**SPEC CPU®2017 Floating Point Speed Result**

**Hewlett Packard Enterprise**
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

<table>
<thead>
<tr>
<th>SPECspeed®2017_fp_base</th>
<th>192</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_fp_peak</td>
<td>194</td>
</tr>
</tbody>
</table>

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

### Hardware

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon Gold 6348</td>
</tr>
<tr>
<td>Max MHz</td>
<td>3500</td>
</tr>
<tr>
<td>Nominal</td>
<td>2600</td>
</tr>
<tr>
<td>Enabled</td>
<td>56 cores, 2 chips, 2 threads/core</td>
</tr>
<tr>
<td>Orderable</td>
<td>1, 2 chip(s)</td>
</tr>
<tr>
<td>Cache L1</td>
<td>32 KB I + 48 KB D on chip per core</td>
</tr>
<tr>
<td>L2</td>
<td>1.25 MB I+D on chip per core</td>
</tr>
<tr>
<td>L3</td>
<td>42 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>2 TB (32 x 64 GB 2Rx4 PC4-3200AA-R)</td>
</tr>
<tr>
<td>Storage</td>
<td>1 x 800 GB SAS SSD, RAID 0</td>
</tr>
<tr>
<td>Other</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS</td>
<td>Red Hat Enterprise Linux 8.3 (Ootpa)</td>
</tr>
<tr>
<td>Parallel</td>
<td>Yes</td>
</tr>
<tr>
<td>Firmware</td>
<td>HPE BIOS Version I44 v1.54 11/03/2021 released Nov-2021</td>
</tr>
<tr>
<td>File System</td>
<td>xfs</td>
</tr>
<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers</td>
<td>64-bit</td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>64-bit</td>
</tr>
<tr>
<td>Other</td>
<td>jemalloc memory allocator V5.0.1 BIOS set to prefer performance at the cost of additional power usage</td>
</tr>
</tbody>
</table>

---

**Test Date:** Jan-2022
**Hardware Availability:** Nov-2021
**Software Availability:** Dec-2020
SPEC CPU®2017 Floating Point Speed Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

Copyright 2017-2022 Standard Performance Evaluation Corporation

SPECspeed®2017_fp_base = 192
SPECspeed®2017_fp_peak = 194

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>112</td>
<td>91.2</td>
<td>647</td>
<td>91.6</td>
<td>644</td>
<td><strong>91.3</strong></td>
<td>647</td>
<td>91.3</td>
<td>646</td>
<td>91.1</td>
<td>648</td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>112</td>
<td><strong>74.9</strong></td>
<td>223</td>
<td>74.8</td>
<td>223</td>
<td>75.3</td>
<td>221</td>
<td>74.9</td>
<td>223</td>
<td>75.3</td>
<td>221</td>
</tr>
<tr>
<td>619.ibm_s</td>
<td>112</td>
<td>38.4</td>
<td>137</td>
<td><strong>38.8</strong></td>
<td>135</td>
<td>40.7</td>
<td>129</td>
<td>38.4</td>
<td>137</td>
<td><strong>38.8</strong></td>
<td>135</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>112</td>
<td>82.4</td>
<td>160</td>
<td>82.3</td>
<td>161</td>
<td><strong>82.3</strong></td>
<td>161</td>
<td>82.4</td>
<td>160</td>
<td>82.3</td>
<td>161</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>112</td>
<td><strong>54.2</strong></td>
<td><strong>163</strong></td>
<td>54.0</td>
<td>164</td>
<td>54.6</td>
<td>162</td>
<td>54.2</td>
<td><strong>163</strong></td>
<td>54.0</td>
<td>164</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>112</td>
<td>146</td>
<td>81.5</td>
<td>147</td>
<td>80.8</td>
<td><strong>146</strong></td>
<td><strong>81.3</strong></td>
<td>146</td>
<td>81.5</td>
<td>147</td>
<td>80.8</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>112</td>
<td><strong>84.4</strong></td>
<td>171</td>
<td>84.3</td>
<td>171</td>
<td>84.4</td>
<td>171</td>
<td>84.4</td>
<td><strong>171</strong></td>
<td>84.3</td>
<td>171</td>
</tr>
<tr>
<td>644.nsb_s</td>
<td>112</td>
<td>42.7</td>
<td>409</td>
<td>43.3</td>
<td>404</td>
<td><strong>43.3</strong></td>
<td><strong>404</strong></td>
<td>39.2</td>
<td><strong>445</strong></td>
<td>39.5</td>
<td>443</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>112</td>
<td>84.8</td>
<td>108</td>
<td>83.8</td>
<td>109</td>
<td><strong>84.4</strong></td>
<td><strong>108</strong></td>
<td>84.7</td>
<td><strong>108</strong></td>
<td>86.8</td>
<td>105</td>
</tr>
<tr>
<td>654.roms_s</td>
<td>112</td>
<td>71.0</td>
<td>222</td>
<td>72.1</td>
<td>218</td>
<td><strong>71.1</strong></td>
<td><strong>222</strong></td>
<td>71.0</td>
<td>222</td>
<td>72.1</td>
<td>218</td>
</tr>
</tbody>
</table>

