## SPEC CPU®2017 Integer Rate Result

**Supermicro**

### A+ SuperWorkstation 5014A-TT

(M12SWA-TF, AMD Ryzen Threadripper PRO 3955WX)

<table>
<thead>
<tr>
<th>SPECrate®2017_int_base</th>
<th>SPECrate®2017_int_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>133</td>
<td>143</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro  
**Test Date:** Feb-2021  
**Hardware Availability:** Mar-2021  
**Software Availability:** Jan-2021

### Hardware

<table>
<thead>
<tr>
<th>Spec</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>AMD Ryzen Threadripper PRO 3955WX</td>
</tr>
<tr>
<td>Max MHz</td>
<td>4300</td>
</tr>
<tr>
<td>Nominal</td>
<td>3900</td>
</tr>
<tr>
<td>Enabled</td>
<td>16 cores, 1 chip, 2 threads/core</td>
</tr>
<tr>
<td>Orderable</td>
<td>1 chip</td>
</tr>
<tr>
<td>Cache L1</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>L2</td>
<td>512 KB I+D on chip per core</td>
</tr>
<tr>
<td>L3</td>
<td>64 MB I+D on chip per chip, 16 MB shared / 4 cores</td>
</tr>
<tr>
<td>Other</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>512 GB (8 x 64 GB 2Rx4 PC4-3200AA-R)</td>
</tr>
<tr>
<td>Storage</td>
<td>1 x 300 GB SATA III, 7200 RPM</td>
</tr>
<tr>
<td>Other</td>
<td>None</td>
</tr>
</tbody>
</table>

### Software

<table>
<thead>
<tr>
<th>Spec</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS</td>
<td>Ubuntu 20.04.1 LTS</td>
</tr>
<tr>
<td>Compiler</td>
<td>Kernel 5.4.0-60-generic</td>
</tr>
<tr>
<td>Parallel</td>
<td>No</td>
</tr>
<tr>
<td>Firmware</td>
<td>Version 5.17 released Feb-2021</td>
</tr>
<tr>
<td>File System</td>
<td>ext4</td>
</tr>
<tr>
<td>System State</td>
<td>Run level 5 (multi-user without GUI)</td>
</tr>
<tr>
<td>Base Pointers</td>
<td>64-bit</td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>32/64-bit</td>
</tr>
<tr>
<td>Other</td>
<td>jemalloc: jemalloc memory allocator library v5.2.0</td>
</tr>
<tr>
<td>Power Management</td>
<td>BIOS set to prefer performance at the cost of additional power usage.</td>
</tr>
</tbody>
</table>
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Supermicro
A+ SuperWorkstation 5014A-TT
(M12SWA-TF, AMD Ryzen Threadripper PRO 3955WX)

SPECrate®2017_int_base = 133
SPECrate®2017_int_peak = 143

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500.perlbench_r</td>
<td>32</td>
<td>502</td>
<td>101</td>
<td>493</td>
<td>103</td>
<td>495</td>
<td>103</td>
<td>32</td>
<td>475</td>
<td>107</td>
<td>473</td>
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<tr>
<td>502.gcc_r</td>
<td>32</td>
<td>410</td>
<td>110</td>
<td>409</td>
<td>111</td>
<td>414</td>
<td>109</td>
<td>32</td>
<td>317</td>
<td>143</td>
<td>319</td>
</tr>
<tr>
<td>505.mcf_r</td>
<td>32</td>
<td>289</td>
<td>179</td>
<td>295</td>
<td>175</td>
<td>287</td>
<td>180</td>
<td>32</td>
<td>243</td>
<td>213</td>
<td>242</td>
</tr>
<tr>
<td>520.omnetpp_r</td>
<td>32</td>
<td>667</td>
<td>63.0</td>
<td>665</td>
<td>63.2</td>
<td>667</td>
<td>63.0</td>
<td>32</td>
<td>667</td>
<td>63.0</td>
<td>665</td>
</tr>
<tr>
<td>523.xalancbmk_r</td>
<td>32</td>
<td>307</td>
<td>110</td>
<td>308</td>
<td>110</td>
<td>306</td>
<td>110</td>
<td>32</td>
<td>246</td>
<td>137</td>
<td>246</td>
</tr>
<tr>
<td>525.x264_r</td>
<td>32</td>
<td>189</td>
<td>296</td>
<td>190</td>
<td>295</td>
<td>191</td>
<td>293</td>
<td>32</td>
<td>183</td>
<td>307</td>
<td>183</td>
</tr>
<tr>
<td>531.deepsjeng_r</td>
<td>32</td>
<td>298</td>
<td>123</td>
<td>295</td>
<td>124</td>
<td>298</td>
<td>123</td>
<td>32</td>
<td>292</td>
<td>126</td>
<td>292</td>
</tr>
<tr>
<td>541.leela_r</td>
<td>32</td>
<td>440</td>
<td>120</td>
<td>439</td>
<td>121</td>
<td>440</td>
<td>121</td>
<td>32</td>
<td>440</td>
<td>120</td>
<td>439</td>
</tr>
<tr>
<td>548.exchange2_r</td>
<td>32</td>
<td>238</td>
<td>352</td>
<td>244</td>
<td>343</td>
<td>246</td>
<td>341</td>
<td>32</td>
<td>238</td>
<td>352</td>
<td>244</td>
</tr>
<tr>
<td>557.xz_r</td>
<td>32</td>
<td>425</td>
<td>81.3</td>
<td>425</td>
<td>81.4</td>
<td>425</td>
<td>81.4</td>
<td>32</td>
<td>424</td>
<td>81.4</td>
<td>424</td>
</tr>
</tbody>
</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)
## SPEC CPU®2017 Integer Rate Result

