



# SPEC CPU®2017 Integer Speed Result

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## Supermicro

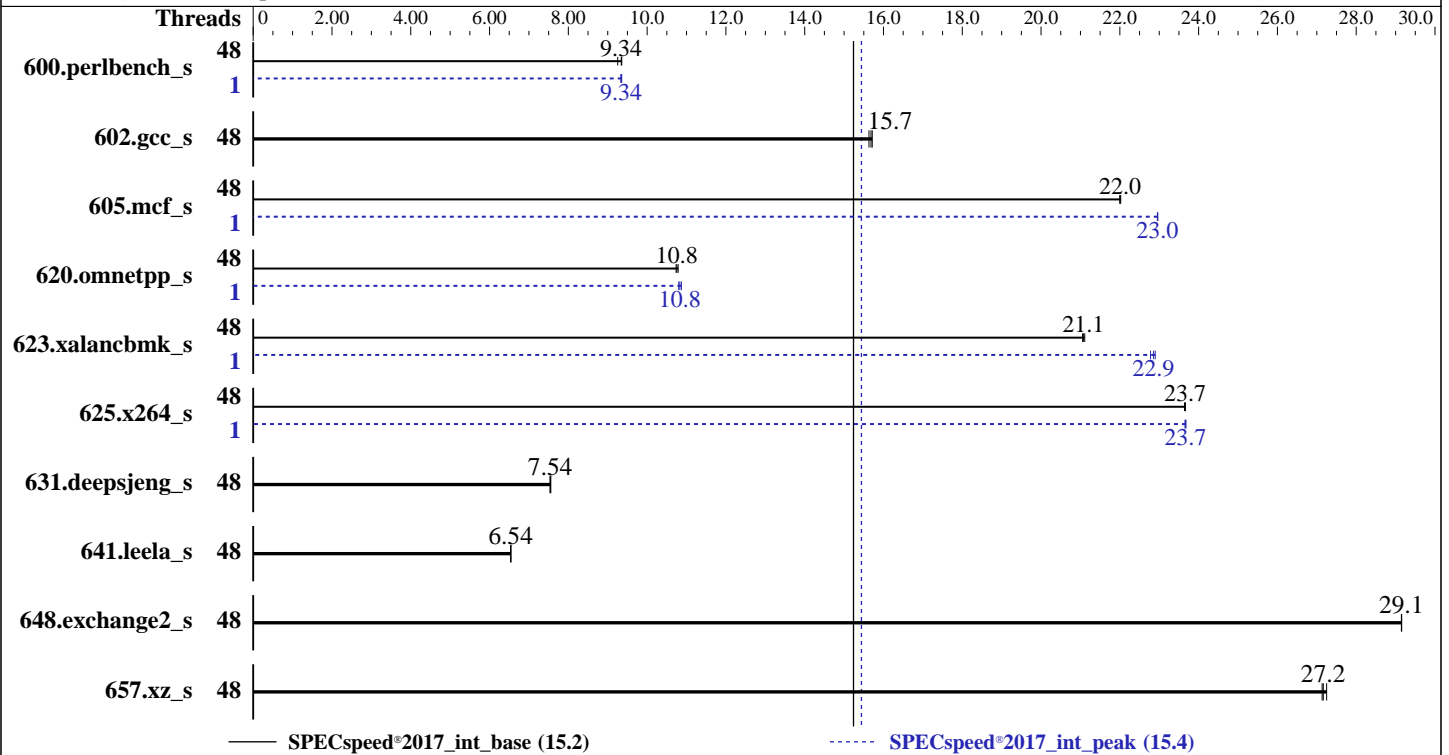
A+ Server AS-1125HS-TNR  
(H13DSH , AMD EPYC 9254)

SPECspeed®2017\_int\_base = 15.2

SPECspeed®2017\_int\_peak = 15.4

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

Test Date: Nov-2022  
Hardware Availability: Nov-2022  
Software Availability: Nov-2022



