**Supermicro**  
SYS-2029BT-DNC0R  
(X11DPT-B , Intel Xeon Gold 6242R)

<table>
<thead>
<tr>
<th>Spec CPU®2017 Floating Point Rate Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_fp_base = 265</td>
</tr>
<tr>
<td>SPECrate®2017_fp_peak = 280</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro  
**Hardware Availability:** Apr-2020  
**Software Availability:** Apr-2020  

**Test Date:** Jun-2020  

<table>
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<tr>
<th>SPEC copies</th>
<th>SPECrate®2017_fp_base</th>
<th>SPECrate®2017_fp_peak</th>
</tr>
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</table>
| 503.bwaves_r | 80  
| 507.cactuBSSN_r | 80  
| 508.namd_r | 80  
| 510.parest_r | 80  
| 511.povray_r | 80  
| 519.lbm_r | 80  
| 521.wrf_r | 80  
| 526.blender_r | 80  
| 527.cam4_r | 80  
| 538.imagick_r | 80  
| 544.nab_r | 80  
| 549.fotonik3d_r | 80  
| 554.roms_r | 80  

**Hardware**

- **CPU Name:** Intel Xeon Gold 6242R  
- **Max MHz:** 4100  
- **Nominal:** 3100  
- **Enabled:** 40 cores, 2 chips, 2 threads/core  
- **Orderable:** 1,2 chips  
- **Cache L1:** 32 KB I + 32 KB D on chip per core  
- **L2:** 1 MB I+D on chip per core  
- **L3:** 35.75 MB I+D on chip per chip  
- **Other:** None  
- **Memory:** 384 GB (12 x 32 GB 2Rx4 PC4-3200AA-R, running at 2933)  
- **Storage:** 1 x 400 GB NVMe SSD  
- **Other:** None

**Software**

- **OS:** Red Hat Enterprise Linux release 8.2 (Ootpa) 4.18.0-193.el8.x86_64  
- **Compiler:** C/C++: Version 19.1.1.217 of Intel C/C++ Build 20200306  
  Compiler for Linux;  
  Fortran: Version 19.1.1.217 of Intel Fortran Build 20200306  
  Compiler for Linux  
- **Parallel:** No  
- **Firmware:** Version 3.3 released Feb-2020  
- **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 set to prefer performance at the cost of additional power usage
## SPEC CPU®2017 Floating Point Rate Result

**Supermicro**

SYS-2029BT-DNC0R  
(X11DPT-B , Intel Xeon Gold 6242R)

**SPECrate®2017_fp_base = 265**

**SPECrate®2017_fp_peak = 280**

### Results Table

<table>
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<td>129</td>
</tr>
</tbody>
</table>

**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: Versioan 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 = "/root/cpu2017/lib/intel64:/root/cpu2017/je5.0.1-64"  
MALLOC_CONF = "retain:true"
SPEC CPU®2017 Floating Point Rate Result

Supermicro
SYS-2029BT-DNC0R
(X11DPT-B, Intel Xeon Gold 6242R)

SPECrate®2017_fp_base = 265
SPECrate®2017_fp_peak = 280

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
Files system 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

Platform Notes

BIOS Settings:
Power Technology = Custom
Power Performance Tuning = BIOS Controls EPB
ENERGY_PERF_BIAS_CFG mode = Extreme Performance
SNC = Enable
Stale AtoS = Disable
IMC Interleaving = 1-way Interleave
Patrol Scrub = Disable

Sysinfo program /root/cpu2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on localhost.localdomain Thu Jun 18 10:33:24 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 6242R CPU @ 3.10GHz
    2 "physical id"s (chips)
    80 "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 : 20
siblings : 40
physical 0: cores 0 1 2 3 5 6 8 10 12 13 16 17 18 19 20 21 26 27 28 29

(Continued on next page)
Supermicro
SYS-2029BT-DNC0R
(X11DPT-B , Intel Xeon Gold 6242R)

