Hewlett Packard Enterprise  
ProLiant DL385 Gen10 Plus  
(2.50 GHz, AMD EPYC 7502)  

HPE  

HPE  

HPE  

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**SPEC CPU®2017 Integer Speed Result**  

**SPECspeed®2017_int_base = 8.71**  

**SPECspeed®2017_int_peak = 8.98**

<table>
<thead>
<tr>
<th>Threads</th>
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**Hardware**

- **CPU Name:** AMD EPYC 7502  
- **Max MHz:** 3350  
- **Nominal:** 2500  
- **Enabled:** 64 cores, 2 chips  
- **Orderable:** 1, 2 chips  
- **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, 16 MB shared / 4 cores  
- **Other:** None  
- **Memory:** 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R)  
- **Storage:** 1 x 800 GB SAS SSD, RAID 0  
- **Other:** None

**Software**

- **OS:** SUSE Linux Enterprise Server 15 (x86_64) SP1  
- **Compiler:** C/C++/Fortran: Version 2.0.0 of AOCC  
- **Parallel:** Yes  
- **Firmware:** HPE BIOS Version A42 12/12/2019 released Dec-2019  
- **File System:** btrfs  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 64-bit  
- **Peak Pointers:** 32/64-bit  
- **Other:** jemalloc: jemalloc memory allocator library v5.2.0  
- **Power Management:** BIOS 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
(2.50 GHz, AMD EPYC 7502)

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

SPECspeed®2017_int_base = 8.71
SPECspeed®2017_int_peak = 8.98

Results Table

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SPECspeed®2017_int_base = 8.71
SPECspeed®2017_int_peak = 8.98

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>

Set dirty_ratio=8 to limit dirty cache to 8% of memory
Set swappiness=1 to swap only if necessary
Set zone_reclaim_mode=1 to free local node memory and avoid remote memory
sync then drop_caches=3 to reset caches before invoking runcpu

dirty_ratio, swappiness, zone_reclaim_mode and drop_caches were all set using privileged echo (e.g. echo 1 > /proc/sys/vm/swappiness).

Transparent huge pages set to 'always' for this run (OS default)
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CPU2017 License: 3
Test Sponsor: HPE
Test Date: Feb-2020
Tested by: HPE
Hardware Availability: Dec-2019
Software Availability: Aug-2019

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
GOMP_CPU_AFFINITY = "0-63"
LD_LIBRARY_PATH =
"/home/cpu2017-bbn/amd_speed_aocc200_rome_C_lib/64;/home/cpu2017-bbn/amd_speed_aocc200_rome_C_lib/32:"
MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "64"

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

Environment variables set by runcpu during the 602.gcc_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 605.mcf_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 620.omnetpp_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 623.xalancbmk_s peak run:
GOMP_CPU_AFFINITY = "0"
OMP_STACKSIZE = "128M"

Environment variables set by runcpu during the 625.x264_s peak run:
GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 631.deepsjeng_s peak run:
GOMP_CPU_AFFINITY = "0"

General Notes

Binaries were compiled on a system with 2x AMD EPYC 7601 CPU + 512GB Memory using Fedora 26

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.
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL385 Gen10 Plus
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SPECspeed®2017_int_base = 8.71
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CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE

General Notes (Continued)
jemalloc: configured and built with GCC v9.1.0 in Ubuntu 19.04 with -O3 -znver2 -flto
jemalloc 5.2.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.2.0/jemalloc-5.2.0.tar.bz2

Platform Notes

BIOS Configuration
Thermal Configuration set to Maximum Cooling
SMT Mode set to Disabled
Determinism Control set to Manual
Performance Determinism set to Power Deterministic
Minimum Processor Idle Power Core C-State set to C6 State
Memory Patrol Scrubbing set to Disabled
Workload Profile set to General Peak Frequency Compute
NUMA memory domains per socket set to Four memory domains per socket
C-State Efficiency mode set to Disabled

Sysinfo program /home/cpu2017-bbn/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edbl6e6a485a0011
running on linux-30t0 Thu Feb 14 19:52:17 2019

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 7502 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

(Continued on next page)
Platform Notes (Continued)