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<td>SPECrate®2017_int_peak = 143</td>
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<td>Software Availability: Jan-2021</td>
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</tbody>
</table>

### Environment Variables Notes

Environment variables set by runcpu before the start of the run:

```shell
LD_LIBRARY_PATH = 
    "/home/cpu2017/amd_rate_aocc200_rome_C_lib/64;/home/cpu2017/amd_rate_aocc200_rome_C_lib/32:

MALLOC_CONF = "retain:true"
```

### 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 5.2.0 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
APBDIS = 1

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
running on m12swa-01 Tue Feb 9 08:57:43 2021

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 Ryzen Threadripper PRO 3955WX 16-Cores
  - 1 "physical id"s (chips)
  - 32 "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

(Continued on next page)
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A+ SuperWorkstation 5014A-TT
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Platform Notes (Continued)

physical 0: 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): 32
On-line CPU(s) list: 0-31
Thread(s) per core: 2
Core(s) per socket: 16
Socket(s): 1
NUMA node(s): 1
Vendor ID: AuthenticAMD
CPU family: 23
Model: 49
Model name: AMD Ryzen Threadripper PRO 3955WX 16-Cores
Stepping: 0
Frequency boost: enabled
CPU MHz: 3655.329
CPU max MHz: 3900.0000
CPU min MHz: 2200.0000
BogoMIPS: 7800.56
Virtualization: AMD-V
L1d cache: 512 KiB
L1i cache: 512 KiB
L2 cache: 8 MiB
L3 cache: 64 MiB
NUMA node0 CPU(s): 0-31
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/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Full AMD retpoline, IBPB conditional, STIBP conditional, 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 pdelimb rtscp lm constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf pni pclmulqdq monitor ssse3 fma cx16 sse4_1 sse4_2 movbe popcnt aes xsave avx f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a_msisalignsse 3dnowprefetch osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bext

(Continued on next page)
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A+ SuperWorkstation 5014A-TT  
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</tr>
</tbody>
</table>

**SPECrate®2017_int_base = 133**  
**SPECrate®2017_int_peak = 143**

**Platform Notes (Continued)**

```
perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate sme ssbd mba sev ibpb stibp vmmcall 
fsgsbase bmi1 avx2 smep bmi2 cqm rdt_a rdseed adx smap clflushopt clwb sha_ni 
xsavetz xsavetz xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local 
closer irperf xsaveerptr wbnoinvd arat npt lbrv svm_lock nrip_save tsc_scale 
vmcb_clean flushbyasid decodeassist pfthreshold avic v_vmsave_vmload 
vgif umip rdpid overflow_recov succor smca
```

```
/misc/cpuinfo cache data
  cache size = 512 KB

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a 
physical chip.
  available: 1 nodes (0)
    node 0 cpus: 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
    node 0 size: 515713 MB
    node 0 free: 514704 MB
    node distances:
      node 0
      0: 10

From /misc/meminfo
  MemTotal: 528090332 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has 
performance

/usr/bin/lsb_release -d
  Ubuntu 20.04.1 LTS

From /etc/*release*/etc/*version*
  debian_version: bullseye/sid
  os-release:
    NAME="Ubuntu"
    VERSION="20.04.1 LTS (Focal Fossa)"
    ID=ubuntu
    ID_LIKE=debian
    PRETTY_NAME="Ubuntu 20.04.1 LTS"
    VERSION_ID="20.04"
    HOME_URL="https://www.ubuntu.com/"
    SUPPORT_URL="https://help.ubuntu.com/"

uname -a:
  Linux m12swa-01 5.4.0-60-generic #67-Ubuntu SMP Tue Jan 5 18:31:36 UTC 2021 x86_64 
x86_64 x86_64 GNU/Linux
```

