | |
| 607.cactuBSSN_s | 64 | 68.1 | 245 | 67.5 | 247 | **67.9** | **246** | | | | | | | |
| 619.lbm_s | 64 | **29.6** | **177** | 30.5 | 172 | 26.0 | 201 | | | | | | | |
| 621.wrf_s | 64 | **88.1** | **150** | 88.2 | 150 | 86.7 | 153 | | | | | | | |
| 627.cam4_s | 64 | **60.2** | **147** | 59.9 | 148 | 60.2 | 147 | | | | | | | |
| 628.pop2_s | 64 | 180 | 66.1 | **178** | **66.8** | 177 | 67.0 | | | | | | | |
| 638.imagick_s | 64 | 30.7 | 470 | 30.8 | 468 | **30.8** | **469** | | | | | | | |
| 644.nab_s | 64 | **36.2** | **482** | 36.5 | 479 | 36.1 | 484 | | | | | | | |
| 649.fotonik3d_s | 64 | 71.9 | 127 | **71.2** | **128** | 71.0 | 128 | | | | | | | |
| 654.roms_s | 64 | 56.6 | 278 | 56.5 | 279 | **56.5** | **278** | | | | | | | |

**SPECspeed®2017_fp_base = 234**

**SPECspeed®2017_fp_peak = Not Run**

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/speccpu/lib/intel64:/home/speccpu/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:
Performance Profile Set to Load Balance
Hyper-Threading Set to Disabled

Sysinfo program /home/speccpu/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost.localdomain Tue May 23 13:09:15 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 239 (239-45.el8)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent_hugepage
18. /sys/kernel/mm/transparent_hugepage/khugepaged
19. OS release
20. Kernel self-reported vulnerability status, from /sys/devices/system/cpu/vulnerabilities
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS
------------------------------------------------------------

------------------------------------------------------------
1. 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

------------------------------------------------------------
2. w
   13:09:15 up  2:07,  1 user,  load average: 2.29, 4.81, 3.17
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     pts/0    172.166.0.211    11:11    1:49m  1.05s  0.03s -bash

------------------------------------------------------------
3. Username
  From environment variable $USER:  root

------------------------------------------------------------
4. ulimit -a
  core file size          (blocks, -c) unlimited
  data seg size           (kbytes, -d) unlimited
  scheduling priority             (-e) 0
  file size               (blocks, -f) unlimited
```

**(Continued on next page)**

## Platform Notes (Continued)

```
   pending signals                 (-i) 6185168
   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) 6185168
   virtual memory          (kbytes, -v) unlimited
   file locks                      (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize 18
 /usr/sbin/sshd -D
   -oCiphers=aes256-gcm@openssh.com,chacha20-poly1305@openssh.com,aes256-ctr,aes256-cbc,aes128-gcm@openssh.co
   m,aes128-ctr,aes128-cbc
   -oMACs=hmac-sha2-256-etm@openssh.com,hmac-sha1-etm@openssh.com,umac-128-etm@openssh.com,hmac-sha2-512-etm@
   openssh.com,hmac-sha2-256,hmac-sha1,umac-128@openssh.com,hmac-sha2-512...
 sshd: root [priv]
 sshd: root@pts/0
 -bash
 bash test-speed-cpu2017.sh
 runcpu --define default-platform-flags -c ic2023.0-lin-core-avx512-speed-20221201.cfg --define cores=64
   --tune base -o all --define drop_caches fpspeed
 runcpu --define default-platform-flags --configfile ic2023.0-lin-core-avx512-speed-20221201.cfg --define
   cores=64 --tune base --output_format all --define drop_caches --nopower --runmode speed --tune base --size
   refspeed fpspeed --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.005/templogs/preenv.fpspeed.005.0.log --lognum 005.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) Gold 6328H CPU @ 2.80GHz
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 85
    stepping        : 11
    microcode       : 0x7002302
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
    cpu cores       : 16
    siblings        : 16
    4 physical ids (chips)
    64 processors (hardware threads)
    physical id 0: core ids 0-15
    physical id 1: core ids 0-15
    physical id 2: core ids 0-15
    physical id 3: core ids 0-15
    physical id 0: apicids 0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30
    physical id 1: apicids 32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62
    physical id 2: apicids 64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94
    physical id 3: apicids 96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126
  Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
  virtualized systems.  Use the above data carefully.

------------------------------------------------------------
7. lscpu
```

**(Continued on next page)**

## Platform Notes (Continued)

```
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):              64
  On-line CPU(s) list: 0-63
  Thread(s) per core:  1
  Core(s) per socket:  16
  Socket(s):           4
  NUMA node(s):        4
  Vendor ID:           GenuineIntel
  BIOS Vendor ID:      Intel(R) Corporation
  CPU family:          6
  Model:               85
  Model name:          Intel(R) Xeon(R) Gold 6328H CPU @ 2.80GHz
  BIOS Model name:     Intel(R) Xeon(R) Gold 6328H CPU @ 2.80GHz
  Stepping:            11
  CPU MHz:             1215.278
  CPU max MHz:         4300.0000
  CPU min MHz:         1000.0000
  BogoMIPS:            5600.00
  Virtualization:      VT-x
  L1d cache:           32K
  L1i cache:           32K
  L2 cache:            1024K
  L3 cache:            22528K
  NUMA node0 CPU(s):   0-15
  NUMA node1 CPU(s):   16-31
  NUMA node2 CPU(s):   32-47
  NUMA node3 CPU(s):   48-63
  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 ssbd mba ibrs ibpb
                       stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust
                       bmi1 hle avx2 smep bmi2 erms invpcid 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 avx512_bf16 dtherm ida arat pln pts
                       pku ospke avx512_vnni md_clear flush_l1d arch_capabilities

