



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

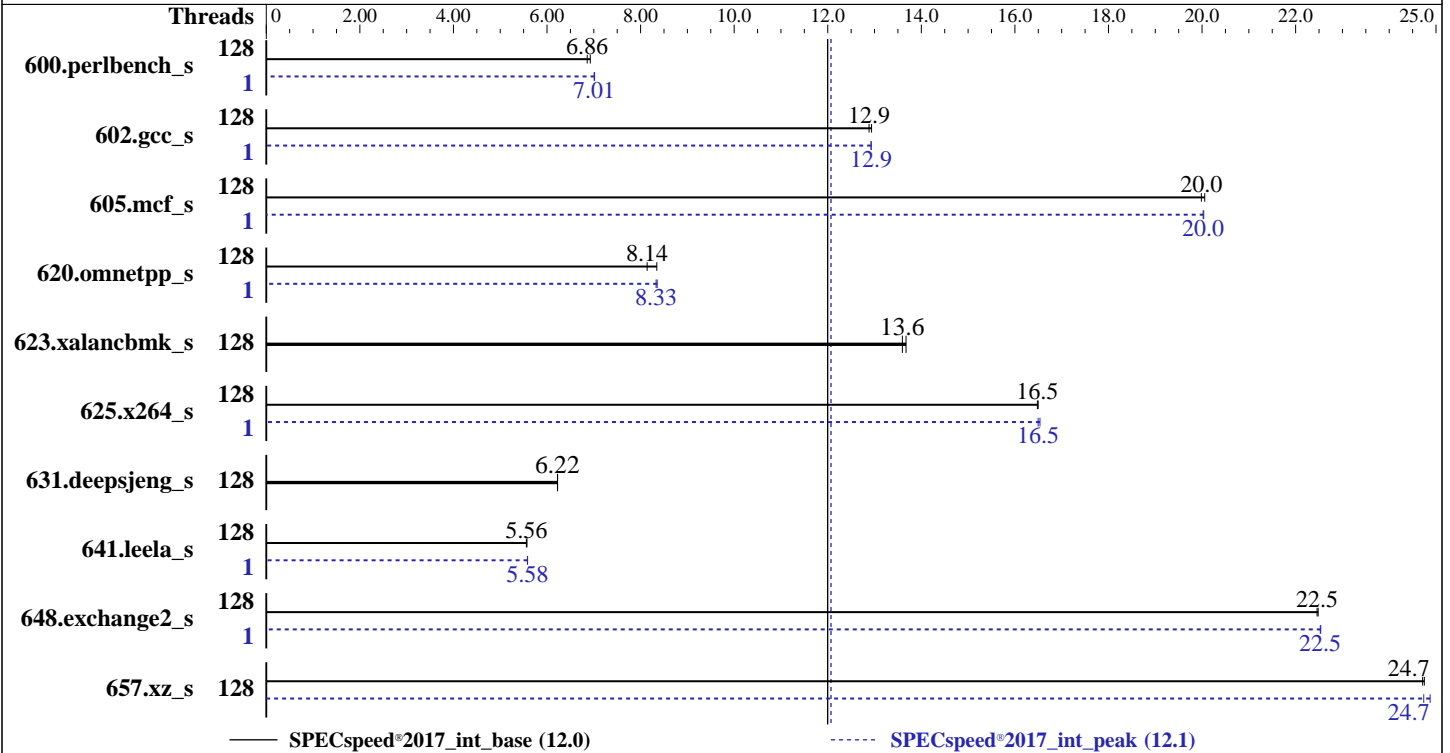
Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021



Hardware

CPU Name: AMD EPYC 7763
 Max MHz: 3500
 Nominal: 2450
 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,
 32 MB shared / 8 cores
 Other: None
 Memory: 2 TB (16 x 128 GB 4Rx4 PC4-3200V-L)
 Storage: 1 x 960 GB M.2 SSD SATA
 Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP3 (x86_64)
 kernel version
 5.3.18-57-default
 Compiler: C/C++/Fortran: Version 3.0.0 of AOCC
 Parallel: Yes
 Firmware: Version 4.2.0.287 released Jul-2021
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 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



