## SPEC CPU®2017 Integer Speed Result

**Test Sponsor:** HPE  
**Hardware Availability:** Jun-2021

**Software Availability:** Mar-2021

### Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>16</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>625.x264_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>657.xz_s</td>
<td>16</td>
<td>1</td>
</tr>
</tbody>
</table>

### SPECspeed®2017_int_base = 13.0

### SPECspeed®2017_int_peak = 13.1

### Hardware

- **CPU Name:** AMD EPYC 7343  
- **Max MHz:** 3900  
- **Nominal:** 3200  
- **Enabled:** 16 cores, 1 chip  
- **Orderable:** 1 chip  
- **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:** 1 TB (8 x 128 GB 4Rx4 PC4-3200AA-L)  
- **Storage:** 1 x 800 GB SAS SSD, RAID 0  
- **Other:** None

### Software

- **OS:** Ubuntu 20.04.1 LTS  
- **Compiler:** C/C++/Fortran: Version 3.0.0 of AOCC  
- **Parallel:** Yes  
- **Firmware:** HPE BIOS Version A43 v2.42 04/15/2021 released Apr-2021  
- **File System:** ext4  
- **System State:** Run level 5 (multi-user, GUI disabled)  
- **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
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL325 Gen10 Plus v2
(3.20 GHz, AMD EPYC 7343)

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

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>
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<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>16</td>
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<td>7.06</td>
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<td>7.02</td>
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<td>181</td>
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<td>15.4</td>
<td>93.0</td>
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<td>625.x264_s</td>
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<td>18.3</td>
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<td>96.2</td>
<td>18.3</td>
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<td>631.deepsjeng_s</td>
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<td>23.8</td>
</tr>
</tbody>
</table>

spec

SPECspeed®2017_int_base = 13.0
SPECspeed®2017_int_peak = 13.1

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 limit
'ulimit -l 2097152' was used to set environment locked pages in memory limit
runcpu command invoked through numacl1 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.

The real test date is Apr-2021. The clock was mistakenly set to 2020 before the benchmark was run.

(Continued on next page)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL325 Gen10 Plus v2
(3.20 GHz, AMD EPYC 7343)

SPECspeed®2017_int_base = 13.0
SPECspeed®2017_int_peak = 13.1

Operating System Notes (Continued)

To enable Transparent Hugepages (THP) for all allocations,
'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.
To enable THP only on request for peak runs of 628.pop2_s, and 638.imagick_s,
'echo madvise > /sys/kernel/mm/transparent_hugepage/enabled' run as root.
To disable THP for peak runs of 627.cam4_s, 644.nab_s, 649.fotonik3d_s, and 654.roms_s,
'echo never > /sys/kernel/mm/transparent_hugepage/enabled' run as root.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
GOMP_CPU_AFFINITY = "0-15"
LD_LIBRARY_PATH =
   "/cpu2017/amd_speed_aocc300_milan_B_lib/64;/cpu2017/amd_speed_aocc300_milan_B_lib/32;"
MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "16"

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

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 + 512GiB 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: "Bucek, James" <james.bucek@hpe.com>
Submitted: Mon Jun 21 13:51:16 EDT 2021

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

Submission: cpu2017-20210621-27610.sub

## Platform Notes

**BIOS Configuration**
- Workload Profile set to General Throughput 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
- Memory PStates set to Disabled
- Data Fabric C-State Enable set to Force Enabled
- 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
- L1 HW Prefetcher set to Disabled

Sysinfo program /cpu2017/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca964d
running on dl325gen10plus Wed Apr 1 12:24:47 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
- 1 "physical id"s (chips)
- 16 "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

From lscpu from util-linux 2.34:

- 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): 16
- On-line CPU(s) list: 0-15
- Thread(s) per core: 1
- Core(s) per socket: 16
- Socket(s): 1

(Continued on next page)
SPEC CPU®2017 Integer Speed Result
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SPECspeed®2017_int_base = 13.0
SPECspeed®2017_int_peak = 13.1

Platform Notes (Continued)