Thread(s) per core: 1
Core(s) per socket: 32
Socket(s): 2
NUMA node(s): 8
Vendor ID: AuthenticAMD
CPU family: 23
Model: 49
Model name: AMD EPYC 7502 32-Core Processor
Stepping: 0
CPU MHz: 2500.000
CPU max MHz: 2500.0000
CPU min MHz: 1500.0000
BogoMIPS: 4990.62
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K
L2 cache: 512K
L3 cache: 16384K
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
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush mmx fxsr sse sse2 sse3 fma cx16 ssse3 fma cx16 sse4_1 sse4_2 movbe popcnt aes xsave avx f16c
rdram lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpmx perfctr_l2 mwaitx cpb
cat_l3 cdp_l3 hw_pstate ssbd ibrs ibpb stibp vmmcall fsbgbase bmi1 avx2 smep bmi2
cqm rdt_a rdseed adx smap clflushopt clwb sha_ni xsaves opt sxeas opt xgetbv1 xsaves
cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local clzero irperf xsaveopt arat npt
lbv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter
pfthreshold avic v_xml save_vmload vg functor rpdpid 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: 8 nodes (0-7)
  node 0 cpus: 0 1 2 3 4 5 6 7
  node 0 size: 128681 MB
  node 0 free: 128450 MB

(Continued on next page)
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CPU2017 License: 3
Test Sponsor: HPE
Tested by: HPE
Test Date: Feb-2020
Hardware Availability: Dec-2019
Software Availability: Aug-2019

Platform Notes (Continued)

node 1 cpus:  8  9 10 11 12 13 14 15
node 1 size: 129021 MB
node 1 free: 128881 MB
node 2 cpus: 16 17 18 19 20 21 22 23
node 2 size: 129021 MB
node 2 free: 128660 MB
node 3 cpus: 24 25 26 27 28 29 30 31
node 3 size: 129009 MB
node 3 free: 128756 MB
node 4 cpus: 32 33 34 35 36 37 38 39
node 4 size: 129021 MB
node 4 free: 128887 MB
node 5 cpus: 40 41 42 43 44 45 46 47
node 5 size: 129021 MB
node 5 free: 128899 MB
node 6 cpus: 48 49 50 51 52 53 54 55
node 6 size: 129021 MB
node 6 free: 128900 MB
node 7 cpus: 56 57 58 59 60 61 62 63
node 7 size: 129021 MB
node 7 free: 128901 MB

node distances:
node  0  1  2  3  4  5  6  7
0: 10 12 12 12 32 32 32 32
1: 12 10 12 12 32 32 32 32
2: 12 12 10 12 32 32 32 32
3: 12 12 12 10 32 32 32 32
4: 32 32 32 32 10 12 12 12
5: 32 32 32 32 12 10 12 12
6: 32 32 32 32 12 12 10 12
7: 32 32 32 32 12 12 12 10

From /proc/meminfo
MemTotal: 1056584556 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
os-release:
NAME="SLES"
VERSION="15-SP1"
VERSION_ID="15.1"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp1"

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

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SPECspeed®2017_int_base = 8.71
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Platform Notes (Continued)

uname -a:
    Linux linux-30t0 4.12.14-195-default #1 SMP Tue May 7 10:55:11 UTC 2019 (8fba516)
x86_64 x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:

CVE-2018-3620 (L1 Terminal Fault): Not affected
Microarchitectural Data Sampling: Not affected
CVE-2017-5754 (Meltdown): Not affected
CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled via prctl and seccomp
CVE-2017-5753 (Spectre variant 1): Mitigation: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retropoline, IBPB: conditional, IBRS_FW, STIBP: disabled, RSB filling

run-level 3 Feb 14 19:51

SPEC is set to: /home/cpu2017-bbn
    Filesystem Type Size Used Avail Use% Mounted on
    /dev/sdc2 btrfs 743G 26G 717G 4% /home

From /sys/devices/virtual/dmi/id
    BIOS: HPE A42 12/12/2019
    Vendor: HPE
    Product: ProLiant DL385 Gen10 Plus
    Product Family: ProLiant
    Serial: CN79310517

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 Micron 36ASF8G72PZ-3G2B2 64 GB 2 rank 3200
    16x UNKNOWN NOT AVAILABLE

