



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3

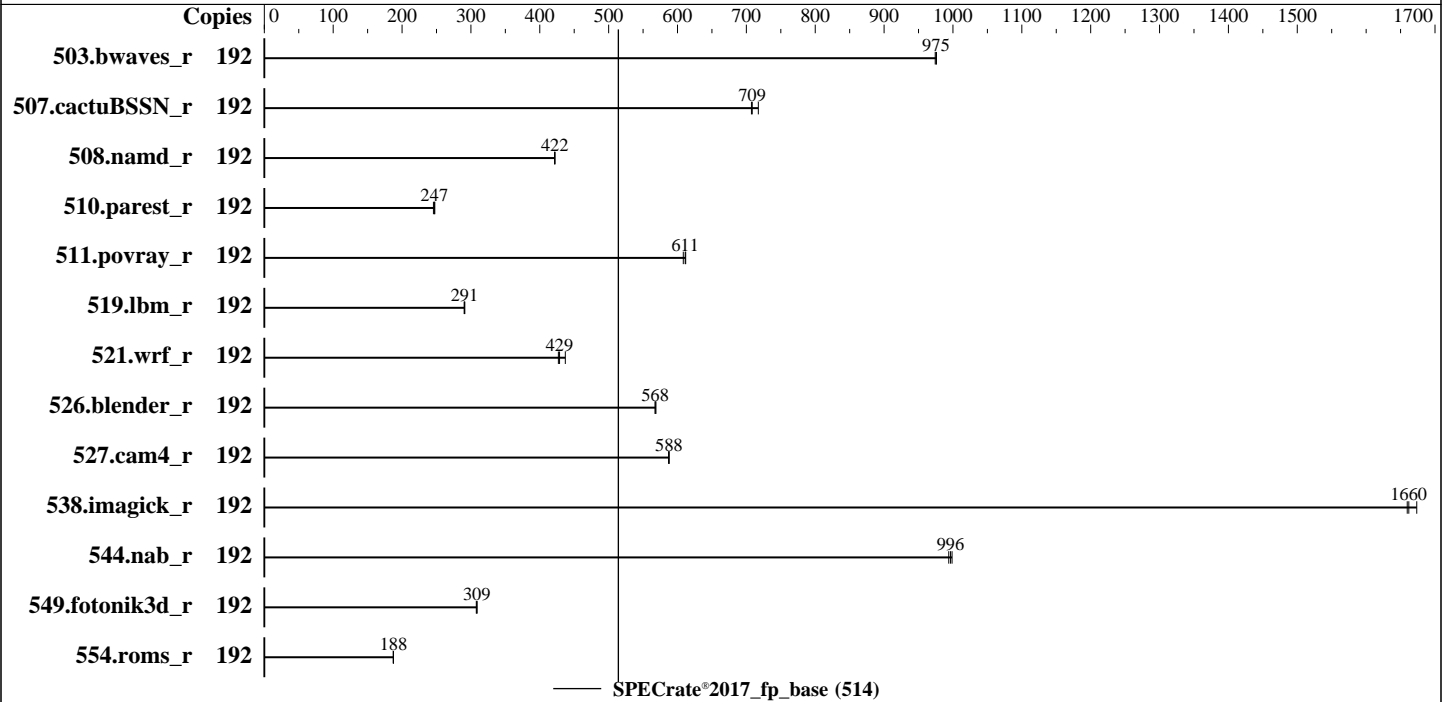
Test Sponsor: HPE

Tested by: HPE

Test Date: May-2022

Hardware Availability: Feb-2022

Software Availability: Dec-2020



Hardware

CPU Name: Intel Xeon Gold 6252N
 Max MHz: 3600
 Nominal: 2300
 Enabled: 96 cores, 4 chips, 2 threads/core
 Orderable: 1, 2, 4 chip(s)
 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: 1536 GB (48 x 32 GB 2Rx4 PC4-2933Y-R, running at 2666)
 Storage: 1 x 800 GB SAS SSD
 Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP2 (x86_64)
 Kernel 5.3.18-22-default
 Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux;
 Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux;
 Parallel: No
 Firmware: HPE BIOS Version U34 v2.62 02/23/2022 released Feb-2022
 File System: btrfs
 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 set to prefer performance at the cost of additional power usage



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: May-2022
Hardware Availability: Feb-2022
Software Availability: Dec-2020

