### SPEC CPU®2017 Floating Point Rate Result

**Supermicro**

SYS-2029BT-HNTR  
(X11DPT-B, Intel Xeon Platinum 8268)

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base</th>
<th>SPECrate®2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>275</td>
<td>294</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro  
**Test Date:** Jun-2020  
**Hardware Availability:** Sep-2019  
**Software Availability:** Apr-2020

<table>
<thead>
<tr>
<th>Software</th>
<th>Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS: Red Hat Enterprise Linux release 8.2</td>
<td>CPU Name: Intel Xeon Platinum 8268</td>
</tr>
<tr>
<td>Compiler: C/C++: Version 19.1.1.217 of Intel C/C++ Build 20200306</td>
<td>Max MHz: 3900</td>
</tr>
<tr>
<td>Compiler for Linux: Fortran: Version 19.1.1.217 of Intel Fortran Build 20200306</td>
<td>Nominal: 2900</td>
</tr>
<tr>
<td>File System: xfs</td>
<td>Enabled: 48 cores, 2 chips, 2 threads/core</td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
<td>Orderable: 1,2 chips</td>
</tr>
<tr>
<td>Base Pointers: 64-bit</td>
<td>Cache L1: 32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>Peak Pointers: 64-bit</td>
<td>L2: 1 MB I+D on chip per core</td>
</tr>
<tr>
<td>Other: jemalloc memory allocator V5.0.1</td>
<td>L3: 35.75 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Power Management: BIOS set to prefer performance at the cost of additional power usage</td>
<td>Other: None</td>
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<td>385</td>
<td>522</td>
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<tr>
<td>507.cactuBSSN_r</td>
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<td>508.namd_r</td>
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<td>549.fotonik3d_r</td>
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<tr>
<td>554.roms_r</td>
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<td>102</td>
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</table>

**Hardware**

- **CPU Name:** Intel Xeon Platinum 8268
- **Max MHz:** 3900
- **Nominal:** 2900
- **Enabled:** 48 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
- **Compiler:** C/C++: Version 19.1.1.217 of Intel C/C++ Build 20200306
- **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
## Results Table

