### SPEC CPU® 2017 Integer Speed Result

**Dell Inc.**

PowerEdge R6515 (AMD EPYC 7662, 2.00 GHz)

<table>
<thead>
<tr>
<th>Threads</th>
<th>SPECspeed\textsuperscript{2017_int_base}</th>
<th>SPECspeed\textsuperscript{2017_int_peak}</th>
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<tbody>
<tr>
<td>1</td>
<td>8.49</td>
<td>8.66</td>
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<tr>
<td>64</td>
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</table>

**CPU2017 License:** 55
**Test Sponsor:** Dell Inc.
**Tested by:** Dell Inc.
**Test Date:** Nov-2019
**Hardware Availability:** Feb-2020
**Software Availability:** Aug-2019

**CPU Name:** AMD EPYC 7662
**Max MHz:** 3300
**Nominal:** 2000
**Enabled:** 64 cores, 1 chip, 2 threads/core
**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:** 256 MB I+D on chip per chip, 16 MB shared / 4 cores
**Other:** None
**Memory:** 256 GB (8 x 32 GB 2Rx4 PC4-3200AA-R, running at 3200)
**Storage:** 1 x 960 GB SATA SSD
**Other:** None

**OS:** SUSE Linux Enterprise Server 15 SP1
**Compiler:** C/C++/Fortran: Version 2.0.0 of AOCC
**Parallel:** Yes
**Firmware:** Version 1.2.7 released Oct-2019
**File System:** xfs
**System State:** Run level 3 (multi-user)
**Base Pointers:** 64-bit
**Peak Pointers:** 32/64-bit
**Other:** jemalloc: jemalloc memory allocator library v5.1.0
**Power Management:** BIOS set to prefer performance at the cost of additional power usage.
Dell Inc. PowerEdge R6515 (AMD EPYC 7662, 2.00 GHz) SPECspeed®2017_int_base = 8.49
SPECspeed®2017_int_peak = 8.66
Results Table

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<tr>
<th>Benchmark</th>
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<td>657.xz_s</td>
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<td>19.7</td>
<td>64</td>
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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>
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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Environment Variables Notes

Environment variables set by runcpu before the start of the run:
GOMP_CPU_AFFINITY = "0-127"
LD_LIBRARY_PATH =
    "/root/cpu2017-1.1.0/amd_speed_aocc200_rome_C_lib/64;/root/cpu2017-1.1.0
    /amd_speed_aocc200_rome_C_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 600.perlbench_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 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.

jemalloc: configured and built with GCC v9.1.0 in Ubuntu 19.04 with -O3 -znver2 -flto
jemalloc 5.1.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.1.0/jemalloc-5.1.0.tar.bz2
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Platform Notes

BIOS settings:
NUMA Nodes Per Socket set to 4
CCX as NUMA Domain set to Enabled
System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
Turbo Boost Enabled
Cstates set to Enabled
Memory Patrol Scrub Disabled
Memory Refresh Rate set to 1x
PCI ASPM L1 Link Power Management Disabled
Determinism Slider set to Power Determinism
Efficiency Optimized Mode Disabled
Memory Interleaving set to Disabled

Sysinfo program /root/cpu2017-1.1.0/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on linux-g3ob Wed Nov  6 07:12:54 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 7662 64-Core Processor
  1 "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 : 128
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

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
Address sizes: 43 bits physical, 48 bits virtual
CPU(s): 128
On-line CPU(s) list: 0-127
Thread(s) per core: 2
Core(s) per socket: 64
Socket(s): 1
NUMA node(s): 16
Vendor ID: AuthenticAMD

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CPU family: 23
Model: 49
Model name: AMD EPYC 7662 64-Core Processor
Stepping: 0
CPU MHz: 1996.348
BogoMIPS: 3992.69
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K
L2 cache: 512K
L3 cache: 16384K
NUMA node0 CPU(s): 0-3,64-67
NUMA node1 CPU(s): 4-7,68-71
NUMA node2 CPU(s): 8-11,72-75
NUMA node3 CPU(s): 12-15,76-79
NUMA node4 CPU(s): 16-19,80-83
NUMA node5 CPU(s): 20-23,84-87
NUMA node6 CPU(s): 24-27,88-91
NUMA node7 CPU(s): 28-31,92-95
NUMA node8 CPU(s): 32-35,96-99
NUMA node9 CPU(s): 36-39,100-103
NUMA node10 CPU(s): 40-43,104-107
NUMA node11 CPU(s): 44-47,108-111
NUMA node12 CPU(s): 48-51,112-115
NUMA node13 CPU(s): 52-55,116-119
NUMA node14 CPU(s): 56-59,120-123
NUMA node15 CPU(s): 60-63,124-127

