SPEC CPU®2017 Integer Rate Result

Quanta Cloud Technology
(Test Sponsor: Quanta Computer Inc.)
QuantaGrid D43K-1U
(AMD EPYC 7773X, 2.2 GHz)

SPECrate®2017_int_base = 824
SPECrate®2017_int_peak = Not Run

Copies

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base (824)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name: AMD EPYC 7773X</td>
<td>OS: Ubuntu 20.04 LTS (x86_64)</td>
</tr>
<tr>
<td>Max MHz: 3500</td>
<td>kernel 5.4.0-96-generic</td>
</tr>
<tr>
<td>Nominal: 2200</td>
<td>Compiler: C/C++/Fortran: Version 3.2.0 of AOCC</td>
</tr>
<tr>
<td>Enabled: 128 cores, 2 chips, 2 threads/core</td>
<td>Parallel: No</td>
</tr>
<tr>
<td>Orderable: 1.2 chips</td>
<td>Firmware: Version 3C07.Q101 released Oct-2021</td>
</tr>
<tr>
<td>Cache L1: 32 KB I + 32 KB D on chip per core</td>
<td>File System: ext4</td>
</tr>
<tr>
<td>L2: 512 KB I+D on chip per core</td>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td>L3: 768 MB I+D on chip per chip, 96 MB shared / 8 cores</td>
<td>Base Pointers: 64-bit</td>
</tr>
<tr>
<td>Other: None</td>
<td>Peak Pointers: Not Applicable</td>
</tr>
<tr>
<td>Memory: 2 TB (16 x 128 GB 4DRx4 PC4-3200AA-L, running at 2933)</td>
<td>Other: jemalloc: jemalloc memory allocator library v5.1.0</td>
</tr>
<tr>
<td>Storage: 1 x 480GB SATA SSD</td>
<td>Power Management: BIOS set to prefer performance at the cost of additional power usage</td>
</tr>
<tr>
<td>Other: None</td>
<td></td>
</tr>
</tbody>
</table>

Test Sponsor: Quanta Computer Inc.
Hardware Availability: Mar-2021
Software Availability: Jan-2022

Test Date: Feb-2022
Hardware Availability: Mar-2021
Software Availability: Jan-2022

CPU2017 License: 9050
Test Sponsor: Quanta Computer Inc.
Tested by: Quanta Computer Inc.
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Results Table

<table>
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<tr>
<th>Benchmark</th>
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<th>Seconds</th>
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<tbody>
<tr>
<td>500.perlbench_r</td>
<td>256</td>
<td>627</td>
<td>650</td>
<td>618</td>
<td>659</td>
<td>619</td>
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<td>505.mcf_r</td>
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<td>2030</td>
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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 numactl i.e.:
numactl --interleave=all runcpu <etc>

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty_ratio=8' run as root.
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.
To free node-local memory and avoid remote memory usage,
'sysctl -w vm.zone_reclaim_mode=1' run as root.
To clear filesystem caches, 'sync; sysctl -w vm.drop_caches=3' run as root.
To disable address space layout randomization (ASLR) to reduce run-to-run
variability, 'sysctl -w kernel.randomize_va_space=0' run as root.

(Continued on next page)
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Operating System Notes (Continued)

To enable Transparent Hugepages (THP) only on request for base runs,
'echo madvise > /sys/kernel/mm/transparent_hugepage/enabled' run as root.
To enable THP for all allocations for peak runs,
'echo always > /sys/kernel/mm/transparent_hugepage/enabled' and
'echo always > /sys/kernel/mm/transparent_hugepage/defrag' run as root.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
"/root/56882_1.12/speccpu2017_rate_aocc320_A1/amd_rate_aocc320_milanx_A_
lib/lib;/root/56882_1.12/speccpu2017_rate_aocc320_A1/amd_rate_aocc320_mi
lanx_A_lib/lib32:"
MALLOC_CONF = "retain:true"

