## SPEC CPU®2017 Integer Speed Result

**Hewlett Packard Enterprise**  
(Test Sponsor: HPE)  
ProLiant DL385 Gen10 Plus v2  
(3.20 GHz, AMD EPYC 7343)  

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base = 13.1</th>
<th>SPECspeed®2017_int_peak = 13.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Date: May-2021</td>
<td>Hardware Availability: Jun-2021</td>
</tr>
<tr>
<td>CPU2017 License: 3</td>
<td>Software Availability: Mar-2021</td>
</tr>
<tr>
<td>Test Sponsor: HPE</td>
<td></td>
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<tr>
<td>Tested by: HPE</td>
<td></td>
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</table>

### Hardware

<table>
<thead>
<tr>
<th>Test</th>
<th>Threads</th>
<th>SPECspeed®2017_int_base (13.1)</th>
<th>SPECspeed®2017_int_peak (13.1)</th>
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<tbody>
<tr>
<td>600.perlbench_s</td>
<td>32</td>
<td>7.36</td>
<td>14.0</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>32</td>
<td>7.55</td>
<td>21.8</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>32</td>
<td>9.01</td>
<td></td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>625.x264_s</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>641.leela_s</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>657.xz_s</td>
<td>32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>OS:</th>
<th>Ubuntu 20.04.1 LTS (x86_64)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kernel:</td>
<td>5.4.0-42-generic</td>
</tr>
<tr>
<td>Compiler:</td>
<td>C/C++/Fortran: Version 3.0.0 of AOCC</td>
</tr>
<tr>
<td>Parallel:</td>
<td>Yes</td>
</tr>
<tr>
<td>Firmware:</td>
<td>HPE BIOS Version A42 v2.42 04/29/2021 released Apr-2021</td>
</tr>
<tr>
<td>File System:</td>
<td>ext4</td>
</tr>
<tr>
<td>System State:</td>
<td>Run level 5 (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></td>
</tr>
</tbody>
</table>

### Other

- **CPU Name**: AMD EPYC 7343  
- **Max MHz**: 3900  
- **Nominal**: 3200  
- **Enabled**: 32 cores, 2 chips  
- **Orderable**: 1, 2 chip(s)  
- **Cache L1**: 32 KB I + 32 KB D on chip per core  
- **L2**: 512 KB I+D on chip per core  
- **L3**: 128 MB I+D on chip per chip, 32 MB shared / 4 cores  
- **Other**: None  
- **Memory**: 2 TB (16 x 128 GB 4Rx4 PC4-3200AA-L)  
- **Storage**: 1 x 182 GB SATA SSD, RAID 0  
- **Other**: None  

Power Management: BIOS and OS set to prefer performance at the cost of additional power usage
**SPEC CPU®2017 Integer Speed Result**

Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL385 Gen10 Plus v2  
(3.20 GHz, AMD EPYC 7343)

**SPECspeed®2017_int_base = 13.1**  
**SPECspeed®2017_int_peak = 13.1**

<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>600.perlbench_s</td>
<td>32</td>
<td>241</td>
<td>7.36</td>
<td>241</td>
<td>7.36</td>
<td>243</td>
<td>7.31</td>
<td>1</td>
<td>235</td>
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<tr>
<td>602.gcc_s</td>
<td>32</td>
<td>283</td>
<td>14.1</td>
<td>284</td>
<td>14.0</td>
<td>284</td>
<td>14.0</td>
<td>32</td>
<td>283</td>
<td>14.1</td>
<td>284</td>
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<tr>
<td>605.mcf_s</td>
<td>32</td>
<td>217</td>
<td>21.8</td>
<td>216</td>
<td>21.8</td>
<td>217</td>
<td>21.8</td>
<td>32</td>
<td>217</td>
<td>21.8</td>
<td>216</td>
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<tr>
<td>620.omnetpp_s</td>
<td>32</td>
<td>181</td>
<td>9.01</td>
<td>181</td>
<td>9.03</td>
<td>182</td>
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<td>623.xalanchmk_s</td>
<td>32</td>
<td>94.0</td>
<td>15.1</td>
<td>95.6</td>
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<td>94.3</td>
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<td>625.x264_s</td>
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<td>631.deepsjeng_s</td>
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<td>648.exchange2_s</td>
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<td>657.xz_s</td>
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<td>238</td>
<td>26.0</td>
<td>32</td>
<td>238</td>
<td>26.0</td>
<td>238</td>
</tr>
</tbody>
</table>

**Results Table**

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

**Compiler Notes**

The AMD64 AOCC Compiler Suite is available at http://developer.amd.com/amd-aocc/

**Submit Notes**

The config file option 'submit' was used.  
'numactl' was used to bind copies to the cores.  
See the configuration file for details.

