xFusion

FusionServer 5288 V7 (Intel Xeon Gold 6438Y+)

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_peak = 680</th>
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| SPECrate®2017_fp_base = 678 |

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**Cpu2017 License:** 6488  
**Test Sponsor:** xFusion

**Test Date:** Aug-2023  
**Hardware Availability:** Jan-2023

**Tested by:** xFusion  
**Software Availability:** Dec-2022

### Hardware

- **CPU Name:** Intel Xeon Gold 6438Y+  
- **Max MHz:** 4000  
- **Nominal:** 2000  
- **Enabled:** 64 cores, 2 chips, 2 threads/core  
- **Orderable:** 1.2 chips  
- **Cache L1:** 32 KB I + 48 KB D on chip per core  
- **L2:** 2 MB I+D on chip per core  
- **L3:** 60 MB I+D on chip per chip  
- **Other:** None  
- **Memory:** 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)  
- **Storage:** 1 x 1920 GB SATA SSD  
- **Other:** None

### Software

- **OS:** Red Hat Enterprise Linux release 9.0 (Plow) 5.14.0-70.13.1.el9_0.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:** No  
- **Firmware:** Version 2.00.55 Released Mar-2023  
- **File System:** xfs  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 64-bit  
- **Peak Pointers:** 64-bit  
- **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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**Copies (680)**  
**SPECrate®2017_fp_peak (680)**

| SPECrate®2017_fp_base (678) |

### Benchmarks

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## Results Table

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</tr>
</tbody>
</table>

### 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/spec2017-1.1.9-ic2023/lib/intel64:/home/spec2017-1.1.9-ic2023/je5.0.1-64"
- **Malloc_CONF** = "retain:true"

### General Notes

- Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
- memory using Red Hat Enterprise Linux 8.4
- 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.

(Continued on next page)
xFusion
FusionServer 5288 V7 (Intel Xeon Gold 6438Y+)

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

Test Date: Aug-2023
Hardware Availability: Jan-2023
Software Availability: Dec-2022

General Notes (Continued)

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.


Platform Notes

BIOS configuration:
Performance Profile Set to Performance
SNC Set to Enable SNC2 (2-clusters)
Sysinfo program /home/spec2017-1.1.9-ic2023/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc97bec197
running on localhost.localdomain Sat Aug 19 00:30:55 2023

SUT (System Under Test) info as seen by some common utilities.

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3. Username
4. ulimit -a
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6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 250 (250-6.el9_0)
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 5.14.0-70.13.1.el9_0.x86_64 #1 SMP PREEMPT Thu Apr 14 12:42:38 EDT 2022 x86_64 x86_64 GNU/Linux

2. w
00:30:55 up 6:04, 2 users, load average: 32.38, 96.75, 115.90
USER   TTY     LOGIN@  IDLE   JCPU    PCPU WHAT
root   tty1    18:26    6:03m  1.31s  0.06s -bash

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

xFusion

FusionServer 5288 V7 (Intel Xeon Gold 6438Y+)

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

Test Date: Aug-2023
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SPECrate®2017_fp_base = 678
SPECrate®2017_fp_peak = 680

Platform Notes (Continued)

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
file size (blocks, -f) unlimited
 pending signals (-i) 2060170
 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) 2060170
 virtual memory (kbytes, -v) unlimited
 file locks (-x) unlimited

5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize 28
login -- root
-bash
-bash
runcpu --define default-platform-flags --copies 128 -c ic2023.0-lin-sapphirerapids-rate-20221201.cfg
 --define smt-on --define cores=64 --define physicalfirst --define invoke_with_interleave --define
drop_caches --tune base,peak --iterations 3 --all fprate
runcpu --define default-platform-flags --copies 128 --configfile ic2023.0-lin-sapphirerapids-rate-20221201.cfg
 --define smt-on --define cores=64 --define physicalfirst
 --define invoke_with_interleave --define drop_caches --tune base,peak --iterations 3 --output_format all
 --nopower --runmode rate --tune base:peak --size refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.224/templogs/preenv.fprate.224.0.log --lognum 224.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/spec2017-1.1.9-ic2023

6. /proc/cpuinfo
model name : Intel(R) Xeon(R) Gold 6438Y+
 vendor_id : GenuineIntel
cpu family : 6
model : 143
 stepping : 7
 microcode : 0x2b000111
 bugs : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores : 32
 siblings : 64
 2 physical ids (chips)
128 processors (hardware threads)
physical id 0: core ids 0-31
physical id 1: core ids 0-31
physical id 0: apicids 0-63
physical id 1: apicids 128-191

(Continued on next page)
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.