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	128	256	6.92	<u>259</u>	<u>6.86</u>			1	<u>253</u>	<u>7.01</u>	253	7.02		
602.gcc_s	128	<u>309</u>	<u>12.9</u>	308	12.9			1	<u>308</u>	<u>12.9</u>	308	12.9		
605.mcf_s	128	235	20.1	<u>236</u>	<u>20.0</u>			1	<u>236</u>	<u>20.0</u>	236	20.0		
620.omnetpp_s	128	195	8.35	<u>200</u>	<u>8.14</u>			1	<u>196</u>	<u>8.33</u>	195	8.35		
623.xalancbmk_s	128	104	13.7	<u>104</u>	<u>13.6</u>			128	104	13.7	<u>104</u>	<u>13.6</u>		
625.x264_s	128	<u>107</u>	<u>16.5</u>	107	16.5			1	107	16.5	<u>107</u>	<u>16.5</u>		
631.deepsjeng_s	128	230	6.23	<u>230</u>	<u>6.22</u>			128	230	6.23	<u>230</u>	<u>6.22</u>		
641.leela_s	128	306	5.57	<u>307</u>	<u>5.56</u>			1	305	5.59	<u>306</u>	<u>5.58</u>		
648.exchange2_s	128	131	22.5	<u>131</u>	<u>22.5</u>			1	130	22.5	<u>131</u>	<u>22.5</u>		
657.xz_s	128	<u>250</u>	<u>24.7</u>	250	24.8			128	<u>250</u>	<u>24.7</u>	249	24.9		

SPECspeed®2017_int_base = **12.0**

SPECspeed®2017_int_peak = **12.1**

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
ASLR is disabled to reduce run-to-run issues.

dirty_ratio, swappiness, zone_reclaim_mode, drop_caches and ASLR were all set using privileged echo (e.g. echo 1 > /proc/sys/vm/swappiness).

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Operating System Notes (Continued)

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

Environment Variables Notes

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

GOMP_CPU_AFFINITY = "0-255"

LD_LIBRARY_PATH =

"/home/cpu2017/amd_speed_aocc300_milan_B_lib/64;/home/cpu2017/amd_speed_aocc300_milan_B_lib/32:"

MALLOC_CONF = "retain:true"

OMP_DYNAMIC = "false"

OMP_SCHEDULE = "static"

OMP_STACKSIZE = "128M"

OMP_THREAD_LIMIT = "256"

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 625.x264_s peak run:

GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 641.leela_s peak run:

GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 648.exchange2_s peak run:

GOMP_CPU_AFFINITY = "0"

Environment variables set by runcpu during the 657.xz_s peak run:

GOMP_CPU_AFFINITY = "0-127"

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.

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

General Notes (Continued)

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>

Platform Notes

BIOS Configuration

SMT Mode set to Auto
NUMA nodes per socket set to NPS2
ACPI SRAT L3 Cache As NUMA Domain set to Enabled
DRAM Scrub Time set to Disabled
Determinism Slider set to Power
cTDP Control set to Manual
cTDP set to 280
EDC Control set to Manual
EDC set to 300
L2 Stream HW Prefetcher set to Disabled
Memory Interleaving set to Disabled
APBDIS set to 1
xGMI Link config set to 4

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
running on localhost Thu Aug 19 12:14:03 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 EPYC 7763 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
```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Platform Notes (Continued)

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 from util-linux 2.36.2:

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
Address sizes:          48 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 7763 64-Core Processor
Stepping:               1
Frequency boost:        enabled
CPU MHz:                1898.576
CPU max MHz:           2450.0000
CPU min MHz:           1500.0000
BogoMIPS:              4891.16
Virtualization:        AMD-V
L1d cache:             4 MiB
L1i cache:             4 MiB
L2 cache:              64 MiB
L3 cache:              512 MiB
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

```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Platform Notes (Continued)

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, 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 pdpe1gb 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 ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext 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 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 amd_ppin arat npt lbrv svm_lock nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter pfthreshold v_vmsave_vmload vgif umip pku ospke vaes vpclmulqdq rdpid overflow_recov succor smca fsrm

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	32K	4M	8	Data	1	64	1	64
L1i	32K	4M	8	Instruction	1	64	1	64
L2	512K	64M	8	Unified	2	1024	1	64
L3	32M	512M	16	Unified	3	32768	1	64