NUMA node(s): 4
Vendor ID: AuthenticAMD
CPU family: 25
Model: 1
Model name: AMD EPYC 7343 16-Core Processor
Stepping: 1
Frequency boost: enabled
CPU MHz: 1795.015
CPU max MHz: 3200.0000
CPU min MHz: 1500.0000
BogoMIPS: 6388.48
Virtualization: AMD-V
L1d cache: 512 KiB
L1i cache: 512 KiB
L2 cache: 8 MiB
L3 cache: 12 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
Vulnerability Itlb multihit: Not affected
Vulnerability Lltf: 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 sanitization
Vulnerability Spectre v2: Mitigation; Full AMD retpoline, IBPB conditional, IBRS_FW, STIBP disabled, RSB filling
Vulnerability Srbds: 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 pdelpgb rdtsscp lm constant_tsc rep_good nop1 nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq monitor ssse3 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 osuw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext perfctr_llc mwaitx cpb cat_l3 cdp_l3 invpcid_single hw_pstate ssbd mba ibrs ibpb stibp vmmcall fsgsbase bmi1 avx2 smep bmi2 invpcid cqm rdt_a rdseed adx smap clflushopt clwb sha_ni xsavesopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local clzero iorperf xsaverprtr wbinvd arat npt lbrv svm_lock nrip_save tsc_scale vmbc_clean flushbyss decodeassist psfthreshold pfthreshold v_vmsave_vmload vgif umip pku ospike vaes vpclmulqdq rdpid overflow_recov succor smca

From lscpu --cache:
NAME ONE-SIZE ALL-SIZE WAYS TYPE LEVEL

(Continued on next page)
Platform Notes (Continued)

L1d  32K  512K  8 Data  1
L1i  32K  512K  8 Instruction  1
L2  512K  8M  8 Unified  2
L3  32M  128M  16 Unified  3

/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: 4 nodes (0-3)
  node 0 cpus: 0 1 2 3
  node 0 size: 257800 MB
  node 0 free: 257426 MB
  node 1 cpus: 4 5 6 7
  node 1 size: 258046 MB
  node 1 free: 257780 MB
  node 2 cpus: 8 9 10 11
  node 2 size: 258022 MB
  node 2 free: 257822 MB
  node 3 cpus: 12 13 14 15
  node 3 size: 245935 MB
  node 3 free: 245687 MB
  node distances:
    node 0 1 2 3
    0: 10 11 11 11
    1: 11 10 11 11
    2: 11 11 10 11
    3: 11 11 11 10

From /proc/meminfo
  MemTotal: 1044280932 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

/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"
    VERSION="20.04.1 LTS (Focal Fossa)"
    ID=ubuntu

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SPECspeed®2017_int_base = 13.0
SPECspeed®2017_int_peak = 13.1

Test Date: Jun-2021
Hardware Availability: Jun-2021
Software Availability: Mar-2021

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 dl325gen10plus 5.4.0-54-generic #60-Ubuntu SMP Fri Nov 6 10:37:59 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-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
CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swapgs
barriers and __user pointer
sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline,
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: /cpu2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/sdb2 ext4 733G 27G 668G 4% /

From /sys/devices/virtual/dmi/id
Vendor: HPE
Product: ProLiant DL325 Gen10 Plus
Product Family: ProLiant
Serial: CN79290FKQ

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:
8x Samsung M386AAG40AM3-CWE 128 GB 4 rank 3200
8x UNKNOWN NOT AVAILABLE

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

Platform Notes (Continued)

BIOS:
  BIOS Vendor: HPE
  BIOS Version: A43
  BIOS Date: 04/15/2021
  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
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin
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Test Date: Jun-2021
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Software Availability: Mar-2021

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-licm-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
-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
-llflang -llflangrti

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)
### Base Optimization Flags (Continued)

C++ benchmarks (continued):
- `-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`
- `-mllvm -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 -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 DL325 Gen10 Plus v2
(3.20 GHz, AMD EPYC 7343)

SPECspeed®2017_int_base = 13.0
SPECspeed®2017_int_peak = 13.1

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

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

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
-WL,-mllvm -Wl,-do-block-reorder=aggressive
-WL,-mllvm -Wl,-function-specialize
-WL,-mllvm -Wl,-align-all-nofallthru-blocks=6

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

620.omnetpp_s (continued):
- W1,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
- march=znver3 -fveclib=AMDLIBM -ffast-math -flto
- finline-aggressive -mlllvm -unroll-threshold=100
- flv-function-specialization -mlllvm -enable-licm-vrp
- ml LLVM -reroll-loops -mlllvm -aggressive-loop-unswitch
- ml llvm -reduce-array-computations=3
- ml llvm -global-vectorize-slp=true
- ml llvm -do-block-reorder=aggressive
- fvirtual-function-elimination -fvisibility=hidden
- DSPEC_OMPMP -fopenmp -fopenmp=libomp -lomp -lamdlibm
- ljemalloc -lflang

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
**SPEC CPU®2017 Integer Speed Result**

Hewlett Packard Enterprise  
(Test Sponsor: HPE)  
ProLiant DL325 Gen10 Plus v2  
(3.20 GHz, AMD EPYC 7343)  

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Test Date: Jun-2021  
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