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: Tue Mar 1 02:50:38 EST 2022
Submission: cpu2017-20220301-31141.sub

Platform Notes

BIOS Configuration
SMT Control set to Enable
NUMA nodes per socket set to NPS4
Pwr and Perf Profile set to Performance
Determinism Control is Manual
Determinism Slider set to Power
cTDP Control set to Manual

(Continued on next page)
Platform Notes (Continued)

cTDP set to 280
Package Power Limit Control is Manual
IOMMU is Enable
EDC set to 300
EDC Platform Limit set to 300
Memory Interleaving set to Disabled

Sysinfo program /root/56882_1.12/speccpu2017_rate_aocc320_A1/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16aca64d
running on quanta Sun Feb 27 01:28:37 2022

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 7773X 64-Core Processor
  2  "physical id"s (chips)
  256 "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
  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 fromutil-linux 2.34:
  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): 256
  On-line CPU(s) list: 0-255
  Thread(s) per core: 2
  Core(s) per socket: 64
  Socket(s): 2
  NUMA node(s): 16
  Vendor ID: AuthenticAMD
  CPU family: 25
  Model: 1
  Model name: AMD EPYC 7773X 64-Core Processor
  Stepping: 2
  Frequency boost: enabled

(Continued on next page)
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Platform Notes (Continued)

CPU MHz: 2755.337
CPU max MHz: 2200.0000
CPU min MHz: 1500.0000
BogoMIPS: 4391.75
Virtualization: AMD-V
L1d cache: 4 MiB
L1i cache: 4 MiB
L2 cache: 64 MiB
L3 cache: 1.5 GiB
NUMA node0 CPU(s): 0-7,128-135
NUMA node1 CPU(s): 8-15,136-143
NUMA node2 CPU(s): 16-23,144-151
NUMA node3 CPU(s): 24-31,152-159
NUMA node4 CPU(s): 32-39,160-167
NUMA node5 CPU(s): 40-47,168-175
NUMA node6 CPU(s): 48-55,176-183
NUMA node7 CPU(s): 56-63,184-191
NUMA node8 CPU(s): 64-71,192-199
NUMA node9 CPU(s): 72-79,200-207
NUMA node10 CPU(s): 80-87,208-215
NUMA node11 CPU(s): 88-95,216-223
NUMA node12 CPU(s): 96-103,224-231
NUMA node13 CPU(s): 104-111,232-239
NUMA node14 CPU(s): 112-119,240-247
NUMA node15 CPU(s): 120-127,248-255
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/swappgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Full AMD retpoline, IBPB conditional, IBRS_FW, STIBP always-on, 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 rdtscp lm constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq monitor ssse3 fma cx16 pcid 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 ibr skinit wdt tce topoext perfctr_core perfctr_nb bpext perfctr_l1l mwaitx ceph cat_l3 cdp_l3 invpcid_single hw_pstate sme ssbd mba siv ibrs ibpb stibp vmmcall fsgsbase bmi1 avx2 smep bmi2 invpcid cmte rdt_a rdseed adx smap clflushopt clwb sha_ni xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occap_llc cqm_msb_total cqm_msb_local clzero iroperf xsavesopt wbnoinvd arat npt lbrv svm_lock

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Platform Notes (Continued)

nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter pfthreshold
v_vmsave_vmload vgif umip pku ospke vaes vpclmulqdq rdpid overflow_recov succor smca