/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 7 128 129 130 131 132 133 134 135

node 0 size: 128832 MB

node 0 free: 128523 MB

node 1 cpus: 8 9 10 11 12 13 14 15 136 137 138 139 140 141 142 143

node 1 size: 129020 MB

node 1 free: 128827 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: 128839 MB

node 3 cpus: 24 25 26 27 28 29 30 31 152 153 154 155 156 157 158 159

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Platform Notes (Continued)

```

node 3 size: 129020 MB
node 3 free: 128835 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: 128797 MB
node 5 cpus: 40 41 42 43 44 45 46 47 168 169 170 171 172 173 174 175
node 5 size: 129020 MB
node 5 free: 128768 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: 128835 MB
node 7 cpus: 56 57 58 59 60 61 62 63 184 185 186 187 188 189 190 191
node 7 size: 116907 MB
node 7 free: 116674 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: 128862 MB
node 9 cpus: 72 73 74 75 76 77 78 79 200 201 202 203 204 205 206 207
node 9 size: 129020 MB
node 9 free: 128760 MB
node 10 cpus: 80 81 82 83 84 85 86 87 208 209 210 211 212 213 214 215
node 10 size: 129020 MB
node 10 free: 128843 MB
node 11 cpus: 88 89 90 91 92 93 94 95 216 217 218 219 220 221 222 223
node 11 size: 129020 MB
node 11 free: 128473 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: 128734 MB
node 13 cpus: 104 105 106 107 108 109 110 111 232 233 234 235 236 237 238 239
node 13 size: 129020 MB
node 13 free: 128846 MB
node 14 cpus: 112 113 114 115 116 117 118 119 240 241 242 243 244 245 246 247
node 14 size: 128986 MB
node 14 free: 128792 MB
node 15 cpus: 120 121 122 123 124 125 126 127 248 249 250 251 252 253 254 255
node 15 size: 129013 MB
node 15 free: 128821 MB
node distances:
node  0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15
  0: 10 11 11 11 11 11 11 11 32 32 32 32 32 32 32 32
  1: 11 10 11 11 11 11 11 11 32 32 32 32 32 32 32 32
  2: 11 11 10 11 11 11 11 11 32 32 32 32 32 32 32 32
  3: 11 11 11 10 11 11 11 11 32 32 32 32 32 32 32 32
  4: 11 11 11 11 10 11 11 11 32 32 32 32 32 32 32 32
  5: 11 11 11 11 11 10 11 11 32 32 32 32 32 32 32 32
  6: 11 11 11 11 11 11 10 11 32 32 32 32 32 32 32 32

```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Platform Notes (Continued)

7:	11	11	11	11	11	11	11	11	10	32	32	32	32	32	32	32	32
8:	32	32	32	32	32	32	32	32	32	10	11	11	11	11	11	11	11
9:	32	32	32	32	32	32	32	32	32	11	10	11	11	11	11	11	11
10:	32	32	32	32	32	32	32	32	32	11	11	10	11	11	11	11	11
11:	32	32	32	32	32	32	32	32	32	11	11	11	10	11	11	11	11
12:	32	32	32	32	32	32	32	32	32	11	11	11	11	10	11	11	11
13:	32	32	32	32	32	32	32	32	32	11	11	11	11	11	10	11	11
14:	32	32	32	32	32	32	32	32	32	11	11	11	11	11	11	10	11
15:	32	32	32	32	32	32	32	32	32	11	11	11	11	11	11	11	10

From /proc/meminfo

```
MemTotal:      2101227044 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

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

From /etc/*release* /etc/*version*

```
os-release:
NAME="SLES"
VERSION="15-SP3"
VERSION_ID="15.3"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP3"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp3"
```

uname -a:

```
Linux localhost 5.3.18-57-default #1 SMP Wed Apr 28 10:54:41 UTC 2021 (ba3c2e9) 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
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:
```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Platform Notes (Continued)

	always-on, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling):	Not affected
CVE-2019-11135 (TSX Asynchronous Abort):	Not affected

run-level 3 Aug 17 10:46

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sdc3	xf	557G	10G	547G	2%	/

```

From /sys/devices/virtual/dmi/id
Vendor:          Cisco Systems Inc
Product:         UCSC-C225-M6S
Serial:          WZP252309U3

```

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 "DMTF SMBIOS" standard.