### Hardware

CPU Name: AMD EPYC 9254  
Max MHz: 4150  
Nominal: 2900  
Enabled: 48 cores, 2 chips  
Orderable: 2 chips  
Cache L1: 32 KB I + 32 KB D on chip per core  
L2: 1 MB I+D on chip per core  
L3: 128 MB I+D on chip per chip, 32 MB shared / 6 cores  
Other: None  
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-4800B-R)  
Storage: 1 x 4 TB NVMe SSD  
Other: None

### Software

OS: Ubuntu 22.04 LTS  
Kernel 5.15.0-53-generic  
Compiler: C/C++/Fortran: Version 4.0.0 of AOCC  
Parallel: Yes  
Firmware: Version 1.0.V1 released Nov-2022  
File System: ext4  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other: None  
Power Management: BIOS set to max performance at the cost of additional power usage.



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## Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	48	190	9.36	<b><u>190</u></b>	<b><u>9.34</u></b>	192	9.25	1	190	9.36	190	9.33	<b><u>190</u></b>	<b><u>9.34</u></b>
602.gcc_s	48	255	15.6	253	15.7	<b><u>254</u></b>	<b><u>15.7</u></b>	48	255	15.6	253	15.7	<b><u>254</u></b>	<b><u>15.7</u></b>
605.mcf_s	48	214	22.0	215	22.0	<b><u>215</u></b>	<b><u>22.0</u></b>	1	<b><u>206</u></b>	<b><u>23.0</u></b>	206	23.0	206	23.0
620.omnetpp_s	48	152	10.7	<b><u>152</u></b>	<b><u>10.8</u></b>	151	10.8	1	151	10.8	150	10.9	<b><u>151</u></b>	<b><u>10.8</u></b>
623.xalancbmk_s	48	67.3	21.1	67.1	21.1	<b><u>67.2</u></b>	<b><u>21.1</u></b>	1	61.9	22.9	62.2	22.8	<b><u>62.0</u></b>	<b><u>22.9</u></b>
625.x264_s	48	74.6	23.6	<b><u>74.6</u></b>	<b><u>23.7</u></b>	74.5	23.7	1	74.5	23.7	<b><u>74.5</u></b>	<b><u>23.7</u></b>	74.6	23.7
631.deepsjeng_s	48	190	7.56	190	7.54	<b><u>190</u></b>	<b><u>7.54</u></b>	48	190	7.56	190	7.54	<b><u>190</u></b>	<b><u>7.54</u></b>
641.leela_s	48	<b><u>261</u></b>	<b><u>6.54</u></b>	261	6.53	261	6.54	48	<b><u>261</u></b>	<b><u>6.54</u></b>	261	6.53	261	6.54
648.exchange2_s	48	<b><u>101</u></b>	<b><u>29.1</u></b>	101	29.2	101	29.1	48	<b><u>101</u></b>	<b><u>29.1</u></b>	101	29.2	101	29.1
657.xz_s	48	228	27.1	227	27.2	<b><u>228</u></b>	<b><u>27.2</u></b>	48	228	27.1	227	27.2	<b><u>228</u></b>	<b><u>27.2</u></b>

SPECspeed®2017\_int\_base = **15.2**

SPECspeed®2017\_int\_peak = **15.4**

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.

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## Operating System Notes (Continued)

To enable Transparent Hugepages (THP) for all allocations,  
'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:

```
GOMP_CPU_AFFINITY = "0-47"  
LD_LIBRARY_PATH = "/home/cpu2017/amd_speed_aocc400_genoa_B_lib/lib:"  
LIBOMP_NUM_HIDDEN_HELPER_THREADS = "0"  
MALLOC_CONF = "oversize_threshold:0,retain:true"  
OMP_DYNAMIC = "false"  
OMP_SCHEDULE = "static"  
OMP_STACKSIZE = "128M"  
OMP_THREAD_LIMIT = "48"
```

Environment variables set by runcpu during the 600.perlbench\_s peak run:

```
GOMP_CPU_AFFINITY = "15"
```

