## SPEC CPU®2017 Integer Speed Result

**Hewlett Packard Enterprise**
(Test Sponsor: HPE)

**ProLiant DL385 Gen10 Plus**
(2.95 GHz, AMD EPYC 75F3)

**Test Date:** May-2021  
**Hardware Availability:** Apr-2021  
**Software Availability:** Mar-2021

<table>
<thead>
<tr>
<th>SPECspeed®2017_int_base</th>
<th>SPECspeed®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.2</td>
<td>13.2</td>
</tr>
</tbody>
</table>

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

### Hardware
- **CPU Name:** AMD EPYC 75F3  
- **Max MHz:** 4000  
- **Nominal:** 2950  
- **Enabled:** 64 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:** 256 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

### Software
- **OS:** Ubuntu 20.04.1 LTS (x86_64)  
- **Compiler:** C/C++/Fortran: Version 3.0.0 of AOCC  
- **Parallel:** Yes  
- **Firmware:** HPE BIOS Version A42 v2.42 04/29/2021 released Apr-2021  
- **File System:** ext4  
- **System State:** Run level 5 (multi-user)  
- **Base Pointers:** 64-bit  
- **Peak Pointers:** 64-bit  
- **Other:** jemalloc: jemalloc memory allocator library v5.1.0  
- **Power Management:** BIOS set to prefer performance at the cost of additional power usage
## 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>600.perlbench_s</td>
<td>64</td>
<td>250</td>
<td>7.11</td>
<td>250</td>
<td>7.11</td>
<td>251</td>
<td>7.08</td>
<td>250</td>
<td>7.11</td>
<td>251</td>
<td>7.08</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>64</td>
<td>215</td>
<td>22.0</td>
<td>215</td>
<td>22.0</td>
<td>215</td>
<td>22.0</td>
<td>215</td>
<td>22.0</td>
<td>215</td>
<td>22.0</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>64</td>
<td>183</td>
<td>8.91</td>
<td>184</td>
<td>8.86</td>
<td>183</td>
<td>8.89</td>
<td>183</td>
<td>8.89</td>
<td>183</td>
<td>8.89</td>
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<tr>
<td>623.xalancmk_s</td>
<td>64</td>
<td>95.7</td>
<td>14.8</td>
<td>93.4</td>
<td>15.2</td>
<td>93.5</td>
<td>15.2</td>
<td>93.5</td>
<td>15.2</td>
<td>93.5</td>
<td>15.2</td>
</tr>
<tr>
<td>625.x264_s</td>
<td>64</td>
<td>96.5</td>
<td>18.5</td>
<td>95.4</td>
<td>18.5</td>
<td>95.6</td>
<td>18.4</td>
<td>95.6</td>
<td>18.5</td>
<td>95.6</td>
<td>18.4</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>64</td>
<td>212</td>
<td>6.77</td>
<td>209</td>
<td>6.84</td>
<td>212</td>
<td>6.76</td>
<td>212</td>
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<tr>
<td>648.exchange2_s</td>
<td>64</td>
<td>117</td>
<td>25.1</td>
<td>117</td>
<td>25.0</td>
<td>117</td>
<td>25.1</td>
<td>117</td>
<td>25.0</td>
<td>117</td>
<td>25.1</td>
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<tr>
<td>657.xz_s</td>
<td>64</td>
<td>229</td>
<td>27.0</td>
<td>229</td>
<td>27.0</td>
<td>231</td>
<td>26.8</td>
<td>229</td>
<td>27.0</td>
<td>231</td>
<td>26.8</td>
</tr>
</tbody>
</table>

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

## Compiler Notes


## 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 numacl 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)
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CPU2017 License: 3
Test Sponsor: HPE
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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 = "0-63"
LD_LIBRARY_PATH =
"/home/cpu2017_B1/amd_speed_aocc300_milan_B_lib/64;/home/cpu2017_B1/amd_ speed_aocc300_milan_B_lib/32;"
MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "64"

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

Submitted by: "Bhatnagar, Prateek" <prateek.bhatnagar@hpe.com>
Submitted: Mon Jun  7 11:52:08 EDT 2021
Submission: cpu2017-20210607-26895.sub

Platform Notes

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

(Continued on next page)
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Platform Notes (Continued)

Performance Determinism set to Power Deterministic
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
Workload Profile set to Custom
Infinity Fabric Power Management set to Disabled
Infinity Fabric Performance State set to P0
Power Regulator set to OS Control Mode

Sysinfo program /home/cpu2017_B1/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on dl385g10v2 Wed Apr 1 19:26:17 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 75F3 32-Core Processor
  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:
  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): 64
  On-line CPU(s) list: 0-63
  Thread(s) per core: 1
  Core(s) per socket: 32
  Socket(s): 2
  NUMA node(s): 16
  Vendor ID: AuthenticAMD
  CPU family: 25
  Model: 1
  Model name: AMD EPYC 75F3 32-Core Processor
  Stepping: 1
  Frequency boost: enabled

(Continued on next page)
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</table>