SPECraten®2017_fp_base = 265
SPECraten®2017_fp_peak = 280

CPU2017 License: 001176
Test Date: Jun-2020
Test Sponsor: Supermicro
Hardware Availability: Apr-2020
Tested by: Supermicro
Software Availability: Apr-2020

Platform Notes (Continued)

physical 1: cores 1 2 3 5 6 10 12 13 16 17 18 19 20 21 24 25 26 27 28 29

From lsccpu:

Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 80
On-line CPU(s) list: 0-79
Thread(s) per core: 2
Core(s) per socket: 20
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6242R CPU @ 3.10GHz
Stepping: 7
CPU MHz: 3799.992
CPU max MHz: 4100.0000
CPU min MHz: 1200.0000
BogoMIPS: 6200.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 36608K
NUMA node0 CPU(s): 0-3,6,7,10-12,16,40-43,46,47,50-52,56
NUMA node1 CPU(s): 4,5,8,9,13-15,17-19,44,45,48,49,53-55,57-59
NUMA node2 CPU(s): 20-22,25,28-30,34-36,60-62,65,68-70,74-76
NUMA node3 CPU(s): 23,24,26,27,31-33,37-39,63,64,66,67,71-73,77-79
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 arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
aperfmonf 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 cdp_l3 invpced_single
intel_ppin ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vmi flexpriority ept
vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cmp mpx rdt_a
avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt avx512cd avx512bw avx512vl
xsaveopt xsavec xgetbv1 xsave xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local
dtherm ida arat pln pts pku ospke avx512_vnni md_clear flush_l1d arch_capabilities

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.

(Continued on next page)
Supermicro
SYS-2029BT-DNC0R
(X11DPT-B, Intel Xeon Gold 6242R)

SPEC CPU® 2017 Floating Point Rate Result

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SPECrade®2017_fp_base = 265
SPECrade®2017_fp_peak = 280

CPU2017 License: 001176
Test Sponsor: Supermicro
Test Date: Jun-2020
Tested by: Supermicro
Hardware Availability: Apr-2020
Software Availability: Apr-2020

Platform Notes (Continued)

available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 6 7 10 11 12 16 40 41 42 43 46 47 50 51 52 56
node 0 size: 95346 MB
node 0 free: 84539 MB
node 1 cpus: 4 5 8 9 13 14 15 17 18 19 44 45 48 49 53 54 55 57 58 59
node 1 size: 96763 MB
node 1 free: 88322 MB
node 2 cpus: 20 21 22 25 28 29 30 34 35 36 60 61 62 65 68 69 70 74 75 76
node 2 size: 96735 MB
node 2 free: 88350 MB
node 3 cpus: 23 24 26 27 31 32 33 37 38 39 63 64 66 67 71 72 73 77 78 79
node 3 size: 96762 MB
node 3 free: 88256 MB
node distances:
node 0 1 2 3
0: 10 11 21 21
1: 11 10 21 21
2: 21 21 10 11
3: 21 21 11 10

From /proc/meminfo
MemTotal: 394863148 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*

os-release:
NAME="Red Hat Enterprise Linux"
VERSION="8.2 (Ootpa)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="8.2"
PLATFORM_ID="platform:el8"
PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

uname -a:
Linux localhost.localdomain 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58 UTC 2020
x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

itlb_multihit:
KVM: Mitigation: Split huge pages
CVE-2018-3620 (L1 Terminal Fault):
Not affected

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

Supermicro
SYS-2029BT-DNC0R
(X11DPT-B, Intel Xeon Gold 6242R)

SPEC®2017_fp_base = 265
SPEC®2017_fp_peak = 280

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

Platform Notes (Continued)

Microarchitectural Data Sampling: Not affected
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: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
tsx_async_abort:
Mitigation: Clear CPU buffers; SMT vulnerable

run-level 3 Jun 18 03:35

SPEC is set to: /root/cpu2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p4 xfs 367G 60G 308G 17% /

From /sys/devices/virtual/dmi/id
BIOS: American Megatrends Inc. 3.3 02/22/2020
Vendor: Supermicro
Product: Super Server
Serial: 0123456789

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:
12x NO DIMM NO DIMM
12x SK Hynix HMA84GR7CJR4N-XN 32 GB 2 rank 3200

(End of data from sysinfo program)
Sysinfo incorrectly parsed dmidecode output. Configured memory speed is 2933.