From lscpu --cache:
NAME ONE-SIZE ALL-SIZE WAYS TYPE LEVEL
L1d 32K 4M 8 Data 1
L1i 32K 4M 8 Instruction 1
L2 512K 64M 8 Unified 2
L3 96M 1.5G 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: 16 nodes (0-15)
node 0 cpus: 0 1 2 3 4 5 6 7 128 130 131 132 133 134 135
node 0 size: 128890 MB
node 0 free: 128346 MB
node 1 cpus: 8 9 10 11 12 13 14 15 136 137 138 139 140 141 142 143
node 1 size: 129018 MB
node 1 free: 128547 MB
node 2 cpus: 16 17 18 19 20 21 22 23 144 145 146 147 148 149 150 151
node 2 size: 129020 MB
node 2 free: 128759 MB
node 3 cpus: 24 25 26 27 28 29 30 31 152 153 154 155 156 157 158 159
node 3 size: 129019 MB
node 3 free: 128698 MB
node 4 cpus: 32 33 34 35 36 37 38 39 160 161 162 163 164 165 166 167
node 4 size: 129020 MB
node 4 free: 128766 MB
node 5 cpus: 40 41 42 43 44 45 46 47 168 169 170 171 172 173 174 175
node 5 size: 128990 MB
node 5 free: 128731 MB
node 6 cpus: 48 49 50 51 52 53 54 55 176 177 178 179 180 181 182 183
node 6 size: 129020 MB
node 6 free: 128767 MB
node 7 cpus: 56 57 58 59 60 61 62 63 184 185 186 187 188 189 190 191
node 7 size: 129007 MB
node 7 free: 128763 MB
node 8 cpus: 64 65 66 67 68 69 70 71 192 193 194 195 196 197 198 199
node 8 size: 129020 MB
node 8 free: 128700 MB
node 9 cpus: 72 73 74 75 76 77 78 79 200 201 202 203 204 205 206 207
node 9 size: 129019 MB
node 9 free: 128669 MB
node 10 cpus: 80 81 82 83 84 85 86 87 208 209 210 211 212 213 214 215

(Continued on next page)
Platform Notes (Continued)

node 10 size: 129020 MB
node 10 free: 128674 MB
node 11 cpus: 88 89 90 91 92 93 94 95 216 217 218 219 220 221 222 223
node 11 size: 129019 MB
node 11 free: 128754 MB
node 12 cpus: 96 97 98 99 100 101 102 103 224 225 226 227 228 229 230 231
node 12 size: 129020 MB
node 12 free: 128768 MB
node 13 cpus: 104 105 106 107 108 109 110 111 232 233 234 235 236 237 238 239
node 13 size: 129019 MB
node 13 free: 128758 MB
node 14 cpus: 112 113 114 115 116 117 118 119 240 241 242 243 244 245 246 247
node 14 size: 129020 MB
node 14 free: 128779 MB
node 15 cpus: 120 121 122 123 124 125 126 127 248 249 250 251 252 253 254 255
node 15 size: 129017 MB
node 15 free: 128748 MB
node distances:
node   0   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15
0:  10  11  12  12  12  12  12  32  32  32  32  32  32  32  32  32
1:  11  10  12  12  12  12  12  32  32  32  32  32  32  32  32  32
2:  12  12  10  11  12  12  12  32  32  32  32  32  32  32  32  32
3:  12  12  11  10  12  12  12  32  32  32  32  32  32  32  32  32
4:  12  12  12  12  10  11  12  32  32  32  32  32  32  32  32  32
5:  12  12  12  12  11  10  12  32  32  32  32  32  32  32  32  32
6:  12  12  12  12  12  12  10  11  32  32  32  32  32  32  32  32
7:  12  12  12  12  12  12  12  32  32  32  32  32  32  32  32  32
8:  32  32  32  32  32  32  32  10  11  12  12  12  12  12  12  12
9:  32  32  32  32  32  32  32  10  11  12  12  12  12  12  12  12
10: 32  32  32  32  32  32  32  11  10  12  12  12  12  12  12  12
11: 32  32  32  32  32  32  32  12  12  10  11  12  12  12  12  12
12: 32  32  32  32  32  32  32  12  12  12  10  11  12  12  12  12
13: 32  32  32  32  32  32  32  12  12  12  12  11  10  12  12  12
14: 32  32  32  32  32  32  32  12  12  12  12  12  10  11  10  11
15: 32  32  32  32  32  32  32  12  12  12  12  12  12  12  11  10