Environment variables set by runcpu during the 605.mcf\_s peak run:

```
GOMP_CPU_AFFINITY = "15"
```

Environment variables set by runcpu during the 620.omnetpp\_s peak run:

```
GOMP_CPU_AFFINITY = "15"
```

Environment variables set by runcpu during the 623.xalancbmk\_s peak run:

```
GOMP_CPU_AFFINITY = "15"
```

Environment variables set by runcpu during the 625.x264\_s peak run:

```
GOMP_CPU_AFFINITY = "15"
```

## General Notes

Binaries were compiled on a system with 2x AMD EPYC 9174F CPU + 1.5TiB Memory using RHEL 8.6

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.



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### Platform Notes

BIOS Settings:

Determinism Control = Manual  
Determinism Enable = Disable Performance Determinism  
cTDP Control = Manual  
cTDP = 240  
Package Power Limit Control = Manual  
Package Power Limit = 240  
ACPI SRAT L3 cache As NUMA Domain = Enabled  
SMT Control = Disabled

Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d  
running on h13dsh-9254 Thu Nov 24 06:00:38 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 9254 24-Core Processor
 2 "physical id"s (chips)
 48 "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 : 24
siblings : 24
physical 0: cores 0 1 2 3 4 5 16 17 18 19 20 21 32 33 34 35 36 37 48 49 50 51 52 53
physical 1: cores 0 1 2 3 4 5 16 17 18 19 20 21 32 33 34 35 36 37 48 49 50 51 52 53
```

From lscpu from util-linux 2.37.2:

```
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Address sizes: 52 bits physical, 57 bits virtual
Byte Order: Little Endian
CPU(s): 48
On-line CPU(s) list: 0-47
Vendor ID: AuthenticAMD
Model name: AMD EPYC 9254 24-Core Processor
CPU family: 25
Model: 17
Thread(s) per core: 1
Core(s) per socket: 24
Socket(s): 2
Stepping: 1
Frequency boost: enabled
CPU max MHz: 4153.0000
CPU min MHz: 400.0000
```

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### Platform Notes (Continued)

```

BogoMIPS:                5799.86
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 nonstop_tsc cpuid extd_apicid
aperfmpperf rapl 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 ibs skinit wdt tce topoext perfctr_core perfctr_nb
bpxt perfctr_llc mwaitx cpb cat_l3 cdp_l3 invpcid_single hw_pstate ssbd mba ibrs
ibpb stibp vmmcall fsgsbase bmi1 avx2 smep bmi2 erms invpcid cqm rdt_a avx512f
avx512dq rdseed adx smap avx512ifma clflushopt clwb avx512cd sha_ni avx512bw
avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
cqm_mbm_local avx512_bf16 clzero irperf xsaveerptr rdpru wbnoinvd amd_ppin cppc arat
npt lbrv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists
pausefilter pfthreshold avic v_vmsave_vmload vgif v_spec_ctrl avx512vbmi umip pku
ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpopcntdq
la57 rdpid overflow_recov succor smca fsrm flush_lld
Virtualization:          AMD-V
L1d cache:               1.5 MiB (48 instances)
L1i cache:               1.5 MiB (48 instances)
L2 cache:                48 MiB (48 instances)
L3 cache:                256 MiB (8 instances)
NUMA node(s):            8
NUMA node0 CPU(s):       0-5
NUMA node1 CPU(s):       6-11
NUMA node2 CPU(s):       12-17
NUMA node3 CPU(s):       18-23
NUMA node4 CPU(s):       24-29
NUMA node5 CPU(s):       30-35
NUMA node6 CPU(s):       36-41
NUMA node7 CPU(s):       42-47
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:       Not affected
Vulnerability Mds:        Not affected
Vulnerability Meltdown:   Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed:   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; Retpolines, IBPB conditional, IBRS_FW, STIBP disabled, RSB filling, PBRSE-eIBRS Not affected
Vulnerability Srbds:      Not affected
Vulnerability Tsx async abort: Not affected

```