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|-----------------|--------|-------------|------------|-------------|------------|-------------|-------------|--------|---------|-------|---------|-------|---------|-------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 503.bwaves_r | 192 | 1976 | 974 | 1973 | 976 | 1974 | 975 | | | | | | | |
| 507.cactuBSSN_r | 192 | 343 | 709 | 344 | 707 | 339 | 717 | | | | | | | |
| 508.namd_r | 192 | 432 | 422 | 432 | 422 | 433 | 422 | | | | | | | |
| 510.parest_r | 192 | 2045 | 246 | 2029 | 248 | 2033 | 247 | | | | | | | |
| 511.povray_r | 192 | 733 | 612 | 734 | 611 | 737 | 608 | | | | | | | |
| 519.lbm_r | 192 | 697 | 290 | 696 | 291 | 695 | 291 | | | | | | | |
| 521.wrf_r | 192 | 1003 | 429 | 1007 | 427 | 984 | 437 | | | | | | | |
| 526.blender_r | 192 | 515 | 568 | 514 | 569 | 515 | 568 | | | | | | | |
| 527.cam4_r | 192 | 571 | 588 | 571 | 588 | 572 | 587 | | | | | | | |
| 538.imagick_r | 192 | 285 | 1670 | 288 | 1660 | 287 | 1660 | | | | | | | |
| 544.nab_r | 192 | 324 | 996 | 324 | 999 | 325 | 994 | | | | | | | |
| 549.fotonik3d_r | 192 | 2431 | 308 | 2425 | 309 | 2422 | 309 | | | | | | | |
| 554.roms_r | 192 | 1627 | 188 | 1626 | 188 | 1631 | 187 | | | | | | | |

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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"
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>

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"



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: May-2022

Hardware Availability: Feb-2022

Software Availability: Dec-2020

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM memory using Red Hat Enterprise Linux 8.1

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:

Workload Profile set to General Throughput Compute

Memory Patrol Scrubbing set to Disabled

LLC Prefetch set to Enabled

Last Level Cache (LLC) Dead Line Allocation set to Disabled

Enhanced Processor Performance set to Enabled

Thermal Configuration set to Maximum Cooling

Workload Profile set to Custom

Energy/Performance Bias set to Balanced Power

Sysinfo program /home/cpu2017/bin/sysinfo

Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d

running on localhost Wed May 18 20:09:57 2022

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 6252N CPU @ 2.30GHz

4 "physical id"s (chips)

192 "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 : 24

siblings : 48

physical 0: cores 0 1 2 3 4 8 9 10 11 12 13 16 17 18 19 20 21 25 26 27 28 29

physical 1: cores 0 1 2 3 4 8 9 10 11 12 13 16 17 18 19 20 21 25 26 27 28 29

physical 2: cores 0 1 2 3 4 8 9 10 11 12 13 16 17 18 19 20 21 25 26 27 28 29

physical 3: cores 0 1 2 3 4 8 9 10 11 12 13 16 17 18 19 20 21 25 26 27 28 29

From lscpu from util-linux 2.33.1:

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: May-2022
Hardware Availability: Feb-2022
Software Availability: Dec-2020

Platform Notes (Continued)

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
Address sizes:          46 bits physical, 48 bits virtual
CPU(s):                 192
On-line CPU(s) list:   0-191
Thread(s) per core:    2
Core(s) per socket:    24
Socket(s):              4
NUMA node(s):          8
Vendor ID:              GenuineIntel
CPU family:             6
Model:                  85
Model name:             Intel(R) Xeon(R) Gold 6252N CPU @ 2.30GHz
Stepping:               7
CPU MHz:                3125.377
BogoMIPS:               4600.00
Virtualization:         VT-x
L1d cache:              32K
L1i cache:              32K
L2 cache:               1024K
L3 cache:               36608K
NUMA node0 CPU(s):     0-11,96-107
NUMA node1 CPU(s):     12-23,108-119
NUMA node2 CPU(s):     24-35,120-131
NUMA node3 CPU(s):     36-47,132-143
NUMA node4 CPU(s):     48-59,144-155
NUMA node5 CPU(s):     60-71,156-167
NUMA node6 CPU(s):     72-83,168-179
NUMA node7 CPU(s):     84-95,180-191

```

```

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
aperfperf 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 fl6c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cdp_l3
invpcid_single intel_ppin 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 rtm 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 dtherm ida arat pln pts pku ospke avx512_vnni md_clear
flush_lld arch_capabilities

```

```

/proc/cpuinfo cache data
cache size : 36608 KB

```

From numactl --hardware

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: May-2022
Hardware Availability: Feb-2022
Software Availability: Dec-2020

Platform Notes (Continued)

