SPEC® CPU2017 Integer Rate Result

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Supermicro

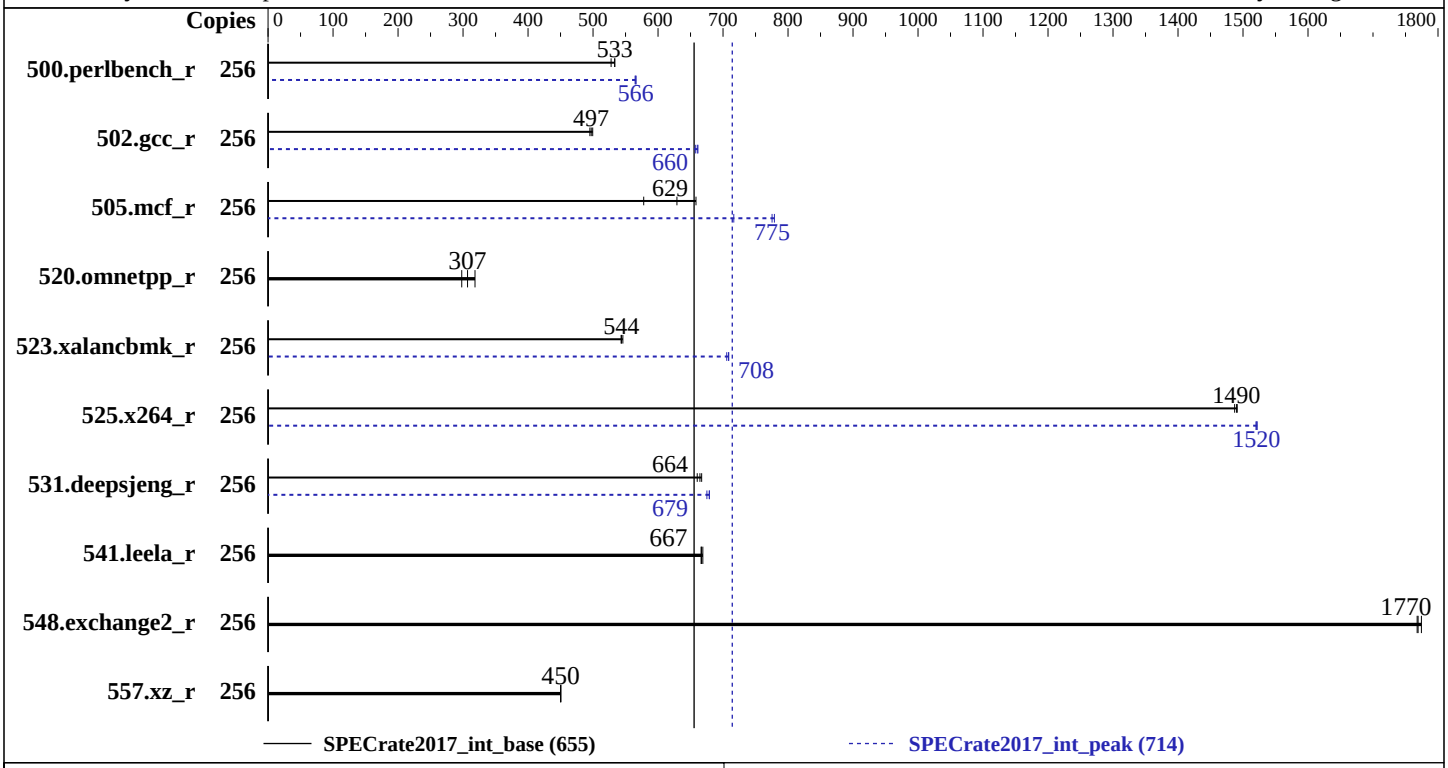
A+ Server 2023US-TR4
(H11DSU-iN , AMD EPYC 7742)

SPECrate2017_int_base = 655

SPECrate2017_int_peak = 714

CPU2017 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

Test Date: Jul-2019
Hardware Availability: Aug-2019
Software Availability: Aug-2019



