Hewlett Packard Enterprise
ProLiant DL365 Gen10 Plus
(3.20 GHz, AMD EPYC 74F3)

SPEC CPU®2017 Integer Speed Result

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HPE

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

Hardware
CPU Name: AMD EPYC 74F3
Max MHz: 4000
Nominal: 3200
Enabled: 48 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 / 3 cores
Other: None
Memory: 2 TB (16 x 128 GB 4Rx4 PC4-3200AA-L)
Storage: 1 x 196 GB SATA SSD, RAID 0
Other: None

Software
OS: Ubuntu 20.04.1 LTS (x86_64)
Kernel 5.4.0-56-generic
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

SPECspeed®2017_int_base = 13.4
SPECspeed®2017_int_peak = 13.4
# SPEC CPU®2017 Integer Speed Result

## Hewlett Packard Enterprise

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**ProLiant DL365 Gen10 Plus**  
**(3.20 GHz, AMD EPYC 74F3)**

<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>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>48</td>
<td>245</td>
<td>7.26</td>
<td>246</td>
<td>7.23</td>
<td>245</td>
<td>7.25</td>
<td>1</td>
<td>241</td>
<td>7.36</td>
<td>241</td>
<td>7.38</td>
<td>242</td>
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<tr>
<td>602.gcc_s</td>
<td>48</td>
<td>278</td>
<td>14.3</td>
<td>276</td>
<td>14.4</td>
<td>277</td>
<td>14.4</td>
<td>48</td>
<td>278</td>
<td>14.3</td>
<td>276</td>
<td>14.4</td>
<td>277</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>48</td>
<td>212</td>
<td>22.2</td>
<td>212</td>
<td>22.3</td>
<td>213</td>
<td>22.2</td>
<td>48</td>
<td>212</td>
<td>22.2</td>
<td>212</td>
<td>22.3</td>
<td>213</td>
</tr>
<tr>
<td>623.xalancmk_s</td>
<td>48</td>
<td>91.6</td>
<td>15.5</td>
<td>91.5</td>
<td>15.5</td>
<td>91.9</td>
<td>15.4</td>
<td>48</td>
<td>91.6</td>
<td>15.5</td>
<td>91.5</td>
<td>15.5</td>
<td>91.9</td>
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<td>625.x264_s</td>
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<td>94.9</td>
<td>18.6</td>
<td>94.7</td>
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<td>18.7</td>
<td>48</td>
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<td>18.6</td>
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<td>18.6</td>
<td>94.6</td>
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<tr>
<td>641.leela_s</td>
<td>48</td>
<td>270</td>
<td>6.31</td>
<td>270</td>
<td>6.32</td>
<td>270</td>
<td>6.31</td>
<td>48</td>
<td>270</td>
<td>6.31</td>
<td>270</td>
<td>6.32</td>
<td>270</td>
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<tr>
<td>648.exchange2_s</td>
<td>48</td>
<td>115</td>
<td>25.6</td>
<td>115</td>
<td>25.5</td>
<td>115</td>
<td>25.6</td>
<td>48</td>
<td>115</td>
<td>25.6</td>
<td>115</td>
<td>25.5</td>
<td>115</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>48</td>
<td>225</td>
<td>27.4</td>
<td>228</td>
<td>27.1</td>
<td>230</td>
<td>26.9</td>
<td>48</td>
<td>227</td>
<td>27.3</td>
<td>227</td>
<td>27.2</td>
<td>224</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  

## Submit Notes

The config file option 'submit' was used.  
'nusactl' 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.

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SPECspeed®2017_int_peak = 13.4

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
rungs 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 = "0-47"
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_THREADLIMIT = "48"

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

Environment variables set by runcpu during the 657.xz_s peak run:
GOMP_CPU_AFFINITY = "0-47"

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 (No options specified)
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 21 10:16:41 EDT 2021
Submission: cpu2017-20210621-27532.sub
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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
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/SPEC_CPU2017/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on admin Wed Apr 1 17:27:13 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 74F3 24-Core Processor
2 "physical id"s (chips)
48 "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 : 24
siblings : 24
physical 0: cores 0 1 2 4 5 6 8 9 10 12 13 14 16 17 18 20 21 22 24 25 26 28 29 30
physical 1: cores 0 1 2 4 5 6 8 9 10 12 13 14 16 17 18 20 21 22 24 25 26 28 29 30

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): 48
On-line CPU(s) list: 0-47
Thread(s) per core: 1
Core(s) per socket: 24
Socket(s): 2
NUMA node(s): 16
Vendor ID: AuthenticAMD
CPU family: 25
Model: 1
Model name: AMD EPYC 74F3 24-Core Processor

