### SPEC CPU®2017 Integer Speed Result

**Supermicro**

A+ Server 2024US-TRT  
(H12DSU-iN, AMD EPYC 7282)

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Oct-2020</th>
<th><strong>Hardware Availability:</strong></th>
<th>Apr-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tested by:</strong></td>
<td>Supermicro</td>
<td><strong>Software Availability:</strong></td>
<td>Aug-2019</td>
</tr>
</tbody>
</table>

#### Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed®2017_int_base</th>
<th>SPECspeed®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>600.perlbench_s</td>
<td>32</td>
<td>8.59</td>
<td>(8.47)</td>
</tr>
<tr>
<td>602.gcc_s</td>
<td>32</td>
<td>8.72</td>
<td></td>
</tr>
<tr>
<td>605.mcf_s</td>
<td>32</td>
<td>8.77</td>
<td></td>
</tr>
<tr>
<td>620.omnetpp_s</td>
<td>32</td>
<td>14.2</td>
<td></td>
</tr>
<tr>
<td>623.xalancbmk_s</td>
<td>32</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>625.x264_s</td>
<td>32</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>32</td>
<td>4.54</td>
<td></td>
</tr>
<tr>
<td>641.leela_s</td>
<td>32</td>
<td>4.04</td>
<td></td>
</tr>
<tr>
<td>648.exchange2_s</td>
<td>32</td>
<td>15.3</td>
<td></td>
</tr>
<tr>
<td>657.xz_s</td>
<td>32</td>
<td>15.8</td>
<td></td>
</tr>
</tbody>
</table>

#### SPECspeed®2017_int_base = 8.18  
**SPECspeed®2017_int_peak = 8.47**

---

**Hardware**

- **CPU Name:** AMD EPYC 7282
- **Max MHz:** 3200
- **Nominal:** 2800
- **Enabled:** 32 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:** 64 MB I+D on chip per chip, 16 MB shared / 4 cores
- **Memory:** 256 GB (16 x 16 GB 1Rx4 PC4-3200AA-R)
- **Storage:** 1 x 200 GB SATA III SSD
- **Other:** None

---

**Software**

- **OS:** Ubuntu 19.04
- **Compiler:** C/C++/Fortran: Version 2.0.0 of AOCC
- **Parallel:** Yes
- **Firmware:** Version 1.2 released Aug-2020
- **File System:** ext4
- **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.
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A+ Server 2024US-TRT
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SPECspeed®2017_int_base = 8.18
SPECspeed®2017_int_peak = 8.47

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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<tbody>
<tr>
<td>600.perlbench_s</td>
<td>32</td>
<td>407</td>
<td>4.37</td>
<td>406</td>
<td>4.37</td>
<td>404</td>
<td>4.39</td>
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<tr>
<td>602.gcc_s</td>
<td>32</td>
<td>460</td>
<td>8.65</td>
<td>464</td>
<td>8.59</td>
<td>465</td>
<td>8.57</td>
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<tr>
<td>605.mcf_s</td>
<td>32</td>
<td>333</td>
<td>14.2</td>
<td>333</td>
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<tr>
<td>620.omnetpp_s</td>
<td>32</td>
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<td>4.48</td>
<td>391</td>
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<td>367</td>
<td>4.44</td>
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<td>623.xalanchmk_s</td>
<td>32</td>
<td>162</td>
<td>8.77</td>
<td>161</td>
<td>8.79</td>
<td>162</td>
<td>8.76</td>
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<td>625.x264_s</td>
<td>32</td>
<td>148</td>
<td>11.9</td>
<td>149</td>
<td>11.8</td>
<td>148</td>
<td>11.9</td>
</tr>
<tr>
<td>631.deepsjeng_s</td>
<td>32</td>
<td>316</td>
<td>4.54</td>
<td>315</td>
<td>4.54</td>
<td>316</td>
<td>4.53</td>
</tr>
<tr>
<td>641.leela_s</td>
<td>32</td>
<td>422</td>
<td>4.04</td>
<td>422</td>
<td>4.05</td>
<td>422</td>
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<td>32</td>
<td>317</td>
<td>19.5</td>
<td>318</td>
<td>19.5</td>
<td>317</td>
<td>19.5</td>
</tr>
</tbody>
</table>