SPECspeed®2017_fp_base = 192
SPECspeed®2017_fp_peak = 194

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

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

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM
memory using Redhat Enterprise Linux 8.0
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

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

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

| SPECspeed®2017_fp_base = 192 |
| SPECspeed®2017_fp_peak = 194 |

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

General Notes (Continued)


Submitted by: "Bhatnagar, Prateek" <prateek.bhatnagar@hpe.com>
Submitted: Mon Jan 17 23:53:15 EST 2022
Submission: cpu2017-20220117-30772.sub

Platform Notes

BIOS Configuration:
Workload Profile set to General Peak Frequency Compute
Thermal Configuration set to Maximum Cooling
Memory Patrol Scrubbing set to Disabled
Advanced Memory Protection set to Advanced ECC
Last Level Cache (LLC) Prefetch set to Enabled
Last Level Cache (LLC) Dead Line Allocation set to Disabled
Enhanced Processor Performance set to Enabled
Workload Profile set to Custom
Energy/Performance Bias set to Balanced Power
DCU Stream Prefetcher set to Disabled
Adjacent Sector Prefetch set to Disabled
Minimum Processor Idle Power Package C-State set to No Package State
Numa Group Size Optimization set to Flat

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca6d
running on localhost.localdomain Tue Jan 11 21:01:55 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 6348 CPU @ 2.60GHz
2 "physical id"s (chips)
112 "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 : 28
siblings : 56
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
25 26 27

From lscpu from util-linux 2.32.1:
Architecture: x86_64

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

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

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

SPECspeed®2017_fp_base = 192
SPECspeed®2017_fp_peak = 194

Test Date: Jan-2022
Hardware Availability: Nov-2021
Software Availability: Dec-2020

Platform Notes (Continued)

CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 112
On-line CPU(s) list: 0-111
Thread(s) per core: 2
Core(s) per socket: 28
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Gold 6348 CPU @ 2.60GHz
Stepping: 6
CPU MHz: 1186.709
CPU max MHz: 3500.0000
CPU min MHz: 800.0000
BogoMIPS: 5200.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 43008K
NUMA node0 CPU(s): 0-27,56-83
NUMA node1 CPU(s): 28-55,84-111
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
aperfperf pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
xtrm pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes pyvmp
rax f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_13 invpcid_single ssbd
mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad
fsgsbase tsc_adjust bm1 hle avx2 smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq
rdseed adx smap avx512ifma clflushopt clwb intel_p t avx512cd sha ni avx512bw
avx512vl xsaveopt xsavec xgetbv1 xsaveas cqm llc cqm_occup llc cqm_mmb_total
cqm_mbb_local split_lock_detect wbinvd dtherm ida arat pln pts hwp hwp_act_window
hwp_pkg_re q avx512vlimb uimi pku ospke avx512_vmni gfnf vaes vpcm1ulq dq avx512_vnni
avx512_bitalg tme avx512_vpopcntdq la57 rdpid md_clear pconfig flush_lld
arch_capabilities

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 2 nodes (0-1)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83

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

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

SPECspeed®2017_fp_base = 192
SPECspeed®2017_fp_peak = 194

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

Platform Notes (Continued)

node 0 size: 955854 MB
node 0 free: 1030929 MB
node 1 cpus: 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106
107 108 109 110 111
node 1 size: 958572 MB
node 1 free: 1031262 MB
node distances:
node 0 size: 955854 MB
node 1 free: 1030929 MB
node 0: 10 20
1: 20 10

From /proc/meminfo
MemTotal: 2113477952 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/sbin/tuned-adm active
Current active profile: throughput-performance

/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has performance

From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux"
VERSION="8.3 (Ootpa)"
ID="rhel"
ID_LIKE="fedora"
VERSION_ID="8.3"
PLATFORM_ID="platform:el8"
PRETTY_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"
ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.3:ga

uname -a:
Linux localhost.localdomain 4.18.0-240.el8.x86_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020
x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:
CVE-2018-12207 (iTLB Multihit): Not affected
CVE-2018-3620 (L1 Terminal Fault): Not affected
Microarchitectural Data Sampling: Not affected
CVE-2017-5754 (Meltdown): Not affected

(Continued on next page)
Platform Notes (Continued)

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 sanitation

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): Not affected

run-level 3 Jan 11 20:58

SPEC is set to: /home/cpu2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 670G 114G 556G 17% /home

From /sys/devices/virtual/dmi/id
Vendor: HPE
Product: Synergy 480 Gen10 Plus
Product Family: Synergy
Serial: CN70330Q5F

