**SPEC CPU®2017 Integer Speed Result**

**Hewlett Packard Enterprise**
(Test Sponsor: HPE)
ProLiant DL385 Gen10 Plus v2
(2.45 GHz, AMD EPYC 7763)

<table>
<thead>
<tr>
<th>Test Sponsor: HPE</th>
<th>Hardware Availability: Apr-2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by: HPE</td>
<td>Software Availability: Mar-2021</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 3  
**Test Date:** Jul-2021  
**Hardware Availability:** Apr-2021  
**Software Availability:** Mar-2021  

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<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed®2017_int_base</th>
<th>SPECspeed®2017_int_peak</th>
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<tr>
<td>600.perlbench_s</td>
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<td>623.xalancbmk_s</td>
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<td>631.deepsjeng_s</td>
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<td>641.leela_s</td>
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<tr>
<td>648.exchange2_s</td>
<td>128</td>
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<tr>
<td>657.xz_s</td>
<td>128</td>
<td>24.5</td>
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</tr>
</tbody>
</table>

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**Hardware**

- **CPU Name:** AMD EPYC 7763  
- **Max MHz:** 3500  
- **Nominal:** 2450  
- **Enabled:** 128 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 / 8 cores  
- **Other:** None  
- **Memory:** 2 TB (16 x 128 GB 4Rx4 PC4-3200AA-L)  
- **Storage:** 1 x 960 GB SATA SSD, RAID 0  
- **Other:** None

**Software**

- **OS:** Red Hat Enterprise Linux release 8.3 (Ootpa)  
- **Kernel:** 4.18.0-240.el8.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:** xfs  
- **System State:** Run level 3 (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>
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</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)
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SPECspeed®2017_int_base = 12.0
SPECspeed®2017_int_peak = 12.0

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

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 = "0-127"
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 = "128"

Environment variables set by runcpu during the 620.omnetpp_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

Submitted by: "Bhatnagar, Prateek" <prateek.bhatnagar@hpe.com>
Submitted: Mon Jul 19 06:05:05 EDT 2021
Submission: cpu2017-20210719-28182.sub
SPEC CPU®2017 Integer Speed Result

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SPECspeed®2017_int_peak = 12.0

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
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

Sysinfo program /home/cpu2017_B1/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on DL385G10v2 Sat Apr  4 03:59:54 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 7763 64-Core Processor
  2 "physical id"s (chips)
  128 "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 : 64
siblings : 64
  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 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
  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 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

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 128
On-line CPU(s) list: 0-127
Thread(s) per core: 1
Core(s) per socket: 64
Socket(s): 2
NUMA node(s): 16
Vendor ID: AuthenticAMD

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SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.0

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

Platform Notes (Continued)

CPU family: 25
Model: 1
Model name: AMD EPYC 7763 64-Core Processor
Stepping: 1
CPU MHz: 1930.898
CPU max MHz: 2450.0000
CPU min MHz: 1500.0000
BogoMIPS: 4890.80
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K
L2 cache: 512K
L3 cache: 32768K
NUMA node0 CPU(s): 0-7
NUMA node1 CPU(s): 8-15
NUMA node2 CPU(s): 16-23
NUMA node3 CPU(s): 24-31
NUMA node4 CPU(s): 32-39
NUMA node5 CPU(s): 40-47
NUMA node6 CPU(s): 48-55
NUMA node7 CPU(s): 56-63
NUMA node8 CPU(s): 64-71
NUMA node9 CPU(s): 72-79
NUMA node10 CPU(s): 80-87
NUMA node11 CPU(s): 88-95
NUMA node12 CPU(s): 96-103
NUMA node13 CPU(s): 104-111
NUMA node14 CPU(s): 112-119
NUMA node15 CPU(s): 120-127
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 rdtsscp lm
constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq
monitor ssse3 fma cx16 pcid sse4_1 sse4_2 movbe popcnt aes 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 bpext perfctr_llc mwaitx cpb
pit cat_l3 cdp_l3 invpcid_single hw_pstate sme ssbd mba sev ibrs ibpb stibp vmmcall
fsgsbase bmi1 avx2 smep bmi2 invpcid cmqm rdt_a rdseed adx smap clflushopt clwb
sha ni xsaves opt xsaveevtx xgetbv1 xsavec cmqm_llc cmqm_occu llc cmqm_mbb_total
cmq_mbb_local clzero irperf xsaveerptr wboinvd amd_ppin arat npt lbv svm_lock
nrip safe tsc_scale vmbc_clean flushbyasid decodeassists pausefilter pftreshold
v_vmsave_vmload vgif umip pku ospke vaes vpcmtdqd rdpd overflow_reco suoc smca

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.

(Continued on next page)
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SPEC_CPU®2017 Integer Speed Result
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SPECspeed®2017_int_base = 12.0
SPECspeed®2017_int_peak = 12.0