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Hardware Availability: Jun-2021  
Tested by: HPE  
Software Availability: Mar-2021  

CPU2017 License: 3  
Test Date: Jun-2021  

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Platform Notes (Continued)

Stepping: 1  
Frequency boost: enabled  
CPU MHz: 1635.303  
CPU max MHz: 3200.0000  
CPU min MHz: 1500.0000  
BogoMIPS: 6388.14  
Virtualization: AMD-V  
L1d cache: 1.5 MiB  
L1i cache: 1.5 MiB  
L2 cache: 24 MiB  
L3 cache: 512 MiB  
NUMA node0 CPU(s): 0-2  
NUMA node1 CPU(s): 3-5  
NUMA node2 CPU(s): 6-8  
NUMA node3 CPU(s): 9-11  
NUMA node4 CPU(s): 12-14  
NUMA node5 CPU(s): 15-17  
NUMA node6 CPU(s): 18-20  
NUMA node7 CPU(s): 21-23  
NUMA node8 CPU(s): 24-26  
NUMA node9 CPU(s): 27-29  
NUMA node10 CPU(s): 30-32  
NUMA node11 CPU(s): 33-35  
NUMA node12 CPU(s): 36-38  
NUMA node13 CPU(s): 39-41  
NUMA node14 CPU(s): 42-44  
NUMA node15 CPU(s): 45-47  
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 Srbsds: 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 rdtscp lm constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq mtrr sse3 fma cx16 pcid sse4_1 sse4_2 movbe popcnt aes xsave avx f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch osvw ibs k8intel wdt tce topoext perfctr_core perfctr_nb bptext perfctr_l1c mwaitx cpb cat_l3 cdp_l3 invpcid_single hw_pstate ssbd mba ibrs ibpb stibp vmmcall fsgsbase bmul avx2 smep bmi2 invpcid cqm rdt_a rdseed adx smap

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Software Availability: Mar-2021

Platform Notes (Continued)

clflushopt clwb sha_ni xsaveopt xsavec xgetbv1 xsavees cqm_llc cqm_occup_llc
cqm_mbm_total cqm_mbm_local clzero iperf xsaveerptr wboinvd arat npt lbv svm_lock
nrip_save tsc_scale vmcb_clean flushbyasid decodeassists 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
  node 0 size: 128751 MB
  node 0 free: 128635 MB
  node 1 cpus: 3 4 5
  node 1 size: 129023 MB
  node 1 free: 128946 MB
  node 2 cpus: 6 7 8
  node 2 size: 129023 MB
  node 2 free: 128942 MB
  node 3 cpus: 9 10 11
  node 3 size: 129023 MB
  node 3 free: 128956 MB
  node 4 cpus: 12 13 14
  node 4 size: 129023 MB
  node 4 free: 128953 MB
  node 5 cpus: 15 16 17
  node 5 size: 129023 MB
  node 5 free: 128923 MB
  node 6 cpus: 18 19 20
  node 6 size: 129023 MB
  node 6 free: 128947 MB
  node 7 cpus: 21 22 23
  node 7 size: 116910 MB
  node 7 free: 116839 MB
  node 8 cpus: 24 25 26
  node 8 size: 129023 MB
  node 8 free: 128889 MB
  node 9 cpus: 27 28 29
  node 9 size: 129023 MB
  node 9 free: 128955 MB
  node 10 cpus: 30 31 32
  node 10 size: 129023 MB
  node 10 free: 128883 MB
  node 11 cpus: 33 34 35
  node 11 size: 129023 MB
  node 11 free: 128951 MB

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Platform Notes (Continued)

node 12 cpus: 36 37 38
node 12 size: 129023 MB
node 12 free: 128939 MB
node 13 cpus: 39 40 41
node 13 size: 129023 MB
node 13 free: 128921 MB
node 14 cpus: 42 43 44
node 14 size: 129023 MB
node 14 free: 128919 MB
node 15 cpus: 45 46 47
node 15 size: 129018 MB
node 15 free: 128881 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 32 32 32 32 32 32 32 32 32
1: 11 10 11 11 11 11 11 32 32 32 32 32 32 32 32 32
7: 11 11 11 11 11 11 10 32 32 32 32 32 32 32 32 32
8: 32 32 32 32 32 32 32 32 32 32 32 10 11 11 11 11
10: 32 32 32 32 32 32 32 32 32 32 32 32 32 11 10 11
11: 32 32 32 32 32 32 32 32 32 32 32 32 32 11 10 11
12: 32 32 32 32 32 32 32 32 32 32 32 32 32 11 10 11
14: 32 32 32 32 32 32 32 32 32 32 32 32 32 11 10 11
15: 32 32 32 32 32 32 32 32 32 32 32 32 32 11 10 11