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 rdtscp lm
constant_tsc rep_good nopl xtopology nonstop_tsc cpuid extd_apicid aperfmperf pni
pclmulqdq monitor ssse3 fma cx16 sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx
f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse
3dnowprefetch osvw lbs skinit wdt tce topoext perfctr_core perfctr_nb bext
perfctr_l2 mwaitx cpb cat_l3 cdp_l3 hw_pstate sme ssbd sev ibrs stibp vmmcall
fsqsbased bm1 avx2 smep bmi2 cqm rdt_a rdseed adx smap clflushopt clwb sha ni
xsaweopt xsavexc qgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local
cizerf irperf xsaveerptr arat npt lbrv svm_lock nrrip_save tsc_scale vmcb_clean
flushbyasid decodeassists pausefilter pfthreshold avic v_vmsave_vmload vgif umip
rdpid overflow_recov succor smca

/platform/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 64 65 66 67

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

- **node 0**: size: 15548 MB, free: 15383 MB
- **node 1**, cpus: 4 5 6 7 68 69 70 71
- **node 1**, size: 16096 MB, free: 15957 MB
- **node 2**, cpus: 8 9 10 11 72 73 74 75
- **node 2**, size: 16126 MB, free: 16016 MB
- **node 3**, cpus: 12 13 14 15 76 77 78 79
- **node 3**, size: 16125 MB, free: 16018 MB
- **node 4**, cpus: 16 17 18 19 80 81 82 83
- **node 4**, size: 16126 MB, free: 16016 MB
- **node 5**, cpus: 20 21 22 23 84 85 86 87
- **node 5**, size: 16126 MB, free: 16022 MB
- **node 6**, cpus: 24 25 26 27 88 89 90 91
- **node 6**, size: 16126 MB, free: 16021 MB
- **node 7**, cpus: 28 29 30 31 92 93 94 95
- **node 7**, size: 16126 MB, free: 16018 MB
- **node 8**, cpus: 32 33 34 35 96 97 98 99
- **node 8**, size: 16126 MB, free: 15898 MB
- **node 9**, cpus: 36 37 38 39 100 101 102 103
- **node 9**, size: 16126 MB, free: 15993 MB
- **node 10**, cpus: 40 41 42 43 104 105 106 107
- **node 10**, size: 16126 MB, free: 16006 MB
- **node 11**, cpus: 44 45 46 47 108 109 110 111
- **node 11**, size: 16125 MB, free: 15981 MB
- **node 12**, cpus: 48 49 50 51 112 113 114 115
- **node 12**, size: 16126 MB, free: 16005 MB
- **node 13**, cpus: 52 53 54 55 116 117 118 119
- **node 13**, size: 16126 MB, free: 16019 MB
- **node 14**, cpus: 56 57 58 59 120 121 122 123
- **node 14**, size: 16126 MB, free: 15991 MB
- **node 15**, cpus: 60 61 62 63 124 125 126 127
- **node 15**, size: 16111 MB, free: 15936 MB

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Platform Notes (Continued)

node distances:

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</table>

From /proc/meminfo
MemTotal: 263574096 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"

uname -a:
Linux linux-g3ob 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

(Continued on next page)
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Test Sponsor: Dell Inc.
Tested by: Dell Inc.