**Platform Notes (Continued)**

<table>
<thead>
<tr>
<th>CPU MHz:</th>
<th>1795.704</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU max MHz:</td>
<td>2950.0000</td>
</tr>
<tr>
<td>CPU min MHz:</td>
<td>1500.0000</td>
</tr>
<tr>
<td>BogoMIPS:</td>
<td>5888.42</td>
</tr>
<tr>
<td>Virtualization:</td>
<td>AMD-V</td>
</tr>
<tr>
<td>L1d cache:</td>
<td>2 MiB</td>
</tr>
<tr>
<td>L1i cache:</td>
<td>2 MiB</td>
</tr>
<tr>
<td>L2 cache:</td>
<td>32 MiB</td>
</tr>
<tr>
<td>L3 cache:</td>
<td>512 MiB</td>
</tr>
<tr>
<td>NUMA node0 CPU(s):</td>
<td>0-3</td>
</tr>
<tr>
<td>NUMA node1 CPU(s):</td>
<td>4-7</td>
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<tr>
<td>NUMA node2 CPU(s):</td>
<td>8-11</td>
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<tr>
<td>NUMA node3 CPU(s):</td>
<td>12-15</td>
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<tr>
<td>NUMA node4 CPU(s):</td>
<td>16-19</td>
</tr>
<tr>
<td>NUMA node5 CPU(s):</td>
<td>20-23</td>
</tr>
<tr>
<td>NUMA node6 CPU(s):</td>
<td>24-27</td>
</tr>
<tr>
<td>NUMA node7 CPU(s):</td>
<td>28-31</td>
</tr>
<tr>
<td>NUMA node8 CPU(s):</td>
<td>32-35</td>
</tr>
<tr>
<td>NUMA node9 CPU(s):</td>
<td>36-39</td>
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<td>NUMA node10 CPU(s):</td>
<td>40-43</td>
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<td>NUMA node11 CPU(s):</td>
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<td>NUMA node12 CPU(s):</td>
<td>48-51</td>
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<tr>
<td>NUMA node13 CPU(s):</td>
<td>52-55</td>
</tr>
<tr>
<td>NUMA node14 CPU(s):</td>
<td>56-59</td>
</tr>
<tr>
<td>NUMA node15 CPU(s):</td>
<td>60-63</td>
</tr>
<tr>
<td>Vulnerability Itlb multihit:</td>
<td>Not affected</td>
</tr>
<tr>
<td>Vulnerability L1tf:</td>
<td>Not affected</td>
</tr>
<tr>
<td>Vulnerability Mds:</td>
<td>Not affected</td>
</tr>
<tr>
<td>Vulnerability Meltdown:</td>
<td>Not affected</td>
</tr>
<tr>
<td>Vulnerability Spec store bypass:</td>
<td>Mitigation; Speculative Store Bypass disabled via prctl and seccomp</td>
</tr>
<tr>
<td>Vulnerability Spectre v1:</td>
<td>Mitigation; usercopy/swapgs barriers and __user pointer sanitization</td>
</tr>
<tr>
<td>Vulnerability Spectre v2:</td>
<td>Mitigation; Full AMD retpoline, IBPB conditional, IBRS_FW, STIBP disabled, RSB filling</td>
</tr>
<tr>
<td>Vulnerability Srbd:</td>
<td>Not affected</td>
</tr>
<tr>
<td>Vulnerability Tsx async abort:</td>
<td>Not affected</td>
</tr>
<tr>
<td>Flags:</td>
<td>fpu vme de pse tsc msr pae mce cx8 acpi sep mtrr pge mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm constant_tsc rep_good nopl nonstop_tsc tsc ept vmtsc ept麒麟 vex osflush osk osktr ovotmr pni pclmulqdq dtes64_64bit ne vsnmi fmmul qd vmpartable smmovxset msr�� pbepef nppi pclmulqdq oslog spsbe oslog ipts state ssbd mba ibrs ibpb stibp vmmcall fsgsbase bmi1 avx2 smep bmi2 invpcid cmq rdtr a rdseed adx smap clflushopt clwb sha ni xsaveopt xsavec xgetbv1 xsave xstate cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local czero irperf xsaveerptr wbinvd arat npt lbv svm_lock</td>
</tr>
</tbody>
</table>

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

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<th>Software Availability</th>
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<tr>
<td>May-2021</td>
<td>Apr-2021</td>
<td>Mar-2021</td>
</tr>
</tbody>
</table>

Platform Notes (Continued)

nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter pfthreshold
v_vmsave_vmload vgif umip pku ospke vaes vpclmulqdq rdpid overflow_recov succor smca