From /proc/meminfo
MemTotal:       2113682952 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

(Continued on next page)
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Platform Notes (Continued)

/usr/bin/lsb_release -d
Ubuntu 20.04 LTS

From /etc/*release* /etc/*version*
debian_version: bullseye/sid
os-release:
NAME="Ubuntu"
VERSION="20.04 LTS (Focal Fossa)"
ID=ubuntu
ID_LIKE=debian
PRETTY_NAME="Ubuntu 20.04 LTS"
VERSION_ID="20.04"
HOME_URL="https://www.ubuntu.com/
SUPPORT_URL="https://help.ubuntu.com/

uname -a:
Linux quanta 5.4.0-96-generic #109-Ubuntu SMP Wed Jan 12 16:49:16 UTC 2022 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 Bypass disabled via prctl and seccomp
CVE-2018-3639 (Speculative Store Bypass): Mitigation: usercopy/swapsps barriers and __user pointer sanitation
CVE-2017-5753 (Spectre variant 1): Mitigation: Full AMD retpoline, IBPB: conditional, IBRS_FW, STIBP: always-on, RSB filling
CVE-2017-5715 (Spectre variant 2): Not affected
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected
run-level 3 Feb 27 01:28
SPEC is set to: /root/56882_1.12/speccpu2017_rate_aocc320_A1
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 407G 26G 362G 7% /

From /sys/devices/virtual/dmi/id
Vendor: Quanta Cloud Technology Inc.
Product: QuantaGrid D43K-1U

(Continued on next page)
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Platform Notes (Continued)
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 "DMPF SMBIOS" standard.

Memory:
16x Samsung M393AAG40M32-CAE 128 GB 4 rank 3200, configured at 2933
16x Unknown Unknown

BIOS:
BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 3C07.Q101
BIOS Date: 10/26/2021
BIOS Revision: 5.22
Firmware Revision: 6.31

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C       | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base)
        | 525.x264_r(base) 557.xz_r(base)
==============================================================================
AMD clang version 13.0.0 (CLANG: AOCC_3.2.0-Build#128 2021_11_12) (based on LLVM Mirror.Version.13.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.2.0/bin

==============================================================================
C++     | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base)
        | 541.leela_r(base)
==============================================================================
AMD clang version 13.0.0 (CLANG: AOCC_3.2.0-Build#128 2021_11_12) (based on LLVM Mirror.Version.13.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.2.0/bin

==============================================================================
Fortran | 548.exchange2_r(base)
==============================================================================
AMD clang version 13.0.0 (CLANG: AOCC_3.2.0-Build#128 2021_11_12) (based on LLVM Mirror.Version.13.0.0)

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

**Quanta Cloud Technology**  
(Test Sponsor: Quanta Computer Inc.)  
QuantaGrid D43K-1U  
(AMD EPYC 7773X, 2.2 GHz)  

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<tbody>
<tr>
<td>SPECrate®2017_int_peak</td>
<td>Not Run</td>
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**CPU2017 License:** 9050  
**Test Sponsor:** Quanta Computer Inc.  
**Tested by:** Quanta Computer Inc.  

**Test Date:** Feb-2022  
**Hardware Availability:** Mar-2021  
**Software Availability:** Jan-2022  

---

**Compiler Version Notes (Continued)**

- **Target:** x86_64-unknown-linux-gnu  
- **Thread model:** posix  
- **InstalledDir:** /opt/AMD/aocc-compiler-3.2.0/bin

