

## SPEC CPU®2017 Floating Point Rate Result

IEIT Systems Co., Ltd.  
NF8260M7 (Intel Xeon Gold 6416H)

**SPECrate®2017_fp_base = 906**  
**SPECrate®2017_fp_peak = 922**

### Hardware

- **CPU Name:** Intel Xeon Gold 6416H  
- **Max MHz:** 4200  
- **Nominal:** 2200  
- **Enabled:** 72 cores, 4 chips, 2 threads/core  
- **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:** 45 MB I+D on chip per chip  
- **Other:** None  
- **Memory:** 1 TB (32 x 32 GB 2Rx4 PC5-4800B-R)  
- **Storage:** 1 x 1 TB NVME SSD  
- **Other:** None

### Software

- **OS:** Red Hat Enterprise Linux 9.0 (Plow)  
- **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 03.00.00 released Dec-2022  
- **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.

### Test Details

**Test Date:** Sep-2023  
**Hardware Availability:** Apr-2023  
**Software Availability:** Dec-2022  
**CPU2017 License:** 3358  
**Test Sponsor:** IEIT Systems Co., Ltd.  
**Tested by:** IEIT Systems Co., Ltd.
**SPEC CPU®2017 Floating Point Rate Result**

IEIT Systems Co., Ltd.

NF8260M7 (Intel Xeon Gold 6416H)

SPECrare®2017_fp_base = 906

SPECrare®2017_fp_peak = 922

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**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>496</td>
<td>461</td>
<td>496</td>
<td>461</td>
<td></td>
</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/cpu2017/lib/intel64:/home/cpu2017/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)

(Continued on next page)
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General Notes (Continued)

...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.


Platform Notes

BIOS configuration:
ENERGY_PERF_BIAS_CFG mode set to Performance
Hardware Prefetch set to Disable
VT Support set to Disable
Sub NUMA Cluster (SNC) set to SNC4

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7e5c36ae2c92cc97bec197
running on localhost.localdomain Fri Sep 15 13:02:38 2023

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

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...
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Platform Notes (Continued)

3. Username
   From environment variable $USER: root

4. ulimit -a
   real-time non-blocking time: unlimited
   core file size: unlimited
   data seg size: unlimited
   scheduling priority: unlimited
   file size: unlimited
   pending signals: unlimited
   max locked memory: unlimited
   max memory size: unlimited
   open files: unlimited
   pipe size: unlimited
   POSIX message queues: unlimited
   real-time priority: unlimited
   stack size: unlimited
   cpu time: unlimited
   max user processes: unlimited
   virtual memory: unlimited
   file locks: unlimited

5. sysinfo process ancestry
   /usr/lib/systemd/systemd --switched-root --system --deserialize 30
   login -- root
   -bash
   sh reportable-ic2023.0-lin-sapphirerapids-rate-smt-on-20221201.sh
   runcpu --nobuild --action validate --define default-platform-flags --define numcopies=144 --c
   ic2023.0-lin-sapphirerapids-rate-20221201.cfg --define smt-on --define cores=72 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
   --runmode rate --tune base:peak --size refrate fprate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.004/templogs/preenv.fprate.004.0.log --lognum 004.0 --from_runcpu 2
   specperl $SPEC/bin/sysinfo
   $SPEC = /home/cpu2017

6. /proc/cpuinfo
   model name: Intel(R) Xeon(R) Gold 6416H
   vendor_id: GenuineIntel
   cpu family: 6
   model: 143
   stepping: 8
   microcode: 0x2b000130
   bugs: spectre_v1 spectre_v2 spec_store_bypass swaps
   cpu cores: 18
   siblings: 36
   4 physical ids (chips)
   144 processors (hardware threads)
   physical id 0: core ids 0-17

(Continued on next page)
Platform Notes (Continued)

physical id 1: core ids 0-17
physical id 2: core ids 0-17
physical id 3: core ids 0-17
physical id 0: apicids 0-35
physical id 1: apicids 128-163
physical id 2: apicids 256-291
physical id 3: apicids 384-419