Hardware

CPU Name:	AMD EPYC 7742
Max MHz.:	3400
Nominal:	2250
Enabled:	128 cores, 2 chips, 2 threads/core
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:	256 MB I+D on chip per chip, 16 MB shared / 4 cores
Other:	None
Memory:	1 TB (32 x 32 GB 2Rx4 PC4-3200AA-R)
Storage:	1 x 4 TB SATAIII, 7200 RPM
Other:	None

Software

OS:	Ubuntu 19.04 kernel 5.0.0-20-generic
Compiler:	C/C++/Fortran: Version 2.0.0 of AOCC
Parallel:	No
Firmware:	Version 2.0 released Jul-2019
File System:	ext4
System State:	Run level 5 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other:	jemalloc memory allocator library v5.2.0

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	256	764	533	772	528	**764**	**533**	256	**720**	**566**	720	566	722	565
502.gcc_r	256	726	499	**729**	**497**	732	495	256	548	661	551	657	**549**	**660**
505.mcf_r	256	628	658	**658**	**629**	716	578	256	**533**	**775**	531	779	577	717
520.omnetpp_r	256	1055	318	**1094**	**307**	1127	298	256	1055	318	**1094**	**307**	1127	298
523.xalancbmk_r	256	495	546	498	543	**497**	**544**	256	**382**	**708**	381	709	383	706
525.x264_r	256	301	1490	**301**	**1490**	301	1490	256	**295**	**1520**	295	1520	295	1520
531.deepsjeng_r	256	440	667	444	660	**442**	**664**	256	435	675	**432**	**679**	432	679
541.leela_r	256	634	669	**636**	**667**	636	666	256	634	669	**636**	**667**	636	666
548.exchange2_r	256	378	1770	**379**	**1770**	379	1770	256	378	1770	**379**	**1770**	379	1770
557.xz_r	256	614	450	614	450	**614**	**450**	256	614	450	614	450	**614**	**450**

SPECrate2017_int_base = 655

SPECrate2017_int_peak = 714

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).
```

(Continued on next page)

Operating System Notes (Continued)

Transparent huge pages set to 'always' for this run (OS default)

General Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2017/amd_rate_aocc200_rome_A_lib/64;/home/cpu2017/amd_rate_aocc200_rome_A_lib/32:"
MALLOC_CONF = "retain:true"

Binaries were compiled on a system with 2p 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 5.2.0 is available here:
https://github.com/jemalloc/jemalloc/releases/download/5.2.0/jemalloc-5.2.0.tar.bz2

Platform Notes

BIOS Settings:
Determinism Control = Manual
Determinism Slider = Power
cTDP Control = Manual
cTDP = 240
IOMMU = Enabled
APBDIS = 1
NUMA Nodes Per Socket = NPS4
 Sysinfo program /home/cpu2017/bin/sysinfo
 Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
 running on cpu2017 Fri Jul 19 10:51:03 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 7742 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

(Continued on next page)

Platform Notes (Continued)

```
       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:
      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):        8
      Vendor ID:           AuthenticAMD
      CPU family:          23
      Model:               49
      Model name:          AMD EPYC 7742 64-Core Processor
      Stepping:            0
      CPU MHz:             1907.871
      CPU max MHz:         2250.0000
      CPU min MHz:         1500.0000
      BogoMIPS:            4500.37
      Virtualization:      AMD-V
      L1d cache:           32K
      L1i cache:           32K
      L2 cache:            512K
      L3 cache:            16384K
      NUMA node0 CPU(s):   0-15,128-143
      NUMA node1 CPU(s):   16-31,144-159
      NUMA node2 CPU(s):   32-47,160-175
      NUMA node3 CPU(s):   48-63,176-191
      NUMA node4 CPU(s):   64-79,192-207
      NUMA node5 CPU(s):   80-95,208-223
      NUMA node6 CPU(s):   96-111,224-239
      NUMA node7 CPU(s):   112-127,240-255
      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 ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
```


(Continued on next page)

Platform Notes (Continued)