(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) |
------------------------------------------------------------------------------

(Continued on next page)
**Compiler Version Notes (Continued)**

AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
  AOC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

------------------------------------------------------------------------------
|
C++     | 623.xalancbmk_s(peak)
------------------------------------------------------------------------------
|
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
  AOC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: i386-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

------------------------------------------------------------------------------
|----------------------------|
C++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base)
| 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)
------------------------------------------------------------------------------
|
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
  AOC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

------------------------------------------------------------------------------
|----------------------------|
C++     | 623.xalancbmk_s(peak)
------------------------------------------------------------------------------
|
AOCC.LLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
  AOC_2_0_0-Build#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019_07_19)
Target: i386-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

------------------------------------------------------------------------------
|----------------------------|
C++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base)
| 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)
------------------------------------------------------------------------------
(Continued on next page)
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL385 Gen10 Plus
(2.50 GHz, AMD EPYC 7502)  

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

SPECsper\textsuperscript{2017}_\text{int\_base} = 8.71
SPECsper\textsuperscript{2017}_\text{int\_peak} = 8.98

Test Date: Feb-2020
Hardware Availability: Dec-2019
Software Availability: Aug-2019

Compiler Version Notes (Continued)

------------------------------------------------------------------------------
Fortran | 648.exchange2\_s\(\text{base, peak}\)
------------------------------------------------------------------------------
AOCC.LLVM.2.0.0.B191.2019\_07\_19 clang version 8.0.0 (CLANG: Jenkins
AOCC\_2\_0\_0\_Build\#191) (based on LLVM AOCC.LLVM.2.0.0.B191.2019\_07\_19)
Target: x86\_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/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:
-\texttt{flto} -Wl,-mllvm -Wl,-function-specialize
-\texttt{-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC

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### Base Optimization Flags (Continued)

**C** benchmarks (continued):
- `-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math`
- `-march=znver2 -fstruct-layout=3 -mllvm -unroll-threshold=50`
- `-fremap-arrays -mllvm -function-specialize -mllvm -enable-gvn-hoist`
- `-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp`
- `-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000`
- `-flv-function-specialization -z muldefs -DSPEC_OPENMP -fopenmp`
- `-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm`
- `-ljemalloc -lflang`

**C++** benchmarks:
- `-flto -Wl,-mllvm -Wl,-function-specialize`
- `-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC`
- `-Wl,-mllvm -Wl,-reduce-array-computations=3`
- `-Wl,-mllvm -Wl,-suppress-fmas -O3 -ffast-math -march=znver2`
- `-mllvm -loop-unswitch-threshold=200000 -mllvm -vector-library=LIBMVEC`
- `-mllvm -unroll-threshold=100 -flv-function-specialization`
- `-mllvm -enable-partial-unswitch -z muldefs -DSPEC_OPENMP -fopenmp`
- `-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm`
- `-ljemalloc -lflang`

**Fortran** benchmarks:
- `-flto -Wl,-mllvm -Wl,-function-specialize`
- `-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC`
- `-Wl,-mllvm -Wl,-reduce-array-computations=3 -ffast-math`
- `-Wl,-mllvm -Wl,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop`
- `-Wl,-mllvm -Wl,-enable-iv-split -O3 -march=znver2 -funroll-loops`
- `-Mrecursive -mllvm -vector-library=LIBMVEC -z muldefs`
- `-mllvm -disable-indvar-simplify -mllvm -unroll-aggressive`
- `-mllvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -DUSE_OPENMP`
- `-fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm -ljemalloc`
- `-lflang`

### Base Other Flags

**C** benchmarks:
- `-Wno-return-type`

**C++** benchmarks:
- `-Wno-return-type`

**Fortran** benchmarks:
- `-Wno-return-type`
Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL385 Gen10 Plus
(2.50 GHz, AMD EPYC 7502)

SPEC CPU®2017 Integer Speed Result
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Hewlett Packard Enterprise
[Test Sponsor: HPE]
ProLiant DL385 Gen10 Plus
[2.50 GHz, AMD EPYC 7502]

SPECspeed®2017_int_base = 8.71
SPECspeed®2017_int_peak = 8.98

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

Test Date: Feb-2020
Hardware Availability: Dec-2019
Software Availability: Aug-2019