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: 52 bits physical, 57 bits virtual
Byte Order: Little Endian
CPU(s): 144
On-line CPU(s) list: 0-143
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel(R) Corporation
Model name: Intel(R) Xeon(R) Gold 6416H
BIOS Model name: Intel(R) Xeon(R) Gold 6416H
CPU family: 6
Model: 143
Thread(s) per core: 2
Core(s) per socket: 18
Socket(s): 4
Stepping: 8
Frequency boost: enabled
CPU max MHz: 2201.0000
CPU min MHz: 800.0000
BogoMIPS: 4400.00
Flags:
  fpu vme de pae mce cx8 apic sep mtrr pge mca cmov pat pse36
  clflush dts acpi mmx fxsr asse sse2 ht tm pbe syscall nx pdpe1gb
  rdtsdp rdscp lm constant_tsc arch_perfmon pebs bts rep_good
  nopl xtopology
  nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64
  ds_cpl 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 ia64_lm abm
  3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cat_pdp_l3
  invpcid_single
  intel_pmm cdp_l2 snb_mba ibrs ibpb stibp ibrs_enhanced
  fsbgbase
  tsc_adjust bmi1 avx2 smep bmi2 2mb hram invpcid cogn rdt_a
  avx512f avx512dq rdseed adx smap avx512sfma clflushopt clwb
  intel_pt avx512cd sha ni
  avx512bw avx512vl xsaveopt xsavevc xgetbv1 xsaveEDIUM
  cqm_llc cqm_occup_llc
  cqm_mmm getTotal cqm_mmm_local split_lock_detector avx_vnni
  avx512_bf16
  wbnoinvd dtherm ida arat pln pts avx512vbm1 umip pkpu osppw
  waitpkg
  avx512_vbmi2 gfn i vaes vpcm16dq avx512_vnni avx512_bitalg
tme
  avx512_vpopcntdq 1a57 rdpid bus_lock_detector cidemote movdiri
  movdir64b
  enqcmd fssm md_clear serialize txslidtrk pconfiq arch_lbr
  avx512_fp16
  amx_tile flush_l1d arch_capabilities

L1d cache: 3.4 MiB (72 instances)
L1i cache: 2.3 MiB (72 instances)
L2 cache: 144 MiB (72 instances)
L3 cache: 180 MiB (4 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0-8,72-80
NUMA node1 CPU(s): 9-17,81-89
NUMA node2 CPU(s): 18-26,90-98
NUMA node3 CPU(s): 27-35,99-107

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CPU2017 License: 3358
Test Sponsor: IEIT Systems Co., Ltd.
Tested by: IEIT Systems Co., Ltd.
Test Date: Sep-2023
Hardware Availability: Apr-2023
Software Availability: Dec-2022

Platform Notes (Continued)

NUMA node4 CPU(s): 36-44,108-116
NUMA node5 CPU(s): 45-53,117-125
NUMA node6 CPU(s): 54-62,126-134
NUMA node7 CPU(s): 63-71,135-143
Vulnerability Itlb multihit: Not affected
Vulnerability L1t: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbd: Not affected
Vulnerability Tax async abort: Not affected

From lscpu --cache:

<table>
<thead>
<tr>
<th>NAME</th>
<th>ONE-SIZE</th>
<th>ALL-SIZE</th>
<th>WAYS</th>
<th>TYPE</th>
<th>LEVEL</th>
<th>SETS</th>
<th>PHY-LINE</th>
<th>COHERENCY-SIZE</th>
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</thead>
<tbody>
<tr>
<td>L1d</td>
<td>48K</td>
<td>3.4M</td>
<td>12</td>
<td>Data</td>
<td>1</td>
<td>64</td>
<td>1</td>
<td>64</td>
</tr>
<tr>
<td>L1i</td>
<td>32K</td>
<td>2.3M</td>
<td>8</td>
<td>Instruction</td>
<td>1</td>
<td>64</td>
<td>1</td>
<td>64</td>
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<tr>
<td>L2</td>
<td>2M</td>
<td>144M</td>
<td>16</td>
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<td>2</td>
<td>2048</td>
<td>1</td>
<td>64</td>
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<tr>
<td>L3</td>
<td>45M</td>
<td>180M</td>
<td>15</td>
<td>Unified</td>
<td>3</td>
<td>49152</td>
<td>1</td>
<td>64</td>
</tr>
</tbody>
</table>

-----------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
available: 8 nodes (0-7)
node 0 cpus: 0-8,72-80
node 0 size: 128589 MB
node 0 free: 117686 MB
node 1 cpus: 9-17,81-89
node 1 size: 128983 MB
node 1 free: 121287 MB
node 2 cpus: 18-26,90-98
node 2 size: 129020 MB
node 2 free: 121119 MB
node 3 cpus: 27-35,99-107
node 3 size: 129020 MB
node 3 free: 121301 MB
node 4 cpus: 36-44,108-116
node 4 size: 129020 MB
node 4 free: 120758 MB
node 5 cpus: 45-53,117-125
node 5 size: 129020 MB
node 5 free: 121335 MB
node 6 cpus: 54-62,126-134
node 6 size: 129020 MB
node 6 free: 121369 MB
node 7 cpus: 63-71,135-143
node 7 size: 129000 MB
node 7 free: 121346 MB
node distances:
node 0 1 2 3 4 5 6 7
0: 10 12 21 21 21 21 21
1: 12 10 21 21 21 21 21
2: 21 21 10 12 21 21 21
3: 21 21 12 10 21 21 21
4: 21 21 21 21 10 12 21
5: 21 21 21 21 12 10 21
6: 21 21 21 21 21 10 12
7: 21 21 21 21 21 12 10