Compiler Version Notes

==============================================================================
C               | 519.lbm_r(base, peak) 538.imagick_r(base, peak)
| 544.nab_r(base, peak)
------------------------------------------------------------------------------
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, peak) 510.parest_r(base, peak)

(Continued on next page)
Supermicro
SYS-2029BT-DNC0R
(X11DPT-B, Intel Xeon Gold 6242R)

SPECrater®2017_fp_base = 265
SPECrater®2017_fp_peak = 280

Compiler Version Notes (Continued)

Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
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------------------------------------------------------------------------------
C++, C  | 511.povray_r(base) 526.blender_r(base, peak)
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  | 511.povray_r(peak)
Intel(R) C++ 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 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.

------------------------------------------------------------------------------
C++, C  | 511.povray_r(base) 526.blender_r(base, peak)
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------------------------------------------------------------------------------
C++, C  | 511.povray_r(peak)
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Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
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(Continued on next page)
Supermicro
SYS-2029BT-DNC0R
(X11DPT-B , Intel Xeon Gold 6242R)

SPECrates®
SPECrates®

SPEC CPU®2017 Floating Point Rate Result
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SPECrates®

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CPU2017 License: 001176
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Test Date: Jun-2020
Hardware Availability: Apr-2020
Software Availability: Apr-2020

Compiler Version Notes (Continued)

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

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.
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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.

==============================================================================
Fortran         | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
                | 554.roms_r(base, peak)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.1.1.217 Build 20200306
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==============================================================================
Fortran, C      | 521.wrf_r(base) 527.cam4_r(base, peak)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
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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.

==============================================================================
Fortran, C      | 521.wrf_r(peak)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
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Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
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(Continued on next page)
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CPU2017 License: 001176
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Test Date: Jun-2020
Hardware Availability: Apr-2020
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Compiler Version Notes (Continued)

Fortran, C | 521.wrf_r(base) 527.cam4_r(base, peak)

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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
SPEC CPU®2017 Floating Point Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

Supermicro
SYS-2029BT-DNC0R (X11DPT-B , Intel Xeon Gold 6242R)

SPECrates
SPECrates®2017_fp_base = 265
SPECrates®2017_fp_peak = 280

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

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:
-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

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### Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

- `align array32byte -auto -mbranches-within-32B-boundaries`  
- `-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

Benchmarks using both C and C++:

- `-m64 -gnextgen -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 -gnextgen -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`

### Peak 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`
SPEC CPU®2017 Floating Point Rate Result

Supermicro
SYS-2029BT-DNC0R
(X11DPT-B, Intel Xeon Gold 6242R)

SPECrate®2017_fp_base = 265
SPECrate®2017_fp_peak = 280

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

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 -m64 -gnextgen
-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:
503.bwaves_r: -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

549.fotonik3d_r: basepeak = yes
554.roms_r: Same as 503.bwaves_r

Benchmarks using both Fortran and C:
521.wrf_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512 -O3
-ipo -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-nostandard-realloc-lhs -align array32byte -auto

(Continued on next page)
Supermicro
SYS-2029BT-DNC0R
(X11DPT-B, Intel Xeon Gold 6242R)

SPECrate®2017_fp_base = 265
SPECrate®2017_fp_peak = 280

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Peak Optimization Flags (Continued)

521.wrf_r (continued):
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

527.cam4_r: basepeak = yes

Benchmarks using both C and C++:

511.povray_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512 -O3
-ipo -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-CLX-revG.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/Supermicro-Platform-Settings-V1.2-CLX-revG.xml

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

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