Peak Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Peak 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 -D_FILE_OFFSET_BITS=64
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

Peak Optimization Flags

C benchmarks:

600.perlbench_s: -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3
-fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -Ofast -march=znver2
-mno-sse4a -fstruct-layout=5
-mllvm -vectorize-memory-aggressively
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -vector-library=LIBMVEC
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp -mllvm -inline-threshold=1000
-flv-function-specialization -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -lmvec -lamlibm -fopenmp=libomp -lomp
-lpthread -ldl -ljemalloc -lflang

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Peak Optimization Flags (Continued)

602.gcc_s: -flto -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-region-vectorize
-Wl,-mlllvm -Wl,-vector-library=LIBMVEC
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -mno-sse4a -fstruct-layout=5
-mlllvm-vectorize-memory-aggressively
-mlllvm-function-specialize -mlllvm-enable-gvn-hoist
-mlllvm-unroll-threshold=50 -fremap-arrays
-mlllvm-vector-library=LIBMVEC
-mlllvm-reduce-array-computations=3
-mlllvm-global-vectorize-slp -mlllvm-inline-threshold=1000
-flv-function-specialization -z muldefs -DSPEC_OPENMP
-fopenmp -DUSE_OPENMP -fgnu89-inline -fopenmp=libomp
-lomp -lpthread -ldl -ljemalloc

605.mcf_s: -flto -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-region-vectorize
-Wl,-mlllvm -Wl,-vector-library=LIBMVEC
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -mno-sse4a -fstruct-layout=5
-mlllvm-vectorize-memory-aggressively
-mlllvm-function-specialize -mlllvm-enable-gvn-hoist
-mlllvm-unroll-threshold=50 -fremap-arrays
-mlllvm-vector-library=LIBMVEC
-mlllvm-reduce-array-computations=3
-mlllvm-global-vectorize-slp -mlllvm-inline-threshold=1000
-flv-function-specialization -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -lmvec -lamdlibm -fopenmp=libomp -lomp
-lpthread -ldl -ljemalloc -lflang

625.x264_s: Same as 600.perlbench_s

657.xz_s: basepeak = yes

C++ benchmarks:

620.omnetpp_s: -flto -Wl,-mlllvm -Wl,-function-specialize
-Wl,-mlllvm -Wl,-region-vectorize
-Wl,-mlllvm -Wl,-vector-library=LIBMVEC
-Wl,-mlllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -flv-function-specialization
-mlllvm-unroll-threshold=100
-mlllvm-enable-partial-unswitch
-mlllvm-loop-unswitch-threshold=200000

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Peak Optimization Flags (Continued)

620.omnetpp_s (continued):
-mlirv -vector-library=LIBMVEC
-mlirv -inline-threshold=1000 -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-Ilmvec -lamdlibm -ljemalloc -lflang

623.xalancbmk_s: -m32 -flto -Wl,-mlirv -Wl,-function-specialize
-Wl,-mlirv -Wl,-region-vectorize
-Wl,-mlirv -Wl,-vector-library=LIBMVEC
-Wl,-mlirv -Wl,-reduce-array-computations=3 -Ofast
-march=znver2 -flv-function-specialization
-mlirv -unroll-threshold=100
-mlirv -enable-partial-unswitch
-mlirv -loop-unswitch-threshold=200000
-mlirv -vector-library=LIBMVEC
-mlirv -inline-threshold=1000 -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-ljemalloc

631.deepsjeng_s: Same as 620.omnetpp_s

641.leela_s: basepeak = yes

Fortran benchmarks:

648.exchange2_s: basepeak = yes

Peak Other Flags

C benchmarks:
- Wno-return-type

C++ benchmarks (except as noted below):
- Wno-return-type

623.xalancbmk_s: Wno-return-type
-L/sppo/dev/cpu2017/v110/amd_speed_aocc200_rome_C_lib/32

Fortran benchmarks:
- Wno-return-type
Hewlett Packard Enterprise
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(2.50 GHz, AMD EPYC 7502)

SPECspeed®2017_int_base = 8.71
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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-revH.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-revH.xml
http://www.spec.org/cpu2017/flags/aocc200-flags-C1-HPE.xml

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