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Platform Notes (Continued)

---
9. /proc/meminfo
   MemTotal: 1056433160 kB
---
10. who -r
    run-level 3 Sep 15 06:55
---
11. Systemd service manager version: systemd 250 (250-6.e19_0)
    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
---
13. Services, from systemctl list-unit-files
    STATE UNIT FILES
    enabled NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chrony crond
dbus-broker firewalld getty@ irqbalance kdump lvm2-monitor microcode nis-domainname
rhsmcertd rsyslog selinux-autorelabel-mark sshd ssd systemd-network-generator upower
    disabled blk-availability canberra-system-bootup canberra-system-shutdown
canberra-system-shutdown-reboot chrony-wait console-getty cpupower debug-shell kvm_stat
man-db-restart-cache-update nftables rdisc rhsm rhash-acts rpmdb-rebuild serial-getty@
sshd-keygen@ systemd-boot-check-no-failures systemd-pstore systemd-sysext
    indirect ssd-autofs ssd-kcm ssd-ns ssd-pac ssd-pam ssd-ssh ssd-sudo
---
14. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=(hd0,msdos1)/vmlinuz-5.14.0-70.13.1.el9_0.x86_64
    root=/dev/mapper/rhel-root
    ro
    resume=/dev/mapper/rhel-swap
    rd.lvm.lv=rhel/root
    rd.lvm.lv=rhelswap
---
15. cpupower frequency-info
    analyzing CPU 0:
    current policy: frequency should be within 800 MHz and 2.20 GHz.
The governor *performance* may decide which speed to use
    within this range.
    boost state support:
    Supported: yes
    Active: yes
---
16. 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 20
---
(Continued on next page)
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Platform Notes (Continued)

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 60
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_shared 256
   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 9.0 (Plow)
   redhat-release Red Hat Enterprise Linux release 9.0 (Plow)
   system-release Red Hat Enterprise Linux release 9.0 (Plow)

20. Disk information
   SPEC is set to: /home/cpu2017
   Filesystem Type Size Used Avail Use% Mounted on
   /dev/mapper/rhel-home xfs 819G 157G 663G 20% /home

21. /sys/devices/virtual/dmi/id
   Vendor: IEI
   Product: NF8260-M7-A0-R0-00
   Product Family: Not specified
   Serial: 21B545466

22. 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:
   32x Micron MTC20F2085S1RC48BA1 32 GB 2 rank 4800

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### Platform Notes (Continued)

23. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
- **BIOS Vendor:** American Megatrends International, LLC.  
- **BIOS Version:** 03.00.00  
- **BIOS Date:** 12/16/2022

---

### Compiler Version Notes

```ini
[Spec_CPU2017]  
C | 519.lbm_r(base, peak) 538.imagick_r(base, peak) 544.nab_r(base, peak)  
---
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201  
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---

C++ | 508.namd_r(base, peak) 510.parest_r(base, peak)  
---
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---

C++, C | 511.povray_r(base, peak) 526.blender_r(base, peak)  
---
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---

C++, C, Fortran | 507.cactuBSSN_r(base, peak)  
---
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---

Fortran | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base, peak)  
---
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201  
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---

Fortran, C | 521.wrf_r(base, peak) 527.cam4_r(base, peak)  
---
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.0.0 Build 20221201  
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```

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Standard Performance Evaluation Corporation (info@spec.org)  
https://www.spec.org/
SPEC CPU®2017 Floating Point Rate Result

IEIT Systems Co., Ltd.
NF8260M7 (Intel Xeon Gold 6416H)

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base = 906</th>
<th>SPECrate®2017_fp_peak = 922</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU2017 License: 3358</td>
<td>Test Date: Sep-2023</td>
</tr>
<tr>
<td>Test Sponsor: IEIT Systems Co., Ltd.</td>
<td>Hardware Availability: Apr-2023</td>
</tr>
<tr>
<td>Tested by: IEIT Systems Co., Ltd.</td>
<td>Software Availability: Dec-2022</td>
</tr>
</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

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.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:
- w -std=c11 -m64 -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

(Continued on next page)
IEIT Systems Co., Ltd.  
NF8260M7 (Intel Xeon Gold 6416H)  

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Base Optimization Flags (Continued)

C++ benchmarks:
- 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:
- 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:
- 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

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

(Continued on next page)
Peak Compiler Invocation (Continued)

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

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 -W1,-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 -W1,-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

(Continued on next page)
**SPEC CPU®2017 Floating Point Rate Result**  
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### Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

521.wrf_r: basepeak = yes
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
-funroll-loops -gopt-mem-layout-trans=4 -Wno-implicit-int
-mprefer-vector-width=512 -ljemalloc
-L/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
- gopt-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

---

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

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/Inspur-Platform-Settings-intel-V3.3.xml

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