## SPEC CPU®2017 Floating Point Speed Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant DL380 Gen10 Plus  
(2.80 GHz, Intel Xeon Platinum 8362)

<table>
<thead>
<tr>
<th>SPECspeed®2017_fp_base</th>
<th>227</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_fp_peak</td>
<td>230</td>
</tr>
</tbody>
</table>

### CPU2017 License
- 3

### Test Sponsor
- HPE

### Tested by
- HPE

### Test Date
- Aug-2021

### Hardware

<table>
<thead>
<tr>
<th>Threads</th>
<th>SPECspeed®2017_fp_base (227)</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s 64</td>
<td>282</td>
</tr>
<tr>
<td>607.cactuBSSN_s 64</td>
<td>282</td>
</tr>
<tr>
<td>619.lbm_s 64</td>
<td>143</td>
</tr>
<tr>
<td>621.wrf_s 64</td>
<td>226</td>
</tr>
<tr>
<td>627.cam4_s 64</td>
<td>175</td>
</tr>
<tr>
<td>628.pop2_s 64</td>
<td>87.8</td>
</tr>
<tr>
<td>638.imagick_s 64</td>
<td>228</td>
</tr>
<tr>
<td>644.nab_s 64</td>
<td>465</td>
</tr>
<tr>
<td>649.fotonik3d_s 64</td>
<td>525</td>
</tr>
<tr>
<td>654.roms_s 64</td>
<td>285</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>OS</th>
<th>Red Hat Enterprise Linux 8.3 (Ootpa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kernel</td>
<td>4.18.0-240.el8.x86_64</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Compiler</th>
<th>C/C++: Version 2021.1 of Intel oneAPI DPC++/C++</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compiler Build</td>
<td>20201113 for Linux; Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux; C/C++: Version 2021.1 of Intel C/C++ Compiler Classic Build 20201112 for Linux</td>
</tr>
</tbody>
</table>

| Parallel | Yes |

<table>
<thead>
<tr>
<th>Firmware</th>
<th>HPE BIOS Version U46 v1.50 05/27/2021 released May-2021</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>File System</th>
<th>xfs</th>
</tr>
</thead>
<tbody>
<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</td>
</tr>
<tr>
<td>Power Management</td>
<td>BIOS set to prefer performance at the cost of additional power usage</td>
</tr>
</tbody>
</table>

### CPU Name
- Intel Xeon Platinum 8362

<table>
<thead>
<tr>
<th>Max MHz</th>
<th>3600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>2800</td>
</tr>
<tr>
<td>Enabled</td>
<td>64 cores, 2 chips</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>48 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 400 GB SAS SSD, RAID 0</td>
</tr>
<tr>
<td>Other</td>
<td>None</td>
</tr>
</tbody>
</table>

### Power Management
- BIOS set to prefer performance at the cost of additional power usage
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**Hewlett Packard Enterprise**  
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ProLiant DL380 Gen10 Plus  
(2.80 GHz, Intel Xeon Platinum 8362)

**SPECspeed®2017_fp_base = 227**  
**SPECspeed®2017_fp_peak = 230**

### CPU2017 License

3

### Test Sponsor

HPE

### Tested by

HPE

### Test Date

Aug-2021

### Hardware Availability

Jun-2021

### Software Availability

Dec-2020

---

### 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>64</td>
<td>81.2</td>
<td>726</td>
<td>80.4</td>
<td>733</td>
<td><strong>80.7</strong></td>
<td><strong>731</strong></td>
<td>80.3</td>
<td>734</td>
<td>80.6</td>
<td>732</td>
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<tr>
<td>607.cactuBSSN_s</td>
<td>64</td>
<td>59.4</td>
<td>280</td>
<td>58.8</td>
<td>284</td>
<td><strong>59.0</strong></td>
<td><strong>282</strong></td>
<td>58.8</td>
<td>284</td>
<td>59.0</td>
<td>282</td>
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<td>619.ibm_s</td>
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<td><strong>36.5</strong></td>
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<td>35.8</td>
<td>146</td>
<td>37.2</td>
<td>141</td>
<td>35.8</td>
<td>146</td>
<td>37.2</td>
<td>141</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>64</td>
<td>58.4</td>
<td>227</td>
<td>58.7</td>
<td>225</td>
<td><strong>58.5</strong></td>
<td><strong>226</strong></td>
<td>58.7</td>
<td>225</td>
<td><strong>58.5</strong></td>
<td><strong>226</strong></td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>64</td>
<td><strong>50.7</strong></td>
<td><strong>175</strong></td>
<td>50.7</td>
<td>175</td>
<td>50.9</td>
<td>174</td>
<td>50.7</td>
<td>175</td>
<td>50.9</td>
<td>174</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>64</td>
<td>136</td>
<td>87.2</td>
<td>135</td>
<td>87.8</td>
<td>134</td>
<td>88.8</td>
<td>135</td>
<td>87.8</td>
<td>134</td>
<td>88.8</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>64</td>
<td>63.3</td>
<td>228</td>
<td>63.4</td>
<td>228</td>
<td><strong>63.4</strong></td>
<td><strong>228</strong></td>
<td>63.4</td>
<td>228</td>
<td>63.4</td>
<td>228</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>64</td>
<td><strong>37.6</strong></td>
<td><strong>465</strong></td>
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<td>456</td>
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<td>33.3</td>
<td>525</td>
<td>33.3</td>
<td>525</td>
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<tr>
<td>649.fotonik3d_s</td>
<td>64</td>
<td>78.3</td>
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<td><strong>78.7</strong></td>
<td><strong>116</strong></td>
<td>77.9</td>
<td>117</td>
<td>77.7</td>
<td>117</td>
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<td><strong>55.2</strong></td>
<td><strong>285</strong></td>
<td>55.2</td>
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<td>56.2</td>
<td>280</td>
<td>55.2</td>
<td>285</td>
<td>56.2</td>
<td>280</td>
</tr>
</tbody>
</table>