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

**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: Version 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"
```
Supermicro
SYS-2029BT-HNTR
(X11DPT-B , Intel Xeon Platinum 8268)

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

SPECrate®2017_fp_base = 275
SPECrate®2017_fp_peak = 294

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

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 295195f888a3d7edbble6e46a485a0011
running on localhost.localdomain Sat Jun 20 15:53:40 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) Platinum 8268 CPU @ 2.90GHz
 2 "physical id"s (chips)
 96 "processors"
cores, siblings (Caution: counting these is hv and system dependent. The following
excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 24
siblings : 48
physical 0: cores 0 1 2 3 4 5 6 9 10 11 12 13 16 17 18 19 20 21 24 25 26 27 28 29

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

Supermicro  
SYS-2029BT-HNTR  
(X11DPT-B, Intel Xeon Platinum 8268)

SPECrate®2017_fp_base = 275  
SPECrate®2017_fp_peak = 294

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

Test Date: Jun-2020  
Hardware Availability: Sep-2019  
Software Availability: Apr-2020

From lscpu:
Architecture: x86_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 96  
On-line CPU(s) list: 0-95  
Thread(s) per core: 2  
Core(s) per socket: 24  
Socket(s): 2  
NUMA node(s): 4  
Vendor ID: GenuineIntel  
CPU family: 6  
Model: 85  
Model name: Intel(R) Xeon(R) Platinum 8268 CPU @ 2.90GHz  
Stepping: 7  
CPU MHz: 3500.013  
CPU max MHz: 3900.0000  
CPU min MHz: 1200.0000  
BogoMIPS: 5800.00  
Virtualization: VT-x  
L1d cache: 32K  
L1i cache: 32K  
L2 cache: 1024K  
L3 cache: 36608K  
NUMA node0 CPU(s): 0-3,7,8-14,18-20,48-51,55,56,60-62,66-68  
NUMA node1 CPU(s): 4-6,9-11,15-17,21-23,52-54,57-59,63-65,69-71  
NUMA node2 CPU(s): 24-27,31-33,37-39,43,44,72-75,79-81,85-87,91,92  
NUMA node3 CPU(s): 28-30,34-36,40-42,45-47,76-78,82-84,88-90,93-95  
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 aperfmperf 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 ebpx cat_l3 cdp_l3 invpcid_single intel_pinn ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vmvi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mxp rdt_a avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt avx512cd avx512bw avx512vl xsaveopt xsaves xsavec xgetbv1 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

/platform/cpuid data

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

(Continued on next page)
Platform Notes (Continued)

available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3 7 8 12 13 14 18 19 20 48 49 50 51 55 56 60 61 62 66 67 68
node 0 size: 95345 MB
node 0 free: 82941 MB
node 1 cpus: 4 5 6 9 10 11 15 16 17 21 22 23 52 53 54 57 58 59 63 64 65 69 70 71
node 1 size: 96762 MB
node 1 free: 86894 MB
node 2 cpus: 24 25 26 27 31 32 33 37 38 39 43 44 72 73 74 75 79 80 81 85 86 87 91 92
node 2 size: 96762 MB
node 2 free: 86879 MB
node 3 cpus: 28 29 30 34 35 36 40 41 42 45 46 47 76 77 78 82 83 84 88 90 93 94 95
node 3 size: 96734 MB
node 3 free: 86933 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:       394859620 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)
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 20 08:01

SPEC is set to: /root/cpu2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/nvme0n1p4 xfs 367G 66G 302G 18% /

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-HNTR
(X11DPT-B, Intel Xeon Platinum 8268)

| SPECrate®2017_fp_base = 275 |
| SPECrate®2017_fp_peak = 294 |

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

Test Date: Jun-2020
Hardware Availability: Sep-2019
Software Availability: Apr-2020

Compiler Version Notes (Continued)

| 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(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. |

| Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.1.1.217 Build 20200306 |
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| 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) |

| 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 |
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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. |
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| 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. |

(Continued on next page)
Supermicro
SYS-2029BT-HNTR
(X11DPT-B, Intel Xeon Platinum 8268)

SPECrater®2017_fp_base = 275
SPECrater®2017_fp_peak = 294

Compiler Version Notes (Continued)

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.

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)

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) 64, Version 19.1.1.217 Build 20200306
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Fortran, C | 521.wrf_r(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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(Continued on next page)
Supermicro
SYS-2029BT-HNTR
(X11DPT-B, Intel Xeon Platinum 8268)

SPECrater®2017_fp_base = 275
SPECrater®2017_fp_peak = 294

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

Test Date: Jun-2020
Hardware Availability: Sep-2019
Software Availability: Apr-2020

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Compiler Version Notes (Continued)

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

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.
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
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Fortran, C | 521.wrf_r(peak)

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.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.1.1.217 Build 20200306
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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
Supermicro
SYS-2029BT-HNTR (X11DPT-B, Intel Xeon Platinum 8268)

SPECRate®2017_fp_base = 275
SPECRate®2017_fp_peak = 294

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 -fue-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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Spec CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Supermicro
SYS-2029BT-HNTR
(X11DPT-B, Intel Xeon Platinum 8268)

SPECrate®2017_fp_base = 275
SPECrate®2017_fp_peak = 294

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

Test Date: Jun-2020
Hardware Availability: Sep-2019
Software Availability: Apr-2020

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++:
-\(m64\) -\(n\)extgen -\(s\)td=c11
-\(W1\), -\(p\)lugin-opt=-x86-branches-within-32B-boundaries -\(W1\), -z,muldefs
-\(f\)use-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-\(f\)unroll-loops -\(q\)opt-mem-layout-trans=4
-\(L/\)usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using Fortran, C, and C++:
-\(m64\) -\(n\)extgen -\(s\)td=c11
-\(W1\), -\(p\)lugin-opt=-x86-branches-within-32B-boundaries -\(W1\), -z,muldefs
-\(f\)use-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-\(f\)unroll-loops -\(q\)opt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-\(q\)opt-prefetch -ffinite-math-only
-\(q\)opt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs
-\(a\)lign array32byte -\(a\)uto -\(m\)branches-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
### 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 -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:

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

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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