(Continued on next page)
Supermicro
A+ SuperWorkstation 5014A-TT
(M12SWA-TF, AMD Ryzen Threadripper PRO 3955WX)

SPEC CPU®2017 Integer Rate Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

SPECrate®2017_int_base = 133
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Platform Notes (Continued)

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/swapgs barriers and __user pointer sanitation
CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swapgs barriers and __user pointer sanitation
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional, STIBP: conditional, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

run-level 5 Feb 9 08:21

SPEC is set to: /home/cpu2017
Filesystenm Type Size Used Avail Use% Mounted on
/dev/sda4 ext4 272G 24G 234G 10% /

From /sys/devices/virtual/dmi/id
Vendor: Supermicro
Product: M12SWA-TF
Product Family: SMC M12
Serial: 123456789

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 SK Hynix HMAA8GR7AJR4N-XN 64 GB 2 rank 3200

BIOS:
BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 5.17
BIOS Date: 02/01/2021
BIOS Revision: 5.17

(End of data from sysinfo program)
**Supermicro**

A+ SuperWorkstation 5014A-TT  
(M12SWA-TF, AMD Ryzen Threadripper PRO 3955WX)

---

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

**Compiler Version Notes**

<table>
<thead>
<tr>
<th>Language</th>
<th>Benchmark(s)</th>
<th>Compiler Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>502.gcc_r(peak)</td>
<td>500.perlbench_r(base, peak) 502.gcc_r(base) 505.mcf_r(base, peak) 525.x264_r(base, peak) 557.xz_r(base, peak)</td>
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<tr>
<td>C++</td>
<td>523.xalancbmk_r(peak)</td>
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(Continued on next page)
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---

**Compiler Version Notes (Continued)**

Target: i386-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /pppo/dev/compilers/aocc-compiler-2.0.0/bin

```
C++         | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base)  
| 531.deepsjeng_r(base, peak) 541.leela_r(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: /pppo/dev/compilers/aocc-compiler-2.0.0/bin

```
C++         | 523.xalancbmk_r(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: /pppo/dev/compilers/aocc-compiler-2.0.0/bin

```
C++         | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base)  
| 531.deepsjeng_r(base, peak) 541.leela_r(base, peak)
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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: /pppo/dev/compilers/aocc-compiler-2.0.0/bin

```
Fortran     | 548.exchange2_r(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: /pppo/dev/compilers/aocc-compiler-2.0.0/bin

---

SPECrates® 2017:

SPECrates® 2017 int_base = 133
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### 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**:  
  - -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  
  - -flv-function-specialization -z muldefs -lmvec -lamdlibm -ljemalloc  
  - -flang

- **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  
  - -mlllvm -unroll-threshold=100 -flv-function-specialization

(Continued on next page)
Supermicro
A+ SuperWorkstation 5014A-TT
(M12SWA-TF, AMD Ryzen Threadripper PRO 3955WX)

SPECrater®2017_int_base = 133
SPECrater®2017_int_peak = 143

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

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

Base Optimization Flags (Continued)

C++ benchmarks (continued):
-mllvm -enable-partial-unswitch -z muldefs -lmvec -lamdlibm
-ljemalloc -lflang

Fortran benchmarks:
-fflto -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

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

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
Supermicro A+ SuperWorkstation 5014A-TT (M12SWA-TF, AMD Ryzen Threadripper PRO 3955WX)

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CPU2017 License: 001176
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Peak Optimization Flags (Continued)

525.x264_r: Same as 500.perlbench_r

557.xz_r: Same as 505.mcf_r

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=xnover2 -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

531.deepjeng_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=xnover2 -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/spp/ldev/cpu2017/v110/amd_rate_aocc200_rome_c_lib/32

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SPEC CPU®2017 Integer Rate Result

Supermicro
A+ SuperWorkstation 5014A-TT
(M12SWA-TF, AMD Ryzen Threadripper PRO 3955WX)

SPECr2017_int_peak = 143
SPECr2017_int_base = 133

CPU2017 License: 001176
Test Sponsor: Supermicro
Test Date: Feb-2021
Tested by: Supermicro
Hardware Availability: Mar-2021
Software Availability: Jan-2021

Peak Other Flags (Continued)

C++ benchmarks:
523.xalancbmk_r -L/sppo/dev/cpu2017/v110/amd_rate_aocc200_rome_C_lib/32

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.

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