```

Memory:
16x 0xCE00 M386AAG40AM3-CWE 128 GB 4 rank 3200

```

```

BIOS:
BIOS Vendor:      Cisco Systems, Inc.
BIOS Version:     C225M6.4.2.0.287.0730211213
BIOS Date:        07/30/2021
BIOS Revision:    5.22

```

(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 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on
LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin
=====

```

```

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

```

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Compiler Version Notes (Continued)

```

-----
AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on
  LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/bin
-----

```

```

=====
Fortran | 648.exchange2_s(base, peak)
-----

```

```

AMD clang version 12.0.0 (CLANG: AOCC_3.0.0-Build#78 2020_12_10) (based on
  LLVM Mirror.Version.12.0.0)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc-compiler-3.0.0/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

```



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Base Optimization Flags

C benchmarks:

```

-m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition
-Wl,-mllvm -Wl,-enable-licm-vrp -Wl,-mllvm -Wl,-region-vectorize
-Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-fremap-arrays -mllvm -function-specialize -flv-function-specialization
-mllvm -enable-gvn-hoist -mllvm -global-vectorize-slp=true
-mllvm -enable-licm-vrp -mllvm -reduce-array-computations=3 -z muldefs
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-lflang -lflangrti

```

C++ benchmarks:

```

-m64 -std=c++98 -mno-adx -mno-sse4a
-Wl,-mllvm -Wl,-do-block-reorder=aggressive
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -mllvm -enable-partial-unswitch
-mllvm -unroll-threshold=100 -finline-aggressive
-flv-function-specialization -mllvm -loop-unswitch-threshold=200000
-mllvm -reroll-loops -mllvm -aggressive-loop-unswitch
-mllvm -extra-vectorizer-passes -mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp=true -mllvm -convert-pow-exp-to-int=false
-z muldefs -mllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden -DSPEC_OPENMP
-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -lflang
-lflangrti

```

Fortran benchmarks:

```

-m64 -mno-adx -mno-sse4a -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,-mllvm -Wl,-lsr-in-nested-loop -Wl,-mllvm -Wl,-enable-iv-split
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -z muldefs
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -DSPEC_OPENMP
-fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc -lflang
-lflangrti

```



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Base Other Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

-Wno-return-type

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:

-m64 -mno-adx -mno-sse4a -Wl,-allow-multiple-definition
-Wl,-mllvm -Wl,-enable-licm-vrp -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=5
-mllvm -unroll-threshold=50 -fremap-arrays -flv-function-specialization
-mllvm -inline-threshold=1000 -mllvm -enable-gvn-hoist
-mllvm -global-vectorize-slp=true -mllvm -function-specialize
-mllvm -enable-licm-vrp -mllvm -reduce-array-computations=3
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm -ljemalloc
-lflang

(Continued on next page)



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

Peak Optimization Flags (Continued)

C++ benchmarks:

```
620.omnetpp_s: -m64 -std=c++98 -mno-adx -mno-sse4a
-Wl,-mllvm -Wl,-do-block-reorder=aggressive
-Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver3 -fveclib=AMDLIBM -ffast-math -flto
-finline-aggressive -mllvm -unroll-threshold=100
-flv-function-specialization -mllvm -enable-licm-vrp
-mllvm -reroll-loops -mllvm -aggressive-loop-unswitch
-mllvm -reduce-array-computations=3
-mllvm -global-vectorize-slp=true
-mllvm -do-block-reorder=aggressive
-fvirtual-function-elimination -fvisibility=hidden
-DSPEC_OPENMP -fopenmp -fopenmp=libomp -lomp -lamdlibm
-ljemalloc -lflang
```

623.xalancbmk_s: basepeak = yes

631.deepsjeng_s: basepeak = yes

641.leela_s: Same as 620.omnetpp_s

Fortran benchmarks:

```
-m64 -mno-adx -mno-sse4a -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,-mllvm -Wl,-lsr-in-nested-loop -Wl,-mllvm -Wl,-enable-iv-split
-Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver3
-fveclib=AMDLIBM -ffast-math -flto -mllvm -unroll-aggressive
-mllvm -unroll-threshold=150 -DSPEC_OPENMP -fopenmp -fopenmp=libomp
-lomp -lamdlibm -ljemalloc -lflang
```

Peak Other Flags

C benchmarks:

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

C++ benchmarks:

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

Fortran benchmarks:

-Wno-return-type



SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

Cisco Systems

Cisco UCS C225 M6 (AMD EPYC 7763 64-Core, Processor)

SPECspeed®2017_int_base = 12.0

SPECspeed®2017_int_peak = 12.1

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Aug-2021

Hardware Availability: Jun-2021

Software Availability: Jun-2021

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

<http://www.spec.org/cpu2017/flags/aocc300-flags-A1.html>

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-AMD-v2-revC.html>

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

<http://www.spec.org/cpu2017/flags/aocc300-flags-A1.xml>

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-AMD-v2-revC.xml>

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU®2017 v1.1.8 on 2021-08-19 15:14:02-0400.

Report generated on 2021-09-29 12:21:01 by CPU2017 PDF formatter v6442.

Originally published on 2021-09-28.