```

WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 8 nodes (0-7)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 96 97 98 99 100 101 102 103 104 105 106 107
node 0 size: 193123 MB
node 0 free: 192450 MB
node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23 108 109 110 111 112 113 114 115 116
117 118 119
node 1 size: 193530 MB
node 1 free: 175979 MB
node 2 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 120 121 122 123 124 125 126 127 128
129 130 131
node 2 size: 193530 MB
node 2 free: 193367 MB
node 3 cpus: 36 37 38 39 40 41 42 43 44 45 46 47 132 133 134 135 136 137 138 139 140
141 142 143
node 3 size: 193530 MB
node 3 free: 193334 MB
node 4 cpus: 48 49 50 51 52 53 54 55 56 57 58 59 144 145 146 147 148 149 150 151 152
153 154 155
node 4 size: 193530 MB
node 4 free: 193361 MB
node 5 cpus: 60 61 62 63 64 65 66 67 68 69 70 71 156 157 158 159 160 161 162 163 164
165 166 167
node 5 size: 193496 MB
node 5 free: 193311 MB
node 6 cpus: 72 73 74 75 76 77 78 79 80 81 82 83 168 169 170 171 172 173 174 175 176
177 178 179
node 6 size: 193530 MB
node 6 free: 193355 MB
node 7 cpus: 84 85 86 87 88 89 90 91 92 93 94 95 180 181 182 183 184 185 186 187 188
189 190 191
node 7 size: 193528 MB
node 7 free: 193366 MB
node distances:
node  0  1  2  3  4  5  6  7
0:  10 21 31 31 31 31 31 31
1:  21 10 31 31 31 31 31 31
2:  31 31 10 21 31 31 31 31
3:  31 31 21 10 31 31 31 31
4:  31 31 31 31 10 21 31 31
5:  31 31 31 31 21 10 31 31
6:  31 31 31 31 31 31 10 21
7:  31 31 31 31 31 31 21 10

```

```

From /proc/meminfo
MemTotal: 1584946916 kB
HugePages_Total: 0

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: May-2022
Hardware Availability: Feb-2022
Software Availability: Dec-2020

Platform Notes (Continued)

Hugepagesize: 2048 kB

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

os-release:

```
NAME="SLES"
VERSION="15-SP2"
VERSION_ID="15.2"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP2"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp2"
```

uname -a:

```
Linux localhost 5.3.18-22-default #1 SMP Wed Jun 3 12:16:43 UTC 2020 (720aeba) x86_64
x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

| | |
|--|--|
| CVE-2018-12207 (iTLB Multihit): | KVM: Mitigation: Split huge pages |
| CVE-2018-3620 (L1 Terminal Fault): | Not affected |
| 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 |
| CVE-2020-0543 (Special Register Buffer Data Sampling): | Not affected |
| CVE-2019-11135 (TSX Asynchronous Abort): | Mitigation: Clear CPU buffers; SMT vulnerable |

run-level 3 May 18 19:06

SPEC is set to: /home/cpu2017

| Filesystem | Type | Size | Used | Avail | Use% | Mounted on |
|------------|-------|------|------|-------|------|------------|
| /dev/sda2 | btrfs | 743G | 18G | 724G | 3% | /home |

From /sys/devices/virtual/dmi/id

```
Vendor: HPE
Product: ProLiant DL560 Gen10
Product Family: ProLiant
Serial: CN77110DQW
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: May-2022
Hardware Availability: Feb-2022
Software Availability: Dec-2020

Platform Notes (Continued)

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 UNKNOWN NOT AVAILABLE 32 GB 2 rank 2933, configured at 2666

BIOS:

BIOS Vendor: HPE
BIOS Version: U34
BIOS Date: 02/23/2022
BIOS Revision: 2.62
Firmware Revision: 2.55

(End of data from sysinfo program)

Compiler Version Notes

=====
C | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====
C++ | 508.namd_r(base) 510.parest_r(base)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: May-2022
Hardware Availability: Feb-2022
Software Availability: Dec-2020

Compiler Version Notes (Continued)

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

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

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

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

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
ifort icx

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: May-2022

Hardware Availability: Feb-2022

Software Availability: Dec-2020

Base Compiler Invocation (Continued)

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifort

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 -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

C++ benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-mbranches-within-32B-boundaries -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -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 -ljemalloc
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL560 Gen10

(2.30 GHz, Intel Xeon Gold 6252N)

SPECrate®2017_fp_base = 514

SPECrate®2017_fp_peak = Not Run

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: May-2022

Hardware Availability: Feb-2022

Software Availability: Dec-2020

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -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  
-mbranches-within-32B-boundaries -nostandard-realloc-lhs  
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-mbranches-within-32B-boundaries -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using Fortran, C, and C++:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles  
-mbranches-within-32B-boundaries -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/HPE-Platform-Flags-Intel-V1.0-ICX-revH.html>

http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.html

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-Intel-V1.0-ICX-revH.xml>

http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml

SPEC CPU and SPECrate are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU®2017 v1.1.8 on 2022-05-18 10:39:57-0400.

Report generated on 2022-06-21 17:28:57 by CPU2017 PDF formatter v6442.

Originally published on 2022-06-21.