**Operating System Notes**

'ulimit -s unlimited' was used to set environment stack size  
'ulimit -l 2097152' was used to set environment locked pages in memory limit

runcpu command invoked through numactl i.e.:  
numactl --interleave=all runcpu <etc>

'echo 8 > /proc/sys/vm/dirty_ratio' run as root to limit dirty cache to 8% of memory.  
'echo 1 > /proc/sys/vm/swappiness' run as root to limit swap usage to minimum necessary.  
'echo 1 > /proc/sys/vm/zone_reclaim_mode' run as root to free node-local memory and avoid remote memory usage.  
'sync; echo 3 > /proc/sys/vm/drop_caches' run as root to reset filesystem caches.  
'sysctl -w kernel.randomize_va_space=0' run as root to disable address space layout randomization (ASLR) to reduce run-to-run variability.

(Continued on next page)
Operating System Notes (Continued)

'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root to enable
Transparent Hugepages (THP) for this run.
'echo madvise > /sys/kernel/mm/transparent_hugepage/enabled' run as root for peak
runs of 628.pop2_s and 638.imagick_s to enable THP only on request.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
GOMP_CPU_AFFINITY = "0-31"
LD_LIBRARY_PATH =
"/home/SPEC_CPU2017/amd_speed_aocc300_milan_B_lib/64;/home/SPEC_CPU2017/
amd_speed_aocc300_milan_B_lib/32;"
MALLOCONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "32"

Environment variables set by runcpu during the 600.perlbench_s peak run:
GOMP_CPU_AFFINITY = "0"

General Notes

Binaries were compiled on a system with 2x AMD EPYC 7742 CPU + 1TiB Memory using openSUSE 15.2

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: configured and built with GCC v4.8.2 in RHEL 7.4
jemalloc 5.1.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.1.0/jemalloc-5.1.0.tar.bz2

Platform Notes

BIOS Configuration
Workload Profile set to General Peak Frequency Compute
AMD SMT Option set to Disabled
Determinism Control set to Manual
Performance Determinism set to Power Deterministic

(Continued on next page)
### Platform Notes (Continued)

Last-Level Cache (LLC) as NUMA Node set to Enabled  
NUMA memory domains per socket set to One memory domain per socket  
Thermal Configuration set to Maximum Cooling  
Infinity Fabric Power Management set to Disabled  
Infinity Fabric Performance State set to P0  
Workload Profile set to Custom  
Power Regulator set to OS Control Mode