------------------------------------------------------------

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): 128
On-line CPU(s) list: 0-127
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel(R) Corporation
Model name: Intel(R) Xeon(R) Gold 6438Y+
BIOS Model name: Intel(R) Xeon(R) Gold 6438Y+
CPU family: 6
Model: 143
Thread(s) per core: 2
Core(s) per socket: 32
Socket(s): 2
Stepping: 7
BogoMIPS: 4000.00
Flags:

Virtualization: VT-x
L1d cache: 3 MiB (64 instances)
L1i cache: 2 MiB (64 instances)
L2 cache: 128 MiB (64 instances)
L3 cache: 120 MiB (2 instances)
NUMA node(s): 4
NUMA node0 CPU(s): 0-15, 64-79
NUMA node1 CPU(s): 16-31, 80-95
NUMA node2 CPU(s): 32-47, 96-111
NUMA node3 CPU(s): 48-63, 112-127
Vulnerability Itlb multihit: Not affected
Vulnerability L1tfs: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via ptpctl
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and __user pointer sanitation
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbds: Not affected
Vulnerability Ttx async abort: Not affected

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

xFusion

FusionServer 5288 V7 (Intel Xeon Gold 6438Y+)

SPECrat®2017_fp_base = 678

SPECrat®2017_fp_peak = 680

CPU2017 License: 6488
Test Sponsor: xFusion
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Test Date: Aug-2023
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Platform Notes (Continued)

From lscpu --cache:

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<th>WAYS</th>
<th>TYPE</th>
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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, 64-79
node 0 size: 128078 MB
node 0 free: 111355 MB
node 1 cpus: 16-31, 80-95
node 1 size: 128482 MB
node 1 free: 116251 MB
node 2 cpus: 32-47, 96-111
node 2 size: 129017 MB
node 2 free: 115862 MB
node 3 cpus: 48-63, 112-127
node 3 size: 129006 MB
node 3 free: 112631 MB
node distances:

0: 10 12 21 21
1: 12 10 21 21
2: 21 21 10 12
3: 21 21 12 10

9. /proc/meminfo

MemTotal: 527444768 kB

10. who -r

run-level 3 Aug 18 18:26

11. Systemd service manager version: systemd 250 (250-6.el9_0)

Default Target         Status
multi-user            degraded

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

* sep5.service loaded failed failed systemd script to load sep5 driver at boot time

13. Services, from systemctl list-unit-files

STATE   UNIT FILES
enabled  NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chrony crond
dbus-broker getty@ irqbalance kdump lvm2-monitor mdmonitor microcode nis-domainname
rhsmcertd rsyslog selinux-autorelabel-mark sep5 sshd ssd sysstat
systemd-network-generator tuned udisks2 upower

disabled arp-ethers blk-availability 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 powertop rdisc rs-hsm rs-hsm-facts rpmdb-rebuild

(Continued on next page)
**Platform Notes (Continued)**

**14. Linux kernel boot-time arguments, from /proc/cmdline**
- `BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-70.13.1.el9_0.x86_64`
- `root=/dev/mapper/rhel-root`
- `crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M`
- `resume=/dev/mapper/rhel-swap`
- `rd.lvm.lv=rhel/root`
- `rd.lvm.lv=rhel/swap`

**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.extrfrag_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+madvise [madvise] never`
- `enabled [always] madvise 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`
- `max_ptes_none 511`
- `max_ptes_shared 256`

(Continued on next page)
Platform Notes (Continued)

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 9.0 (Plow)
redhat-release Red Hat Enterprise Linux release 9.0 (Plow)
system-release Red Hat Enterprise Linux release 9.0 (Plow)

21. Disk information
SPEC is set to: /home/spec2017-1.1.9-ic2023
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 1.7T 124G 1.6T 8% /home

22. /sys/devices/virtual/dmi/id
Vendor: XFUSION
Product: 5288 V7
Product Family: Eagle Stream
Serial: serial

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:
  16x Samsung M321R4GA3BB6-CQKDG 32 GB 2 rank 4800

24. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: XFUSION
BIOS Version: 2.00.55
BIOS Date: 03/07/2023
BIOS Revision: 0.55

Compiler Version Notes

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) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201
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## xFusion

**FusionServer 5288 V7 (Intel Xeon Gold 6438Y+)**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>SPECrate\textsuperscript{®} 2017_fp_base</td>
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<tr>
<td>SPECrate\textsuperscript{®} 2017_fp_peak</td>
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### Compiler Version Notes (Continued)