**SPECspeed®2017_fp_base = 227**  
**SPECspeed®2017_fp_peak = 230**  
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)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.80 GHz, Intel Xeon Platinum 8362)

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

SPECspeed®2017_fp_base = 227
SPECspeed®2017_fp_peak = 230

Test Date: Aug-2021
Hardware Availability: Jun-2021
Software Availability: Dec-2020

General Notes (Continued)

Platform Notes

The system ROM used for this result contains Intel microcode version 0xd0002a0 for the Intel Xeon Platinum 8362 processor

BIOS Configuration:
Workload Profile set to General Peak Frequency Compute
Intel Hyper-Threading set to Disabled
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 982a61ec0915b55891ef0e16acafc64d
running on localhost.localdomain Sat Aug 14 08:52:32 2021

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 8362 CPU @ 2.80GHz
  2 "physical id"s (chips)
  64 "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 : 32
siblings : 32
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 28 29 30 31
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 28 29 30 31

From lscpu from util-linux 2.32.1:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit

(Continued on next page)
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CPU2017 License: 3
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Tested by: HPE

Test Date: Aug-2021
Hardware Availability: Jun-2021
Software Availability: Dec-2020

Platform Notes (Continued)

Byte Order: Little Endian
CPU(s): 64
On-line CPU(s) list: 0-63
Thread(s) per core: 1
Core(s) per socket: 32
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Platinum 8362 CPU @ 2.80GHz
Stepping: 6
CPU MHz: 3600.000
BogoMIPS: 5600.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 49152K
NUMA node0 CPU(s): 0-31
NUMA node1 CPU(s): 32-63
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
aperfmprefl pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
xtrp 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_13 invpcid_single ssbd
mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vmi_flexpriority ept vpid ept_ad
fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid cqm rdtscp drready adx
smap avx512f vfpv10_if Pentium_64 sha ni fma mcm avx512bw
avx512vl xsxavopt xsave xstate xsave cqm_llc cqm_occu2 llc cqm_mbb total
avx512vl cqm_mbb_local split lock detect wbinvd dtherm ida arat pin pts avx512vwb mcm_pku
ospe avx512_vbni2 gfn i vaes vpclmulqdq 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
28 29 30 31
node 0 size: 975904 MB
node 0 free: 1026332 MB
node 1 cpus: 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56
57 58 59 60 61 62 63

(Continued on next page)
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SPECspeed®2017_fp_base = 227
SPECspeed®2017_fp_peak = 230

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

Platform Notes (Continued)

node 1 size: 971473 MB
node 1 free: 1029823 MB
node distances:
node  0  1
  0: 10  20
  1: 20  10

From /proc/meminfo
MemTotal:       2113488840 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

/sbin/tuned-adm active
Current active profile: throughput-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 (LI 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/swaps barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling

(Continued on next page)
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SPECSpeed®2017_fp_base = 227
SPECSpeed®2017_fp_peak = 230

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

Platform Notes (Continued)
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected
run-level 3 Aug 13 19:32
SPEC is set to: /home/cpu2017
Filesystem          Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   297G  101G  197G  34% /home

From /sys/devices/virtual/dmi/id
Vendor:         HPE
Product:        ProLiant DL380 Gen10 Plus
Product Family: ProLiant
Serial:         CN70110BZV

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:       U46
  BIOS Date:           05/27/2021
  BIOS Revision:       1.50
  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)
  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,
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL380 Gen10 Plus
(2.80 GHz, Intel Xeon Platinum 8362)

SPECspeed®2017_fp_base = 227
SPECspeed®2017_fp_peak = 230

Compiler Version Notes (Continued)

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)
******************************************************************************
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)
******************************************************************************
(Continued on next page)
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Copyright 2017-2021 Standard Performance Evaluation Corporation

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Test Sponsor: HPE
Tested by: HPE

Test Date: Aug-2021
Hardware Availability: Jun-2021
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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.
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.

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.cactusBSSN_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
654.roms_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-m64 -std=c11 -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch

(Continued on next page)
## Base Optimization Flags (Continued)

C benchmarks (continued):
- `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 -ljemalloc`

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 -ljemalloc`

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 -ljemalloc`

## 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`

Benchmarks using Fortran, C, and C++:
- `icpc icc ifort`
Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL380 Gen10 Plus  
(2.80 GHz, Intel Xeon Platinum 8362)  

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<tr>
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</tbody>
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**Peak Portability Flags**

Same as Base Portability Flags

**Peak Optimization Flags**

C benchmarks:

- 619.lbm_s: basepeak = yes
- 638.imagick_s: basepeak = yes

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-boundsaries -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
- 628.pop2_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

- 607.cactuBSSN_s: basepeak = yes
### SPEC CPU®2017 Floating Point Speed Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant DL380 Gen10 Plus  
(2.80 GHz, Intel Xeon Platinum 8362)

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**Test Sponsor**: HPE  
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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](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/HPE-Platform-Flags-Intel-V1.0-ICX-revE.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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