Sysinfo program `/home/SPEC_CPU2017/bin/sysinfo`
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on dl385g10v2 Wed Apr  1 12:26:52 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 : AMD EPYC 7343 16-Core Processor
  2 "physical id"s (chips)
  32 "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 : 16
  siblings  : 16
  physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
  physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
```

From `lscpu`
```
Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
Address sizes:         48 bits physical, 48 bits virtual
CPU(s):                32
On-line CPU(s) list:   0-31
Thread(s) per core:    1
Core(s) per socket:    16
Socket(s):             2
NUMA node(s):          8
Vendor ID:             AuthenticAMD
CPU family:            25
Model:                 1
Model name:            AMD EPYC 7343 16-Core Processor
Stepping:              1
Frequency boost:       enabled
CPU MHz:               3863.528
CPU max MHz:           3200.0000
CPU min MHz:           1500.0000
```
Hewlett Packard Enterprise
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ProLiant DL385 Gen10 Plus v2
(3.20 GHz, AMD EPYC 7343)

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

SPEC CPU®2017 Integer Speed Result

SPECspeed®2017_int_base = 13.1
SPECspeed®2017_int_peak = 13.1

Platform Notes (Continued)

BogoMIPS: 6387.93
Virtualization: AMD-V
L1d cache: 1 MiB
L1i cache: 1 MiB
L2 cache: 16 MiB
L3 cache: 256 MiB
NUMA node0 CPU(s): 0-3
NUMA node1 CPU(s): 4-7
NUMA node2 CPU(s): 8-11
NUMA node3 CPU(s): 12-15
NUMA node4 CPU(s): 16-19
NUMA node5 CPU(s): 20-23
NUMA node6 CPU(s): 24-27
NUMA node7 CPU(s): 28-31
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitation
Vulnerability Spectre v2: Mitigation; Full AMD retpoline, IBPB conditional, IBRS_FW, STIBP disabled, RSB filling
Vulnerability Srbdss: Not affected
Vulnerability Tsx async abort: Not affected
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb rdscall lm constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq monitor ssse3 fma cx16 pclid sse4_1 sse4_2 movbe popcnt aes xsave avx f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3nowprefetch osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bptex perfctr_llc mwaitx cpb cat_l3 cdp_l3 invpcid_single hw_pstate ssbd mba ibrs ibpb stibp vmmcall fsgsbase bml1 avx2 smep bmi2 invpcid cqm rdt_a rdseed adx smap clflushopt clwb sha ni xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local clzero irperf xsavespr bnoinvd arat npt lbv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassist pausefilter pfthreshold v_vmsave_vmload vgif umip pku ospke vaes vpclmulqdq rdpid overflow_recov succor smca

From numactl --hardware 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
node 0 size: 257800 MB

(Continued on next page)
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SPECspeed®2017_int_base = 13.1
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CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

Platform Notes (Continued)

node 0 free: 257530 MB
node 1 cpus: 4 5 6 7
node 1 size: 258046 MB
node 1 free: 257899 MB
node 2 cpus: 8 9 10 11
node 2 size: 258046 MB
node 2 free: 257841 MB
node 3 cpus: 12 13 14 15
node 3 size: 245935 MB
node 3 free: 245759 MB
node 4 cpus: 16 17 18 19
node 4 size: 258022 MB
node 4 free: 257909 MB
node 5 cpus: 20 21 22 23
node 5 size: 258046 MB
node 5 free: 257848 MB
node 6 cpus: 24 25 26 27
node 6 size: 258046 MB
node 6 free: 257939 MB
node 7 cpus: 28 29 30 31
node 7 size: 258044 MB
node 7 free: 257904 MB
node distances:
node 0 1 2 3 4 5 6 7
0: 10 11 11 11 32 32 32 32
1: 11 10 11 11 32 32 32 32
2: 11 11 10 11 32 32 32 32
3: 11 11 11 10 32 32 32 32
4: 32 32 32 32 10 11 11 11
5: 32 32 32 32 11 10 11 11
6: 32 32 32 32 11 11 10 11
7: 32 32 32 32 11 11 11 10

From /proc/meminfo
MemTotal: 2101239016 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
/usr/bin/lsb_release -d
Ubuntu 20.04.1 LTS

(Continued on next page)
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SPECspeed®2017_int_base = 13.1
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<tr>
<td>Test Sponsor: HPE</td>
<td>Hardware Availability: Jun-2021</td>
</tr>
<tr>
<td>Tested by: HPE</td>
<td>Software Availability: Mar-2021</td>
</tr>
</tbody>
</table>

Platform Notes (Continued)

From /etc/*release* /etc/*version*
debian_version: bullseye/sid
os-release:
  NAME="Ubuntu"
  VERSION="20.04.1 LTS (Focal Fossa)"
  ID=ubuntu
  ID_LIKE=debian
  PRETTY_NAME="Ubuntu 20.04.1 LTS"
  VERSION_ID="20.04"
  HOME_URL="https://www.ubuntu.com/"
  SUPPORT_URL="https://help.ubuntu.com/"

uname -a:
  Linux dl385g10v2 5.4.0-42-generic #46-Ubuntu SMP Fri Jul 10 00:24:02 UTC 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): Mitigation: Speculative Store
CVE-2018-3639 (Speculative Store Bypass): 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: Full AMD retpoline,
  IBPB: conditional, IBRS_FW, STIBP:
  disabled, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 5 Apr 1 12:23
SPEC is set to: /home/SPEC_CPU2017

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/mapper/ubuntu--vg-ubuntu--lv ext4</td>
<td>182G</td>
<td>80G</td>
<td>94G</td>
<td>46%</td>
<td>/</td>
<td></td>
</tr>
</tbody>
</table>

From /sys/devices/virtual/dmi/id
  Vendor: HPE
  Product: ProLiant DL385 Gen10 Plus