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

Platform Notes (Continued)

available: 16 nodes (0-15)
node 0 cpus: 0 1 2 3 4 5 6 7
node 0 size: 128709 MB
node 0 free: 128568 MB
node 1 cpus: 8 9 10 11 12 13 14 15
node 1 size: 129021 MB
node 1 free: 128695 MB
node 2 cpus: 16 17 18 19 20 21 22 23
node 2 size: 129021 MB
node 2 free: 128793 MB
node 3 cpus: 24 25 26 27 28 29 30 31
node 3 size: 129017 MB
node 3 free: 128794 MB
node 4 cpus: 32 33 34 35 36 37 38 39
node 4 size: 129019 MB
node 4 free: 128575 MB
node 5 cpus: 40 41 42 43 44 45 46 47
node 5 size: 129021 MB
node 5 free: 128944 MB
node 6 cpus: 48 49 50 51 52 53 54 55
node 6 size: 129021 MB
node 6 free: 128941 MB
node 7 cpus: 56 57 58 59 60 61 62 63
node 7 size: 116905 MB
node 7 free: 116832 MB
node 8 cpus: 64 65 66 67 68 69 70 71
node 8 size: 129021 MB
node 8 free: 128918 MB
node 9 cpus: 72 73 74 75 76 77 78 79
node 9 size: 129021 MB
node 9 free: 128951 MB
node 10 cpus: 80 81 82 83 84 85 86 87
node 10 size: 128982 MB
node 10 free: 128916 MB
node 11 cpus: 88 89 90 91 92 93 94 95
node 11 size: 129021 MB
node 11 free: 128914 MB
node 12 cpus: 96 97 98 99 100 101 102 103
node 12 size: 129021 MB
node 12 free: 128951 MB
node 13 cpus: 104 105 106 107 108 109 110 111
node 13 size: 129021 MB
node 13 free: 128956 MB
node 14 cpus: 112 113 114 115 116 117 118 119
node 14 size: 129021 MB
node 14 free: 128954 MB
node 15 cpus: 120 121 122 123 124 125 126 127

(Continued on next page)
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SPECspeed®2017_int_base = 12.0
SPECspeed®2017_int_peak = 12.0

Platform Notes (Continued)

node 15 size: 129013 MB
node 15 free: 128888 MB
node distances:

node 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
0: 10 11 11 11 11 11 11 11 32 32 32 32 32 32 32 32

From /proc/meminfo

MemTotal: 2101128100 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:

(Continued on next page)
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## Hewlett Packard Enterprise

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### SPECspeed®2017_int_base = 12.0

### SPECspeed®2017_int_peak = 12.0

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<th>CPU2017 License</th>
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<tr>
<td>3</td>
<td>Jul-2021</td>
<td>Apr-2021</td>
<td>HPE</td>
<td>HPE</td>
</tr>
</tbody>
</table>

### Platform Notes (Continued)

Linux DL385G10v2 4.18.0-240.e18.x86_64 #1 SMP Wed Sep 23 05:13:10 EDT 2020  
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
  - Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBF: disabled, RSB filling  
- **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, STIBF: disabled, RSB filling
- **CVE-2020-0543** (Special Register Buffer Data Sampling): Not affected
- **CVE-2019-11135** (TSX Asynchronous Abort): Not affected

run-level 3 Apr 4 00:09

SPEC is set to: /home/cpu2017_B1

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:**

- 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

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SPECspeed®2017_int_base = 12.0
SPECspeed®2017_int_peak = 12.0

Platform Notes (Continued)

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

Base Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

(Continued on next page)
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(2.45 GHz, AMD EPYC 7763)

SPECspeed®2017_int_base = 12.0
SPECspeed®2017_int_peak = 12.0

Base Compiler Invocation (Continued)

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,-mlllvm -Wl,-enable-licm-vrp -Wl,-mlllvm -Wl,-region-vectorize
-Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-ffast-math -flto -fstruct-layout=5
-mlllvm -unroll-threshold=50 -mlllvm -inline-threshold=1000
-fremap-arrays -mlllvm -function-specialize -flv-function-specialization
-mlllvm -enable-gvn-hoist -mlllvm -global-vectorize-slp=true
-mlllvm -enable-licm-vrp -mlllvm -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,-mlllvm -Wl,-do-block-reorder=aggressive
-Wl,-mlllvm -Wl,-region-vectorize -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-ffast-math -flto -mlllvm -enable-partial-unswitch
-mlllvm -unroll-threshold=100 -finline-aggressive
-flv-function-specialization -mlllvm -loop-unswitch-threshold=200000
-mlllvm -reroll-loops -mlllvm -aggressive-loop-unswitch

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

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL385 Gen10 Plus v2
(2.45 GHz, AMD EPYC 7763)

SPECspeed®2017_int_base = 12.0
SPECspeed®2017_int_peak = 12.0

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

Test Date: Jul-2021
Hardware Availability: Apr-2021
Software Availability: Mar-2021

### Base Optimization Flags (Continued)

C++ benchmarks (continued):
- 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 -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

C++ benchmarks:
clang++

Fortran benchmarks:
flang
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL385 Gen10 Plus v2
(2.45 GHz, AMD EPYC 7763)

SPECspec®2017_int_base = 12.0
SPECspec®2017_int_peak = 12.0

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

Test Date: Jul-2021
Hardware Availability: Apr-2021
Software Availability: Mar-2021

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: -m64 -std=c++98 -mno-adx -mno-sse4a
-stdlib -m1llvm -Wl,-do-block-reorder-aggressive
-stdlib -m1llvm -Wl,-function-specialize
-stdlib -m1llvm -Wl,-align-all-nofallthru-blocks=6
-stdlib -m1llvm -Wl,-reduce-array-computations=3 -Ofast
-march=zvnnr3 -fveclib=AMDLIBM -ffast-math -flto
-finline-aggressive -m1llvm -unroll-threshold=100
-flv-function-specialization -m1llvm -enable-lcm-vrp
-m1llvm -reroll-loops -m1llvm -aggressive-loop-unswitch
-m1llvm -reduce-array-computations=3
-m1llvm -global-vectorize-slp=true
-m1llvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm
-ljemalloc -lflang
623.xalancbnk_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**  
(Test Sponsor: HPE)  
ProLiant DL385 Gen10 Plus v2  
(2.45 GHz, AMD EPYC 7763)

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<td>Software Availability:</td>
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</table>

### 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-revQ.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-revQ.xml

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