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 4 nodes (0-3)
  node 0 cpus: 0-15
  node 0 size: 385163 MB
  node 0 free: 383962 MB
  node 1 cpus: 16-31
  node 1 size: 387031 MB
  node 1 free: 385246 MB
  node 2 cpus: 32-47
  node 2 size: 387068 MB
  node 2 free: 384119 MB
  node 3 cpus: 48-63
  node 3 size: 387067 MB
  node 3 free: 385876 MB
  node distances:
```

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## Platform Notes (Continued)

```
  node   0   1   2   3
    0:  10  20  20  20
    1:  20  10  20  20
    2:  20  20  10  20
    3:  20  20  20  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1583442616 kB

------------------------------------------------------------
10. who -r
  run-level 3 May 23 11:01

------------------------------------------------------------
11. Systemd service manager version: systemd 239 (239-45.el8)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE      UNIT FILES
  enabled    NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd autovt@ crond
             firewalld getty@ import-state irqbalance kdump loadmodules lvm2-monitor mdmonitor microcode
             nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sshd sssd syslog tuned udisks2
  disabled   blk-availability console-getty cpupower debug-shell ebtables iprdump iprinit iprupdate kvm_stat
             nftables rdisc rhcd rhsm rhsm-facts serial-getty@ sshd-keygen@ systemd-resolved tcsd
  generated  SystemTap compile-server gcc-toolset-10-stap-server gcc-toolset-10-systemtap
             gcc-toolset-9-stap-server gcc-toolset-9-systemtap scripts startup
  indirect   sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=(hd1,gpt2)/vmlinuz-4.18.0-305.el8.x86_64
  root=/dev/mapper/rhel-root
  ro
  crashkernel=auto
  resume=/dev/mapper/rhel-swap
  rd.lvm.lv=rhel/root
  rd.lvm.lv=rhel/swap
  rhgb
  quiet

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 0:
    current policy: frequency should be within 1000 MHz and 4.30 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes

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

------------------------------------------------------------
16. sysctl
  kernel.numa_balancing               1
```

(Continued on next page)

## Platform Notes (Continued)

```
  kernel.randomize_va_space           2
  vm.compaction_proactiveness         0
  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

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

------------------------------------------------------------
18. /sys/kernel/mm/transparent_hugepage/khugepaged
  alloc_sleep_millisecs   60000
  defrag                      1
  max_ptes_none             511
  max_ptes_swap              64
  pages_to_scan            4096
  scan_sleep_millisecs    10000

------------------------------------------------------------
19. OS release
  From /etc/*-release /etc/*-version
  os-release     Red Hat Enterprise Linux 8.4 (Ootpa)
  redhat-release Red Hat Enterprise Linux release 8.4 (Ootpa)
  system-release Red Hat Enterprise Linux release 8.4 (Ootpa)

------------------------------------------------------------
20. Kernel self-reported vulnerability status, from /sys/devices/system/cpu/vulnerabilities
  itlb_multihit        Not affected
  l1tf                 Not affected
  mds                  Not affected
  meltdown             Not affected
  spec_store_bypass    Mitigation: Speculative Store Bypass disabled via prctl and seccomp
  spectre_v1           Mitigation: usercopy/swapgs barriers and __user pointer sanitization
  spectre_v2           Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
  srbds                Not affected
  tsx_async_abort      Not affected
For more information, see the Linux documentation on hardware vulnerabilities, for example
     https://www.kernel.org/doc/html/latest/admin-guide/hw-vuln/index.html

------------------------------------------------------------
21. Disk information
SPEC is set to: /home/speccpu
  Filesystem            Type  Size  Used Avail Use% Mounted on
```

(Continued on next page)

## Platform Notes (Continued)

```
  /dev/mapper/rhel-home xfs   372G   51G  321G  14% /home

 ------------------------------------------------------------
 22. /sys/devices/virtual/dmi/id
     Vendor:         xFusion
     Product:        2488H V6
     Product Family: Cedar Island
     Serial:         2102313CWY10MA000018

 ------------------------------------------------------------
 23. dmidecode
   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:
     48x Samsung M393A4K40DB3-CWE 32 GB 2 rank 3200, configured at 2933


 ------------------------------------------------------------
 24. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       Byosoft Corporation
    BIOS Version:      1.03
    BIOS Date:         11/25/2022
```

## 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.
--------------------------------------------------------------------------------------------------------------

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

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## Compiler Version Notes (Continued)

```
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
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 -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -L/usr/local/jemalloc64-5.0.1/lib
-ljemalloc

Fortran benchmarks:
-m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp

**(Continued on next page)**

## Base Optimization Flags (Continued)

Fortran benchmarks (continued):
-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 -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -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 -xCORE-AVX512 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-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/Intel-ic2023-official-linux64.html
http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-CPX-V1.4.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2023-official-linux64.xml
http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-CPX-V1.4.xml


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


Tested with SPEC CPU®2017 v1.1.9 on 2023-05-23 01:09:14-0400.
Report generated on 2023-06-06 19:18:04 by CPU2017 PS formatter v6716.
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