```
      perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate sme ssbd mba sev ibrs ibpb stibp
      vmmcall fsgsbase bmi1 avx2 smep bmi2 cqm rdt_a rdseed adx smap clflushopt clwb
      sha_ni xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
      cqm_mbm_local clzero irperf xsaveerptr wbnoinvd arat npt lbrv svm_lock nrip_save
      tsc_scale vmcb_clean flushbyasid decodeassists pausefilter pfthreshold avic
      v_vmsave_vmload vgif umip 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: 8 nodes (0-7)
   node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 128 129 130 131 132 133 134 135 136
   137 138 139 140 141 142 143
   node 0 size: 128877 MB
   node 0 free: 127933 MB
   node 1 cpus: 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 144 145 146 147 148 149
   150 151 152 153 154 155 156 157 158 159
   node 1 size: 129015 MB
   node 1 free: 128537 MB
   node 2 cpus: 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 160 161 162 163 164 165
   166 167 168 169 170 171 172 173 174 175
   node 2 size: 129015 MB
   node 2 free: 128562 MB
   node 3 cpus: 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 176 177 178 179 180 181
   182 183 184 185 186 187 188 189 190 191
   node 3 size: 129003 MB
   node 3 free: 128449 MB
   node 4 cpus: 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 192 193 194 195 196 197
   198 199 200 201 202 203 204 205 206 207
   node 4 size: 129015 MB
   node 4 free: 128497 MB
   node 5 cpus: 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 208 209 210 211 212 213
   214 215 216 217 218 219 220 221 222 223
   node 5 size: 128992 MB
   node 5 free: 128300 MB
   node 6 cpus: 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 224 225 226
   227 228 229 230 231 232 233 234 235 236 237 238 239
   node 6 size: 129015 MB
   node 6 free: 128417 MB
   node 7 cpus: 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 240 241
   242 243 244 245 246 247 248 249 250 251 252 253 254 255
   node 7 size: 129014 MB
   node 7 free: 128512 MB
   node distances:
   node   0   1   2   3   4   5   6   7
```

(Continued on next page)

Platform Notes (Continued)

```
     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:       1056718148 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  /usr/bin/lsb_release -d
     Ubuntu 19.04

  From /etc/*release* /etc/*version*
     debian_version: buster/sid
     os-release:
        NAME="Ubuntu"
        VERSION="19.04 (Disco Dingo)"
        ID=ubuntu
        ID_LIKE=debian
        PRETTY_NAME="Ubuntu 19.04"
        VERSION_ID="19.04"
        HOME_URL="https://www.ubuntu.com/"
        SUPPORT_URL="https://help.ubuntu.com/"

  uname -a:
     Linux cpu2017 5.0.0-20-generic #21-Ubuntu SMP Mon Jun 24 09:32:09 UTC 2019 x86_64
     x86_64 x86_64 GNU/Linux

  Kernel self-reported vulnerability status:

  CVE-2017-5754 (Meltdown):          Not affected
  CVE-2017-5753 (Spectre variant 1): Mitigation: __user pointer sanitization
  CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional,
  IBRS_FW, STIBP: conditional, RSB filling

  run-level 5 Jul 19 18:49

  SPEC is set to: /home/cpu2017
     Filesystem     Type  Size  Used Avail Use% Mounted on
     /dev/sda2      ext4  3.6T   15G  3.4T   1% /

  Additional information from dmidecode follows.  WARNING: Use caution when you interpret
```

(Continued on next page)

Platform Notes (Continued)

```
 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.
   BIOS American Megatrends Inc. 2.0 07/19/2019
   Memory:
    32x SK Hynix HMA84GR7CJR4N-XN 32 kB 2 rank 3200

 (End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
 CC  502.gcc_r(peak)
------------------------------------------------------------------------------
AOCC.LLVM.2.0.0.B179.2019_06_12 clang version 8.0.0 (CLANG: Jenkins
  AOCC_2_0_0-Build#179) (based on LLVM AOCC.LLVM.2.0.0.B179.2019_06_12)
Target: i386-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-2.0.0/bin
------------------------------------------------------------------------------

==============================================================================
 CXXC 523.xalancbmk_r(peak)
------------------------------------------------------------------------------
AOCC.LLVM.2.0.0.B179.2019_06_12 clang version 8.0.0 (CLANG: Jenkins
  AOCC_2_0_0-Build#179) (based on LLVM AOCC.LLVM.2.0.0.B179.2019_06_12)
Target: i386-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-2.0.0/bin
------------------------------------------------------------------------------