```

From lscpu --cache:
NAME ONE-SIZE ALL-SIZE WAYS TYPE          LEVEL SETS PHY-LINE COHERENCY-SIZE

```

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### Platform Notes (Continued)

L1d	32K	1.5M	8 Data	1	64	1	64
L1i	32K	1.5M	8 Instruction	1	64	1	64
L2	1M	48M	8 Unified	2	2048	1	64
L3	32M	256M	16 Unified	3	32768	1	64

```
/proc/cpuinfo cache data
cache size : 1024 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
node 0 size: 193269 MB
node 0 free: 192725 MB
node 1 cpus: 6 7 8 9 10 11
node 1 size: 193520 MB
node 1 free: 193057 MB
node 2 cpus: 12 13 14 15 16 17
node 2 size: 193520 MB
node 2 free: 193073 MB
node 3 cpus: 18 19 20 21 22 23
node 3 size: 193485 MB
node 3 free: 193019 MB
node 4 cpus: 24 25 26 27 28 29
node 4 size: 193520 MB
node 4 free: 192993 MB
node 5 cpus: 30 31 32 33 34 35
node 5 size: 193520 MB
node 5 free: 192840 MB
node 6 cpus: 36 37 38 39 40 41
node 6 size: 193461 MB
node 6 free: 192954 MB
node 7 cpus: 42 43 44 45 46 47
node 7 size: 193520 MB
node 7 free: 192985 MB
node distances:
node  0  1  2  3  4  5  6  7
0:  10 11 11 11 32 32 32 32
1:  11 10 11 11 32 32 32 32
2:  11 11 10 11 32 32 32 32
3:  11 11 11 10 32 32 32 32
4:  32 32 32 32 10 11 11 11
5:  32 32 32 32 11 10 11 11
6:  32 32 32 32 11 11 10 11
7:  32 32 32 32 11 11 11 10
```

```
From /proc/meminfo
```

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### Platform Notes (Continued)

MemTotal: 1584967540 kB  
HugePages\_Total: 0  
Hugepagesize: 2048 kB

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

```
/usr/bin/lsb_release -d
Ubuntu 22.04.1 LTS
```

```
From /etc/*release* /etc/*version*
debian_version: bookworm/sid
os-release:
  PRETTY_NAME="Ubuntu 22.04.1 LTS"
  NAME="Ubuntu"
  VERSION_ID="22.04"
  VERSION="22.04.1 LTS (Jammy Jellyfish)"
  VERSION_CODENAME=jammy
  ID=ubuntu
  ID_LIKE=debian
  HOME_URL="https://www.ubuntu.com/"
```

```
uname -a:
Linux h13dsh-9254 5.15.0-53-generic #59-Ubuntu SMP Mon Oct 17 18:53:30 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):	Not affected
mmio_stale_data:	Not affected
retbleed:	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/swaps barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):	Mitigation: Retpolines, IBPB: conditional, IBRS_FW, STIBP: disabled, RSB filling, PBRSE-eIBRS: Not affected
CVE-2020-0543 (Special Register Buffer Data Sampling):	Not affected
CVE-2019-11135 (TSX Asynchronous Abort):	Not affected

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### Platform Notes (Continued)

run-level 5 Nov 24 04:07

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	ext4	3.5T	18G	3.3T	1%	/

```
From /sys/devices/virtual/dmi/id
Vendor: Supermicro
Product: Super Server
Product Family: SMC H13
Serial: 123456789
```

Additional information from dmidecode 3.3 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:

24x Micron Technology MTC40F2046S1RC48BA1 64 GB 2 rank 4800

BIOS:

```
BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 1.0.V1
BIOS Date: 11/16/2022
BIOS Revision: 5.27
```

(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)  
=====
```

AMD clang version 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on LLVM Mirror.Version.14.0.6)

Target: x86\_64-unknown-linux-gnu

Thread model: posix

InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