---

**Base Compiler Invocation**

- **C benchmarks:**  
  - clang
  
- **C++ benchmarks:**  
  - clang++

- **Fortran benchmarks:**  
  - flang

---

**Base Portability Flags**

- 500.perlbench_r: -DSPEC_LINUX_X64 -DSPEC_LP64
- 502.gcc_r: -DSPEC_LP64
- 505.mcf_r: -DSPEC_LP64
- 520.omnetpp_r: -DSPEC_LP64
- 523.xalancbmk_r: -DSPEC_LINUX -DSPEC_LP64
- 525.x264_r: -DSPEC_LP64
- 531.deepsjeng_r: -DSPEC_LP64
- 541.leela_r: -DSPEC_LP64
- 548.exchange2_r: -DSPEC_LP64
- 557.xz_r: -DSPEC_LP64

---

**Base Optimization Flags**

- **C benchmarks:**  
  - m64 -Wl,-allow-multiple-definition -Wl,-mlllvm -Wl,-enable-licm-vrp  
  - flto -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  
  - -Wl,-mlllvm -Wl,-enable-loop-fusion -O3 -march=znver3 -fveclib=AMDLIBM  
  - -ffast-math -fstruct-layout=5 -mlllvm -unroll-threshold=50  
  - -mlllvm -inline-threshold=1000 -fremap-arrays  
  - -mlllvm -function-specialize -flv-function-specialization

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

C benchmarks (continued):
-mlirm -enable-gvn-hoist -mlirm -global-vectorize-slp=true
-mlirm -enable-licm-vrp -mlirm -reduce-array-computations=3
-mlirm -enable-loop-fusion -z muldefs -lamdlibm -ljemalloc -lflang

C++ benchmarks:
-m64 -std=c++98 -flto -W1,-mlirm -W1,-region-vectorize
-W1,-mlirm -W1,-function-specialize
-W1,-mlirm -W1,-align-all-nofallthru-blocks=6
-W1,-mlirm -W1,-reduce-array-computations=3
-W1,-mlirm -W1,-enable-loop-fusion -O3 -march=znver3 -fveclib=AMDLIBM
-ffast-math -mlirm -enable-partial-unswitch
-mlirm -unroll-threshold=100 -flnline-aggressive
-ffun-function-specialization -mlirm -loop-unswitch-threshold=200000
-mlirm -rremo-loops -mlirm -agressive-loop-unswitch
-mlirm -extra-vectorizer-passes -mlirm -reduce-array-computations=3
-mlirm -global-vectorize-slp=true -mlirm -convert-pow-exp-to-int=false
-mlirm -enable-loop-fusion -z muldefs -fvirtual-function-elimination
-fvisibility=hidden -lamdlibm -ljemalloc -lflang

Fortran benchmarks:
-m64 -W1,-mlirm -W1,-inline-recursion=4
-W1,-mlirm -W1,-lir-in-nested-loop -W1,-mlirm -W1,-enable-iv-split
-flto -W1,-mlirm -W1,-region-vectorize
-W1,-mlirm -W1,-function-specialize
-W1,-mlirm -W1,-align-all-nofallthru-blocks=6
-W1,-mlirm -W1,-reduce-array-computations=3
-W1,-mlirm -W1,-enable-loop-fusion -O3 -march=znver3 -fveclib=AMDLIBM
-ffast-math -z muldefs -mlirm -unroll-aggressive
-mlirm -unroll-threshold=500 -lamdlibm -ljemalloc -lflang

Base Other Flags

C benchmarks:
-wo unused-command-line-argument

C++ benchmarks:
-wo unused-command-line-argument

The flags files that were used to format this result can be browsed at
**SPEC CPU®2017 Integer Rate Result**

Quanta Cloud Technology  
(Test Sponsor: Quanta Computer Inc.)  
QuantaGrid D43K-1U  
(AMD EPYC 7773X, 2.2 GHz)

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**Quanta Cloud Technology**

(QuantaGrid D43K-1U, AMD EPYC 7773X, 2.2 GHz)

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You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2017/flags/Quanta-Computer-Inc-amd-speccpu-setting-v7_AMD_MILAN.xml

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