==============================================================================
 CC  500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base, peak)
      525.x264_r(base) 557.xz_r(base, peak)
------------------------------------------------------------------------------
AOCC.LLVM.2.0.0.B179.2019_06_12 clang version 8.0.0 (CLANG: Jenkins
  AOCC_2_0_0-Build#179) (based on LLVM AOCC.LLVM.2.0.0.B179.2019_06_12)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-2.0.0/bin
------------------------------------------------------------------------------

==============================================================================
 CXXC 520.omnetpp_r(base, peak) 523.xalancbmk_r(base) 531.deepsjeng_r(base,
      peak) 541.leela_r(base, peak)
------------------------------------------------------------------------------
```

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Compiler Version Notes (Continued)

```
AOCC.LLVM.2.0.0.B179.2019_06_12 clang version 8.0.0 (CLANG: Jenkins
  AOCC_2_0_0-Build#179) (based on LLVM AOCC.LLVM.2.0.0.B179.2019_06_12)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-2.0.0/bin
------------------------------------------------------------------------------

==============================================================================
 FC  548.exchange2_r(base, peak)
------------------------------------------------------------------------------
AOCC.LLVM.2.0.0.B179.2019_06_12 clang version 8.0.0 (CLANG: Jenkins
  AOCC_2_0_0-Build#179) (based on LLVM AOCC.LLVM.2.0.0.B179.2019_06_12)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-2.0.0/bin
------------------------------------------------------------------------------

==============================================================================
CC   500.perlbench_r(peak) 525.x264_r(peak)
------------------------------------------------------------------------------
AOCC.LLVM.2.0.0.B179.2019_06_12 clang version 8.0.0 (CLANG: Jenkins
  AOCC_2_0_0-Build#179) (based on LLVM AOCC.LLVM.2.0.0.B179.2019_06_12)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-2.0.0/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

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Base Portability Flags (Continued)

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:
-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-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 -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 -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 -lmvec -lamdlibm -ljemalloc -lflang

Peak Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang

Peak Portability Flags

500.perlbench_r: -DSPEC_LINUX_X64 -DSPEC_LP64
502.gcc_r: -D_FILE_OFFSET_BITS=64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LINUX -D_FILE_OFFSET_BITS=64
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

Peak Optimization Flags

C benchmarks:

500.perlbench_r: -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 -lmvec -lamdlibm -ljemalloc
-lflang

(Continued on next page)

Peak Optimization Flags (Continued)

502.gcc_r: -m32 -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 -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 -fgnu89-inline -ljemalloc

505.mcf_r: -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 -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 -lmvec -lamdlibm -ljemalloc
-lflang

525.x264_r: Same as 500.perlbench_r

557.xz_r: basepeak = yes

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: -m32 -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 -flv-function-specialization
-mllvm -unroll-threshold=100
-mllvm -enable-partial-unswitch
-mllvm -loop-unswitch-threshold=200000
-mllvm -vector-library=LIBMVEC
-mllvm -inline-threshold=1000 -ljemalloc

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Peak Optimization Flags (Continued)

531.deepsjeng_r: `-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 -flv-function-specialization -mllvm -unroll-threshold=100 -mllvm -enable-partial-unswitch -mllvm -loop-unswitch-threshold=200000 -mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000 -lmvec -lamdlibm -ljemalloc -lflang`

541.leela_r: `basepeak = yes`

Fortran benchmarks:

548.exchange2_r: `basepeak = yes`

Peak Other Flags

C benchmarks:

502.gcc_r: `-L/sppo/dev/cpu2017/amd_rate_aocc200_rome/amd_rate_aocc200_rome_A_lib/32`

C++ benchmarks:

523.xalancbmk_r: `-L/sppo/dev/cpu2017/amd_rate_aocc200_rome/amd_rate_aocc200_rome_A_lib/32`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2017/flags/aocc200-flags-A1.html`
`http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-Rome-revA.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2017/flags/aocc200-flags-A1.xml`
`http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-Rome-revA.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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