SPECspeed®2017_int_base = 8.18
SPECspeed®2017_int_peak = 8.47

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)
## SPEC CPU®2017 Integer Speed Result

### Supermicro

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<th>001176</th>
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| SPECspeed®2017_int_base = 8.18 | SPECspeed®2017_int_peak = 8.47 |

### Environment Variables Notes

Environment variables set by runcpu before the start of the run:
- `GOMP_CPU_AFFINITY = "0-63"
- `LD_LIBRARY_PATH = 
  
/home/cpu2017/amd_speed_aocc200_rome_C_lib/64;/home/cpu2017/amd_speed_a
  
occ200_rome_C_lib/32:"`
- `MALLOCONF = "retain:true"
- `OMP_DYNAMIC = "false"
- `OMP_SCHEDULE = "static"
- `OMP_STACKSIZE = "128M"
- `OMP_THREADLIMIT = "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"

Environment variables set by runcpu during the 648.exchange2_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)
General Notes (Continued)

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

Platform Notes

BIOS Settings:
Determinism Control = Manual
Determinism Slider = Power
cTDP Control = Manual
cTDP = 150
Package Power Limit Control = Manual
Package Power Limit = 150
APBDIS = 1

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on h12dsu Sat Oct 24 16:50:17 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 7282 16-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 : 16
siblings : 32
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

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): 64
On-line CPU(s) list: 0-63
Thread(s) per core: 2
Core(s) per socket: 16

(Continued on next page)
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SPECspeed®2017_int_base = 8.18
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Platform Notes (Continued)

Socket(s): 2
NUMA node(s): 2
Vendor ID: AuthenticAMD
CPU family: 23
Model: 49
Model name: AMD EPYC 7282 16-Core Processor
Stepping: 0
CPU MHz: 2841.017
CPU max MHz: 2800.0000
CPU min MHz: 1500.0000
BogoMIPS: 5600.16
Virtualization: AMD-V
L1d cache: 32K
L1i cache: 32K
L2 cache: 512K
L3 cache: 16384K
NUMA node0 CPU(s): 0-15,32-47
NUMA node1 CPU(s): 16-31,48-63
Flags: fpu vme de pse tsc msr pae mca cmov pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm constant_tsc rep_good noplap xtopology nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq monitor ssse3 fma cx16 sse4_1 sse4_2 movbe popcnt aes xsave avx fl16c rdrand lahf_lm cmp_legacy xsave cr8 Legacy abm ssse4 misalignsse 3dnowprefetch osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bapext perfctr_llc mwainx cpb cat_13 cdp_l3 hw_pstate sme ssbd mba svr ibrs ibpb stibp vmmcall fsxgsbase bmi1 avx2 smep bmi2 cqm rdt_a rdseed adx smap clflushopt clwb sha_ni xsaveopt xsaves aug xsaveopt xsaveavx xsavecr3 cr3 regained cr4 cp2 clean flushbyas ida decodeassist decoder totable perfctr core perfctr_nb bapext perfctr_llc mwainx cpb cat_13 cdp_l3 hw_pstate sme ssbd mba

/proc/cpuinfo cache data

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.
available: 2 nodes (0-1)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
node 0 size: 128855 MB
node 0 free: 127799 MB
node 1 cpus: 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63
node 1 size: 129016 MB
node 1 free: 128417 MB
node distances:
node 0 1

(Continued on next page)
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SPECspec2017_int_base = 8.18
SPECspec2017_int_peak = 8.47

Platform Notes (Continued)

0:  10  32
1:  32  10

From /proc/meminfo
MemTotal:       264061068 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 h12dsu 5.0.0-25-generic #26-Ubuntu SMP Thu Aug 1 12:04:58 UTC 2019 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: usercopy/swapgs barriers and __user
pointer sanitization
CVE-2017-5715 (Spectre variant 2):        Mitigation: Full AMD retpoline, IBPB:
conditional, IBRS_FW, STIBP: conditional, RSB
filling

run-level 3 Oct 23 16:38

SPEC is set to: /home/cpu2017

From /sys/devices/virtual/dmi/id

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Platform Notes (Continued)