SPECspeed®2017_int_base = 8.49
SPECspeed®2017_int_peak = 8.66

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

Platform Notes (Continued)

CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: conditional, RSB filling
run-level 3 Nov 5 09:25 last=5
SPEC is set to: /root/cpu2017-1.1.0
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 440G 41G 400G 10% /

From /sys/devices/virtual/dmi/id
BIOS: Dell Inc. 1.2.7 10/31/2019
Vendor: Dell Inc.
Product: PowerEdge R6515
Product Family: PowerEdge

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:
  8x 80AD863280AD HMA84GR7CJR4N-XN 32 GB 2 rank 3200
  8x Not Specified Not Specified

(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) |
==============================================================================
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

==============================================================================
| C++     | 623.xalancbmk_s(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: i386-unknown-linux-gnu
Thread model: posix

(Continued on next page)
Dell Inc. PowerEdge R6515 (AMD EPYC 7662, 2.00 GHz)

**SPEC CPU®2017 Integer Speed Result**

**SPECspeed®2017_int_base = 8.49**

**SPECspeed®2017_int_peak = 8.66**

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Test Date:** Nov-2019  
**Tested by:** Dell Inc.  
**Hardware Availability:** Feb-2020  
**Software Availability:** Aug-2019

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**Compiler Version Notes (Continued)**

```
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  
     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

C++  | 623.xalancbmk_s(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: 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  
     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

Fortran | 648.exchange2_s(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
```

---
**SPEC CPU®2017 Integer Speed Result**

**Dell Inc.**

PowerEdge R6515 (AMD EPYC 7662, 2.00 GHz)

---

**CPU2017 License:** 55
**Test Sponsor:** Dell Inc.
**Tested by:** Dell Inc.
**Test Date:** Nov-2019
**Hardware Availability:** Feb-2020
**Software Availability:** Aug-2019

---

## 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

(Continued on next page)

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## Base Optimization Flags

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

**C++ benchmarks:**
- -flto -Wl,-mlllvm -Wl, -function-specialize
  -Wl,-mlllvm -Wl,-region-vectorize -Wl,-mlllvm -Wl,-vector-library=LIBMVEC
  -Wl,-mlllvm -Wl,-reduce-array-computations=3
  -Wl,-mlllvm -Wl,-suppress-fmas -O3 -ffast-math -march=znver2
  -mlllvm -loop-unswitch-threshold=200000 -mlllvm -vector-library=LIBMVEC

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

Dell Inc.
PowerEdge R6515 (AMD EPYC 7662, 2.00 GHz)

SPECspeed®2017_int_base = 8.49
SPECspeed®2017_int_peak = 8.66

CPU2017 License: 55
Test Sponsor: Dell Inc.
Test Date: Nov-2019
Hardware Availability: Feb-2020
CPU2017 License: 55
Tested by: Dell Inc.
Software Availability: Aug-2019

Base Optimization Flags (Continued)

C++ benchmarks (continued):
-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 -lfllang

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

Peak Compiler Invocation

C benchmarks:
clang
C++ benchmarks:
clang++
Fortran benchmarks:
flang
SPEC CPU®2017 Integer Speed Result

Dell Inc.

PowerEdge R6515 (AMD EPYC 7662, 2.00 GHz)

SPECspeed®2017_int_base = 8.49
SPECspeed®2017_int_peak = 8.66

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

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

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
-flprofile-instr-generate(pass 1)
-flprofile-instr-use(pass 2) -Ofast -march=znver2
-mho -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 -ldl -ljemalloc -lomp -lomp
-1thread -ldl -ljemalloc -lflang

602.gcc_s: basepeak = yes

605.mcf_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 -Ofast
-march=znver2 -mho -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

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## Peak Optimization Flags (Continued)

605.mcf_s (continued):
-mlvm -global-vectorize-slp -mlllvm -inline-threshold=1000
-llvm-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: basepeak = yes

623.xalancbmk_s: -m32 -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 -llvm-function-specialization
-mlllvm -unroll-threshold=100
-mlllvm -enable-partial-unswitch
-mlllvm -loop-unswitch-threshold=200000
-mlllvm -vector-library=LIBMVEC
-mlllvm -inline-threshold=1000 -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-ljemalloc

631.deepsjeng_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 -llvm-function-specialization
-mlllvm -unroll-threshold=100
-mlllvm -enable-partial-unswitch
-mlllvm -loop-unswitch-threshold=200000
-mlllvm -vector-library=LIBMVEC
-mlllvm -inline-threshold=1000 -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl
-lmvec -lamdlibm -ljemalloc -lflang

641.leela_s: basepeak = yes

### Fortran benchmarks:

648.exchange2_s: basepeak = yes
Dell Inc.

PowerEdge R6515 (AMD EPYC 7662, 2.00 GHz)

| SPECspeed®2017_int_base = 8.49 |
| SPECspeed®2017_int_peak = 8.66 |

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

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

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:

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