/proc/cpuinfo cache data
  cache size : 512 KB

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.
  available: 16 nodes (0-15)
  node 0 cpus: 0 1 2 3
  node 0 size: 128776 MB
  node 0 free: 128664 MB
  node 1 cpus: 4 5 6 7
  node 1 size: 129022 MB
  node 1 free: 128926 MB
  node 2 cpus: 8 9 10 11
  node 2 size: 129022 MB
  node 2 free: 128917 MB
  node 3 cpus: 12 13 14 15
  node 3 size: 129022 MB
  node 3 free: 128930 MB
  node 4 cpus: 16 17 18 19
  node 4 size: 129022 MB
  node 4 free: 128845 MB
  node 5 cpus: 20 21 22 23
  node 5 size: 129022 MB
  node 5 free: 128942 MB
  node 6 cpus: 24 25 26 27
  node 6 size: 129022 MB
  node 6 free: 128939 MB
  node 7 cpus: 28 29 30 31
  node 7 size: 116909 MB
  node 7 free: 116827 MB
  node 8 cpus: 32 33 34 35
  node 8 size: 129022 MB
  node 8 free: 128894 MB
  node 9 cpus: 36 37 38 39
  node 9 size: 129022 MB
  node 9 free: 128948 MB
  node 10 cpus: 40 41 42 43
  node 10 size: 129022 MB
  node 10 free: 128884 MB
  node 11 cpus: 44 45 46 47
  node 11 size: 129022 MB
  node 11 free: 128943 MB
  node 12 cpus: 48 49 50 51
  node 12 size: 129022 MB

(Continued on next page)
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Platform Notes (Continued)

node 12 free: 128927 MB
node 13 cpus: 52 53 54 55
node 13 size: 129022 MB
node 13 free: 128842 MB
node 14 cpus: 56 57 58 59
node 14 size: 128998 MB
node 14 free: 128917 MB
node 15 cpus: 60 61 62 63
node 15 size: 129018 MB
node 15 free: 128934 MB
node distances:

From /proc/meminfo
MemTotal: 2101226108 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

From /etc/*release* /etc/*version*
  debian_version: bullseye/sid
  os-release:
    NAME="Ubuntu"

(Continued on next page)
Platform Notes (Continued)

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 Bypass disabled via prctl and seccomp
CVE-2018-3639 (Speculative Store Bypass): Mitigation: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5753 (Spectre variant 1):
CVE-2017-5715 (Spectre variant 2):
CVE-2020-0543 (Special Register Buffer Data Sampling):
CVE-2019-11135 (TSX Asynchronous Abort):
run-level 5 Apr 1 12:23
SPEC is set to: /home/cpu2017_B1
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/ubuntu--vg-ubuntu--lv ext4 182G 62G 112G 36% /

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 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:
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Platform Notes (Continued)

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 LLVMMirror.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 LLVMMirror.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 LLVMMirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin
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<td>Software Availability: Mar-2021</td>
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**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
-W1,-mllvm -Wl,-enable-licm-vrp -Wl,-mllvm -Wl,-region-vectorize
-W1,-mllvm -Wl,-function-specialize
-W1,-mllvm -Wl,-align-all-nofallthru-blocks=6
-W1,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -mllvm -function-specialize -flv-function-specialization
-mllvm -enable-gvn-hoist -mllvm -global-vectorize-slp=true
-mllvm -enable-licm-vrp -mllvm -reduce-array-computations=3 -z muldefs
-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

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

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Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL385 Gen10 Plus
(2.95 GHz, AMD EPYC 75F3)

SPECspeed®2017_int_base = 13.2
SPECspeed®2017_int_peak = 13.2

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

Base Optimization Flags (Continued)

C++ benchmarks (continued):
-W1,-mllvm -W1,-align-all-nofallthru-blocks=6
-W1,-mllvm -W1,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -fllto -mllvm -enable-partial-unswitch
-mllvm -unroll-threshold=100 -finline-aggressive
-fly-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 -W1,-mllvm -W1,-inline-recursion=4
-W1,-mllvm -W1,-lsr-in-nested-loop -W1,-mllvm -W1,-enable-iv-split
-W1,-mllvm -W1,-region-vectorize -W1,-mllvm -W1,-function-specialize
-W1,-mllvm -W1,-align-all-nofallthru-blocks=6
-W1,-mllvm -W1,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -fllto -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

Peak Compiler Invocation

C benchmarks:
clang

(Continued on next page)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL385 Gen10 Plus
(2.95 GHz, AMD EPYC 75F3)

SPECspeed®2017_int_base = 13.2
SPECspeed®2017_int_peak = 13.2

Peak Compiler Invocation (Continued)

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Peak Portability Flags
Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
600.perlbench_s: basepeak = yes
602.gcc_s: basepeak = yes
605.mcf_s: basepeak = yes
625.x264_s: basepeak = yes
657.xz_s: basepeak = yes

C++ benchmarks:
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
## SPEC CPU®2017 Integer Speed Result

**Hewlett Packard Enterprise**

*ProLiant DL385 Gen10 Plus*

(2.95 GHz, AMD EPYC 75F3)

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

### 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

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The flags files that were used to format this result can be browsed at:


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-revQ.xml](http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-AMD-V1.2-EPYC-revQ.xml)

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Tested with SPEC CPU®2017 v1.1.5 on 2020-04-01 20:26:17-0400.  
Report generated on 2021-06-22 17:03:05 by CPU2017 PDF formatter v6442.  
Originally published on 2021-06-22.