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:
32x Micron 36ASF8G72PZ-3G2B2 64 GB 2 rank 3200

BIOS:
BIOS Vendor: HPE
BIOS Version: I44
BIOS Date: 11/03/2021
BIOS Revision: 1.54
Firmware Revision: 2.50

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C | 619.lbm_s(base, peak) 638.imagick_s(base, peak)
  | 644.nab_s(base)
==============================================================================

Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

SPECspeed®2017_fp_base = 192
SPECspeed®2017_fp_peak = 194

Compiler Version Notes (Continued)

64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

==============================================================================
C               | 644.nab_s(peak)
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               | 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base)
Intel(R) C 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.
==============================================================================
C               | 644.nab_s(peak)
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, Fortran | 607.cactuBSSN_s(base, peak)
Intel(R) C++ 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) C 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) 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         | 603.bwaves_s(base, peak) 649.fotonik3d_s(base, peak) 654.roms_s(base, peak)
(Continued on next page)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

SPEC Speed®2017_fp_base = 192
SPEC Speed®2017_fp_peak = 194

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

Test Date: Jan-2022
Hardware Availability: Nov-2021
Software Availability: Dec-2020

Compiler Version Notes (Continued)

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      | 621.wrf_s(base, peak) 627.cam4_s(base, peak)
                | 628.pop2_s(base, peak)
------------------------------------------------------------------------

Base Compiler Invocation

C benchmarks:
icc
Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
ifort icc

Benchmarks using Fortran, C, and C++:
icpc icc ifort

Base Portability Flags

603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
    -assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64

(Continued on next page)
SPEC CPU®2017 Floating Point Speed Result
Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

SPECspeed®2017_fp_base = 192
SPECspeed®2017_fp_peak = 194

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

<table>
<thead>
<tr>
<th>Test Date: Jan-2022</th>
<th>Hardware Availability: Nov-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Availability: Dec-2020</td>
<td></td>
</tr>
</tbody>
</table>

### Base Portability Flags (Continued)

654.roms_s: -DSPEC_LP64

### Base Optimization Flags

#### C benchmarks:
- m64 -std=c11 -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
- ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP
- mbranches-within-32B-boundaries

#### Fortran benchmarks:
- m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512 -ipo -O3
- no-prec-div -qopt-prefetch -ffinite-math-only
- qopt-mem-layout-trans=4 -qopenmp -nostandard-realloc-lhs
- mbranches-within-32B-boundaries -L/usr/local/jemalloc64-5.0.1/lib
- ljmalloc

#### Benchmarks using both Fortran and C:
- m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
- qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
- DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs
- L/usr/local/jemalloc64-5.0.1/lib -ljmalloc

#### Benchmarks using Fortran, C, and C++:
- m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -ipo -O3 -no-prec-div
- qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
- DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs
- L/usr/local/jemalloc64-5.0.1/lib -ljmalloc

### Peak Compiler Invocation

#### C benchmarks (except as noted below):
- icc

644.nab_s: icx

#### Fortran benchmarks:
- ifort

#### Benchmarks using both Fortran and C:
- ifort icc

(Continued on next page)
SPEC CPU®2017 Floating Point Speed Result
Copyright 2017-2022 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

SPECSpeed®2017_fp_base = 192
SPECSpeed®2017_fp_peak = 194

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

Test Date: Jan-2022
Hardware Availability: Nov-2021
Software Availability: Dec-2020

Peak Compiler Invocation (Continued)

Benchmarks using Fortran, C, and C++:
icpc icc ifort

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
619.lbm_s: basepeak = yes
638.imagick_s: basepeak = yes
644.nab_s: -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
 -flto -mfpmath=sse -funroll-loops -fiopenmp
 -DSPEC_OPENMP -qopt-mem-layout-trans=4
 -fimf-accuracy-bits=14:sqrt
 -mbranches-within-32B-boundaries
 -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:
603.bwaves_s: -m64 -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)
 -DSPEC_SUPPRESS_OPENMP -DSPEC_OPENMP -ipo -xCORE-AVX512
 -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
 -qopt-mem-layout-trans=4 -qopenmp -nostandard-realloc-lhs
 -mbranches-within-32B-boundaries
 -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
649.fotonik3d_s: Same as 603.bwaves_s
654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:
621.wrf_s: basepeak = yes
627.cam4_s: basepeak = yes

(Continued on next page)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
Synergy 480 Gen10 Plus
(2.60 GHz, Intel Xeon Gold 6348)

SPECspeed®2017_fp_base = 192
SPECspeed®2017_fp_peak = 194

CPU2017 License: 3
Test Date: Jan-2022
Test Sponsor: HPE
Hardware Availability: Nov-2021
Tested by: HPE
Software Availability: Dec-2020

Peak Optimization Flags (Continued)

628.pop2_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

607.cactuBSSN_s: basepeak = yes

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

SPEC CPU and SPECspeed 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.

Originally published on 2022-02-01.