BIOS: American Megatrends Inc. 1.2 08/10/2020
Vendor: Supermicro
Product: Super Server
Serial: 0123456789

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 NO DIMM Unknown
16x Samsung M393A2K40DB3-CWE 16 kB 1 rank 3200

(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
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

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Compiler Version Notes (Continued)

InstalledDir: /sppo/dev/compilers/aocc-compiler-2.0.0/bin

C++          | 623.xalancbmk_s(peak)
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AOCCLLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
    AOCCLLVM.2.0.0-Build#191) (based on LLVM AOCCLLVM.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)
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-------------
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    AOCCLLVM.2.0.0-Build#191) (based on LLVM AOCCLLVM.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)
-------------
AOCCLLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
    AOCCLLVM.2.0.0-Build#191) (based on LLVM AOCCLLVM.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
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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:
- flto -Wl,-mlivm -Wl,-function-specialize
- Wl,-mlivm -Wl,-region-vectorize -Wl,-mlivm -Wl,-vector-library=LIBMVEC
- Wl,-mlivm -Wl,-reduce-array-computations=3 -O3 -ffast-math
- march=znver2 -fstruct-layout=3 -mlivm -unroll-threshold=50
- fremap-arrays -mlivm -function-specialize -mlivm -enable-gvn-hoist
- mlivm -reduce-array-computations=3 -mlivm -global-vectorize-slp
- mlivm -vector-library=LIBMVEC -mlivm -inline-threshold=1000
- flv-function-specialization -z muldefs -DSPEC_OPENMP -fopenmp
- fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm -ljemalloc
- lflang

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

Fortran benchmarks:
- flto -Wl,-mlivm -Wl,-function-specialize
- Wl,-mlivm -Wl,-region-vectorize -Wl,-mlivm -Wl,-vector-library=LIBMVEC
- Wl,-mlivm -Wl,-reduce-array-computations=3 -ffast-math
- Wl,-mlivm -Wl,-inline-recursion=4 -Wl,-mlivm -Wl,-lsr-in-nested-loop
- Wl,-mlivm -Wl,-enable-iv-split -O3 -march=znver2 -funroll-loops
- Mrecursive -mlivm -vector-library=LIBMVEC -z muldefs
- mlivm -disable-indvar-simplify -mlivm -unroll-aggressive

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SPECspeak®2017_int_peak = 8.47

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Base Optimization Flags (Continued)

Fortran benchmarks (continued):
-mltvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -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

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
Supermicro
A+ Server 2024US-TRT
(H12DSU-iN, AMD EPYC 7282)

SPECspeed®2017_int_base = 8.18
SPECspeed®2017_int_peak = 8.47

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
  -lmvec -lamdlibm -fopenmp=libomp -lomp -lpthread -ldl
  -ljemalloc -lflang

602.gcc_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 -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 -z muldefs -DSPEC_OPENMP
  -fopenmp -fgnu89-inline -fopenmp=libomp -lomp -lpthread -ldl
  -ljemalloc -lflang

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 -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

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

605.mcf_s (continued):
-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,-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 -DSPEC_OPENMP -fopenmp
-fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm
-ljemalloc -lflang

623.xalancbmk_s: -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 -DSPEC_OPENMP -fopenmp
-fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm
-ljemalloc -lflang

631.deepsjeng_s: Same as 620.omnetpp_s

641.leela_s: basepeak = yes

Fortran benchmarks:

-flt-o -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

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Peak Optimization Flags (Continued)

Fortran benchmarks (continued):
-mlir -disable-indvar-simplify -mlir -unroll-aggressive
-mlir -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -fopenmp=libomp
-lomp -lpthread -ldl -lmvec -lamdlibm -ljemalloc -lflang

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:
http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-Rome-revC.xml

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

Tested with SPEC CPU®2017 v1.1.0 on 2020-10-24 12:50:16-0400.