<table>
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<tr>
<th>Compilation Language</th>
<th>Benchmark(s)</th>
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<tbody>
<tr>
<td>C++, C</td>
<td>511.povray_r(base, peak) 526.blender_r(base, peak)</td>
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<tr>
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<td>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.</td>
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<td>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.</td>
</tr>
<tr>
<td>C++, C, Fortran</td>
<td>507.cactuBSSN_r(base, peak)</td>
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</tr>
<tr>
<td>Fortran</td>
<td>503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base, peak)</td>
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</tr>
<tr>
<td>Fortran, C</td>
<td>521.wrf_r(base, peak) 527.cam4_r(base, peak)</td>
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</tbody>
</table>

### Base Compiler Invocation

**C benchmarks:**
- icx

**C++ benchmarks:**
- icpx

**Fortran benchmarks:**
- ifx

**Benchmarks using both Fortran and C:**
- ifx icx

**Benchmarks using both C and C++:**
- icpx icx

(Continued on next page)
SPEC CPU®2017 Floating Point Rate Result
Copyright 2017-2023 Standard Performance Evaluation Corporation

xFusion
FusionServer 5288 V7 (Intel Xeon Gold 6438Y+)

<table>
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<tr>
<th>CPU2017 License: 6488</th>
<th>Test Date: Aug-2023</th>
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<tr>
<td>Test Sponsor: xFusion</td>
<td>Hardware Availability: Jan-2023</td>
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<tr>
<td>Tested by: xFusion</td>
<td>Software Availability: Dec-2022</td>
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</tbody>
</table>

SPECrate®2017_fp_base = 678
SPECrate®2017_fp_peak = 680

Base Compiler Invocation (Continued)

Benchmarks using Fortran, C, and C++:
icpx icx ifx

Base Portability Flags

503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.ibm_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:
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-fflto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -fflto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -fflto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using both Fortran and C:
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-fflto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

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

xFusion
FusionServer 5288 V7 (Intel Xeon Gold 6438Y+)

SPECrate®2017_fp_base = 678
SPECrate®2017_fp_peak = 680

CPU2017 License: 6488
Test Sponsor: xFusion
Tested by: xFusion
Test Date: Aug-2023
Hardware Availability: Jan-2023
Software Availability: Dec-2022

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):
- Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs
- align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using both C and C++:
- w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using Fortran, C, and C++:
- w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Peak Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Benchmarks using both Fortran and C:
ifx icx

Benchmarks using both C and C++:
icpx icx

Benchmarks using Fortran, C, and C++:
icpx icx ifx

Peak Portability Flags

Same as Base Portability Flags
xFusion
FusionServer 5288 V7 (Intel Xeon Gold 6438Y+)

SPECratenoe2017_fp_base = 678
SPECratenoe2017_fp_peak = 680

CPU2017 License: 6488
Test Sponsor: xFusion
Test Date: Aug-2023
Tested by: xFusion
Hardware Availability: Jan-2023
Software Availability: Dec-2022

Peak Optimization Flags

C benchmarks:
519.lbm_r: basepeak = yes
538.imagick_r: basepeak = yes
544.nab_r: basepeak = yes

C++ benchmarks:
508.namd_r: basepeak = yes
510.parest_r: -w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids
-Ofast -ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mprefer-vector-width=512
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:
503.bwaves_r: basepeak = yes
549.fotonik3d_r: basepeak = yes
554.roms_r: -w -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using both Fortran and C:
521.wrf_r: -w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int
-mprefer-vector-width=512 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
527.cam4_r: basepeak = yes

Benchmarks using both C and C++:
511.povray_r: -w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse

(Continued on next page)
<table>
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<th>SPECrate\textsuperscript{\textregistered}2017\textsubscript{fp}_base = 678</th>
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<td>Software Availability: Dec-2022</td>
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</table>

### Peak Optimization Flags (Continued)

- 511.povray\_r (continued):
  - -funroll-loops -qopt-mem-layout-trans=4 -Wno-implicit-int
  - -mprefer-vector-width=512 -ljemalloc
  - -L/\texttt{usr/local/jemalloc64-5.0.1/lib}

- 526.blender\_r
  - -basepeak = yes

Benchmarks using Fortran, C, and C++:

```
-w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-\texttt{-L/\texttt{usr/local/jemalloc64-5.0.1/lib}}
```

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/Intel-ic2023-official-linux64.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/Intel-ic2023-official-linux64.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\textsuperscript{*2017} v1.1.9 on 2023-08-18 12:30:54-0400.
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