```
=====  
C++   | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak)  
      | 631.deepsjeng_s(base, peak) 641.leela_s(base, peak)  
=====
```

AMD clang version 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on LLVM Mirror.Version.14.0.6)

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### Compiler Version Notes (Continued)

Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

-----  
Fortran | 648.exchange2\_s(base, peak)

-----  
AMD clang version 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on  
LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin  
-----

### 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



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## Base Optimization Flags

C benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-allow-multiple-definition -O3 -march=znver4 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -fstruct-layout=7
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -fstrip-mining -mllvm -reduce-array-computations=3
-DSPEC_OPENMP -zopt -fopenmp=libomp -lomp -lamdlibm -lflang
-lamdalloc
```

C++ benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver4
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-mllvm -unroll-threshold=100 -finline-aggressive
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
-fvirtual-function-elimination -fvisibility=hidden -fopenmp=libomp
-lomp -lamdlibm -lflang -lamdalloc-ext
```

Fortran benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop
-Wl,-mllvm -Wl,-enable-iv-split -O3 -march=znver4 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -mllvm -optimize-strided-mem-cost
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -fopenmp=libomp
-lomp -lamdlibm -lflang -lamdalloc
```

## Base Other Flags

C benchmarks:

```
-Wno-return-type -Wno-unused-command-line-argument
```

C++ benchmarks:

```
-Wno-unused-command-line-argument
```

Fortran benchmarks:

```
-Wno-unused-command-line-argument
```



# SPEC CPU®2017 Integer Speed Result

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## Supermicro

A+ Server AS-1125HS-TNR  
(H13DSH , AMD EPYC 9254)

SPECspeed®2017\_int\_base = 15.2

SPECspeed®2017\_int\_peak = 15.4

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

**Test Date:** Nov-2022  
**Hardware Availability:** Nov-2022  
**Software Availability:** Nov-2022

## Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
600.perlbench_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-allow-multiple-definition -Ofast -march=znver4
-fveclib=AMDLIBM -ffast-math -fopenmp -flto
-fstruct-layout=9 -mllvm -unroll-threshold=50
-fremap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
-fopenmp=libomp -lomp -lamdlibm -lamdalloc -lflang
```

602.gcc\_s: basepeak = yes

605.mcf\_s: Same as 600.perlbench\_s

625.x264\_s: Same as 600.perlbench\_s

657.xz\_s: basepeak = yes

C++ benchmarks:

```
620.omnetpp_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver4 -fveclib=AMDLIBM -ffast-math -fopenmp
-flto -finline-aggressive -mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt
```

(Continued on next page)



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## Peak Optimization Flags (Continued)

620.omnetpp\_s (continued):

```
-fvirtual-function-elimination -fvisibility=hidden  
-fopenmp=libomp -lomp -lamdlibm -lamdalloc-ext -lflang
```

623.xalancbmk\_s: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

```
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-do-block-reorder=aggressive -Ofast  
-march=znver4 -fveclib=AMDLIBM -ffast-math -fopenmp  
-flto -finline-aggressive -mllvm -unroll-threshold=100  
-mllvm -reduce-array-computations=3 -DSPEC_OPENMP -zopt  
-mllvm -do-block-reorder=aggressive  
-fvirtual-function-elimination -fvisibility=hidden  
-fopenmp=libomp -lomp -lamdlibm -lamdalloc-ext -lflang
```

631.deepsjeng\_s: basepeak = yes

641.leela\_s: basepeak = yes

Fortran benchmarks:

648.exchange2\_s: basepeak = yes

## Peak Other Flags

C benchmarks:

```
-Wno-return-type -Wno-unused-command-line-argument
```

C++ benchmarks:

```
-Wno-unused-command-line-argument
```

Fortran benchmarks:

```
-Wno-unused-command-line-argument
```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/aocc400-flags.html>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-Genoa-revB.html>

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

<http://www.spec.org/cpu2017/flags/aocc400-flags.xml>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-Genoa-revB.xml>



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**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** Nov-2022  
**Hardware Availability:** Nov-2022  
**Software Availability:** Nov-2022

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