  Product Family: ProLiant
  Serial: CN79340HC3

Additional information from dmidecode follows. WARNING: Use caution when you interpret

(Continued on next page)
Platform Notes (Continued)

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:

    16x Samsung M386AAG40AM3-CWE 128 GB 4 rank 3200
    16x UNKNOWN NOT AVAILABLE

BIOS:

    BIOS Vendor:       HPE
    BIOS Version:      A42
    BIOS Date:         04/29/2021
    BIOS Revision:     2.42
    Firmware Revision: 2.40

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C       | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak) 657.xz_s(base, peak)
------------------------------------------------------------------------------
AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin
==============================================================================

C++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)
------------------------------------------------------------------------------
AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin
==============================================================================

Fortran | 648.exchange2_s(base, peak)
------------------------------------------------------------------------------
AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu

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

**Compiler Version Notes (Continued)**

Thread model: posix  
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin

**Base Compiler Invocation**

C benchmarks:
clang  
C++ benchmarks:
clang++  
Fortran benchmarks:
flang  

**Base Portability Flags**

600.perlbench_s: -DSPEC_LINUX_X64 -DSPEC_LP64  
602.gcc_s: -DSPEC_LP64  
605.mcf_s: -DSPEC_LP64  
620.omnetpp_s: -DSPEC_LP64  
623.xalancbmk_s: -DSPEC_LINUX -DSPEC_LP64  
625.x264_s: -DSPEC_LP64  
631.deepsjeng_s: -DSPEC_LP64  
641.leela_s: -DSPEC_LP64  
648.exchange2_s: -DSPEC_LP64  
657.xz_s: -DSPEC_LP64

**Base Optimization Flags**

C benchmarks:
-m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition  
-Wl,-mlirvm -Wl,-enable-lcm-vrp -Wl,-mlirvm -Wl,-region-vectorize  
-Wl,-mlirvm -Wl,-function-specialize  
-Wl,-mlirvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mlirvm -Wl,-reduce-array-computations=3 -O3 -march=znver3  
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5  
-mlirvm -unroll-threshold=50 -mlirvm -inline-threshold=1000  
-fremap-arrays -mlirvm -function-specialize -flv-function-specialization  
-mlirvm -enable-gvn-hoist -mlirvm -global-vectorize-slp=true  
-mlirvm -enable-lcm-vrp -mlirvm -reduce-array-computations=3 -z muldefs

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

C benchmarks (continued):
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-lflang -lflangrti

C++ benchmarks:
-m64 -std=c++98 -mno-adx -mno-sse4a
-Wl,-mllvm -Wl,-do-block-reorder=aggressive
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -mllvm -enable-partial-unswitch
-mllvm -unroll-threshold=100 -finline-aggressive
-flv-function-specialization -mllvm -loop-unswitch-threshold=200000
-mllvm -reroll-loops -mllvm -aggressive-loop-unswitch
-mllvm -extra-vectorizer-passes -mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp=true -mllvm -convert-pow-exp-to-int=false
-z muldefs -mllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden -DSPEC_OPENMP
-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -lflang
-lflangrti

Fortran benchmarks:
-m64 -mno-adx -mno-sse4a -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,-mllvm -Wl,-lsr-in-nested-loop -Wl,-mllvm -Wl,-enable-iv-split
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -mllvm -z muldefs
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -DSPEC_OPENMP
-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -lflang
-lflangrti

Base Other Flags

C benchmarks:
-Wno-unused-command-line-argument -Wno-return-type

C++ benchmarks:
-Wno-unused-command-line-argument -Wno-return-type

Fortran benchmarks:
-Wno-return-type
**SPEC CPU®2017 Integer Speed Result**

Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL385 Gen10 Plus v2  
(3.20 GHz, AMD EPYC 7343)

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base = 13.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_int_peak = 13.1</td>
</tr>
</tbody>
</table>

CPU2017 License: 3  
Test Sponsor: HPE  
Test Date: May-2021  
Tested by: HPE  
Hardware Availability: Jun-2021  
Software Availability: Mar-2021

### Peak Compiler Invocation

C benchmarks:  
clang

C++ benchmarks:  
clang++

Fortran benchmarks:  
flang

### Peak Portability Flags

Same as Base Portability Flags

### Peak Optimization Flags

C benchmarks:


602.gcc_s: basepeak = yes

605.mcf_s: basepeak = yes

625.x264_s: basepeak = yes

657.xz_s: basepeak = yes

C++ benchmarks:

(Continued on next page)
Peak Optimization Flags (Continued)

620.omnetpp_s: basepeak = yes
623.xalancbmk_s: basepeak = yes
631.deepsjeng_s: basepeak = yes
641.leela_s: basepeak = yes

Fortran benchmarks:
648.exchange2_s: basepeak = yes

Peak Other Flags

C benchmarks:
-Wno-unused-command-line-argument -Wno-return-type

C++ benchmarks:
-Wno-unused-command-line-argument -Wno-return-type

Fortran benchmarks:
-Wno-return-type

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-AMD-V1.2-EPYC-revP.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-AMD-V1.2-EPYC-revP.xml