From /proc/meminfo
MemTotal: 2101228972 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
/sbin/tuned-adm active
Current active profile: balanced
/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

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

```plaintext
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 admin 5.4.0-56-generic #62-Ubuntu SMP Mon Nov 23 19:20:19 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
                                                      sanitation
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 17:24

SPEC is set to: /home/SPEC_CPU2017
Filesystem                         Type Size  Used Avail Use% Mounted on
/dev/mapper/ubuntu--vg-ubuntu--lv ext4  196G   42G  145G  23% /

From /sys/devices/virtual/dmi/id
Vendor:                  HPE
Product:                 ProLiant DL365 Gen10 Plus
Product Family:          ProLiant
Serial:                  CN70430NKR
```

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

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Platform Notes (Continued)

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: 2.50

(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

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Compiler Version Notes (Continued)

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,-mllvm -Wl,-enable-lcm-vrp -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 -fstruct-layout=5
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-freemap-arrays -mllvm -function-specialize -flv-function-specialization
-mllvm -enable-gvn-hoist -mllvm -global-vectorize-slp=true
-mllvm -enable-lcm-vrp -mllvm -reduce-array-computations=3 -z mudefs
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-lflang -lflangrti

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Base Optimization Flags (Continued)

C++ benchmarks:
-`-m64` `-std=c++98` `-mno-adx` `-mno-sse4a`
-`-W1`, `-mlllvm` `-W1`, `-do-block-reorder=aggressive`
-`-W1`, `-mlllvm` `-W1`, `-region-vectorize` `-W1`, `-mlllvm` `-W1`, `-function-specialize`
-`-W1`, `-mlllvm` `-W1`, `-align-all-nofallthru-blocks=6`
-`-W1`, `-mlllvm` `-W1`, `-reduce-array-computations=3` `-O3` `-march=znver3`
-`-fveclib=AMDLIBM` `-ffast-math` `-flto` `-mlllvm` `-enable-partial-unswitch`
-`-mlllvm` `-unroll-threshold=100` `-finline-aggressive`
-`-flv-function-specialization` `-mlllvm` `-loop-unswitch-threshold=200000`
-`-mlllvm` `-reroil-loops` `-mlllvm` `-aggressive-loop-unswitch`
-`-mlllvm` `-extra-vectorizer-passes` `-mlllvm` `-reduce-array-computations=3`
-`-mlllvm` `-global-vectorize-slp=true` `-mlllvm` `-convert-pow-exp-to-int=false`
-`-z muldefs` `-mlllvm` `-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`, `-mlllvm` `-W1`, `-inline-recursion=4`
-`-W1`, `-mlllvm` `-W1`, `-lsr-in-nested-loop` `-W1`, `-mlllvm` `-W1`, `-enable-iv-split`
-`-W1`, `-mlllvm` `-W1`, `-region-vectorize` `-W1`, `-mlllvm` `-W1`, `-function-specialize`
-`-W1`, `-mlllvm` `-W1`, `-align-all-nofallthru-blocks=6`
-`-W1`, `-mlllvm` `-W1`, `-reduce-array-computations=3` `-O3` `-march=znver3`
-`-fveclib=AMDLIBM` `-ffast-math` `-flto` `-z muldefs`
-`-mlllvm` `-unroll-aggressive` `-mlllvm` `-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
Copyright 2017-2021 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL365 Gen10 Plus
(3.20 GHz, AMD EPYC 74F3)

SPECspeed®2017_int_base = 13.4
SPECspeed®2017_int_peak = 13.4

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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:

600.perlbench_s: -m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition
-Wl,-mlllvm -Wl,-enable-licm-vrp
-Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver3 -fveclib=AMDLIBM -ffast-math -flto
-fstruct-layout=5 -mlllvm -unroll-threshold=50
-fremap-arrays -flv-function-specialization
-mlllvm -inline-threshold=1000 -mlllvm -enable-gvn-hoist
-mlllvm -global-vectorize-slp=true
-mlllvm -function-specialize -mlllvm -enable-licm-vrp
-mlllvm -reduce-array-computations=3 -DSPEC_OPENMP -fopenmp
-fopenmp=libomp -lomp -lamdllbin -ljemalloc -lflang

602.gcc_s: basepeak = yes

605.mcf_s: basepeak = yes

625.x264_s: basepeak = yes

657.xz_s: Same as 600.perlbench_s

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

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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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