



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

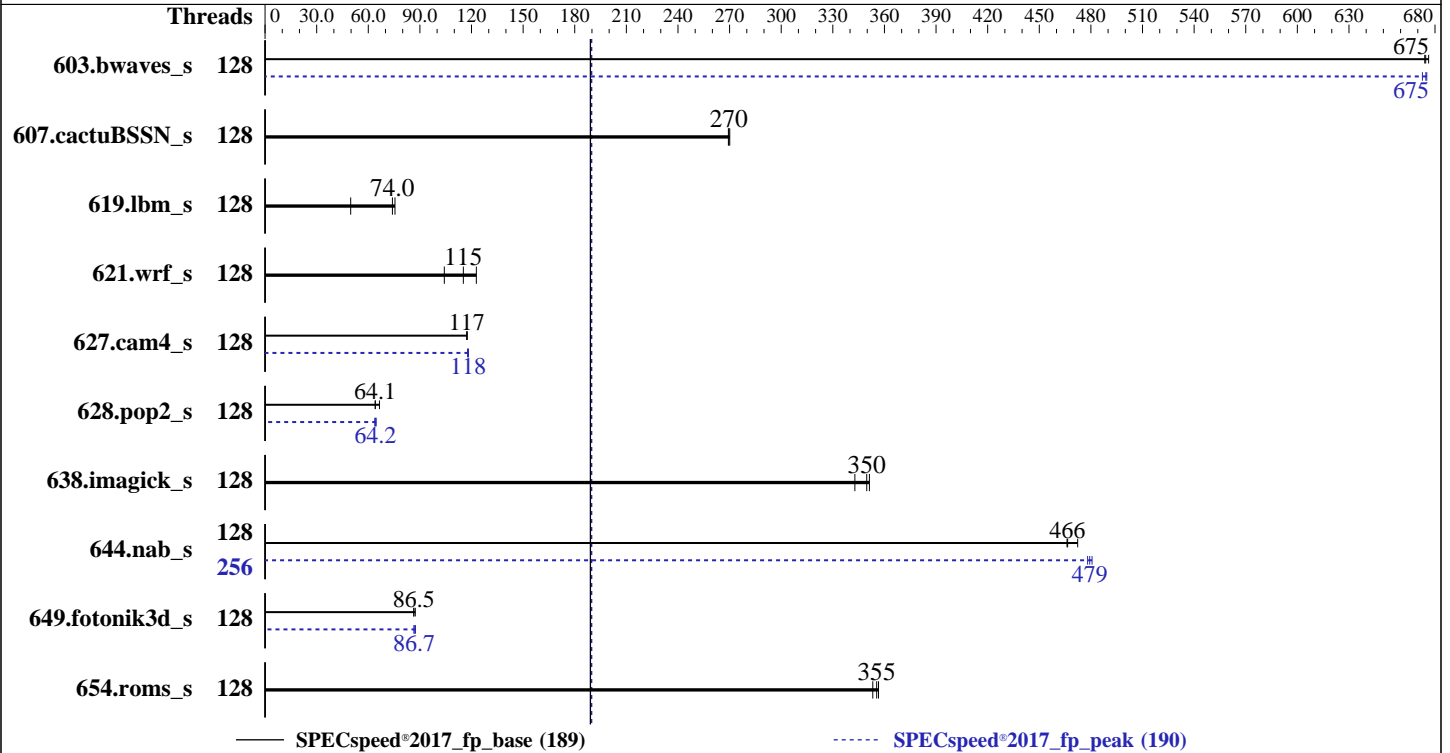
Test Date: Sep-2019

Test Sponsor: Dell Inc.

Hardware Availability: Sep-2019

Tested by: Dell Inc.

Software Availability: Aug-2019



Hardware

CPU Name: AMD EPYC 7742
 Max MHz: 3400
 Nominal: 2250
 Enabled: 128 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chips
 Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 512 KB I+D on chip per core
 L3: 256 MB I+D on chip per chip, 16 MB shared / 4 cores
 Other: None
 Memory: 512 GB (16 x 32 GB 2Rx4 PC4-3200AA-R, running at 3200)
 Storage: 1 x 480 GB SATA SSD
 Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP1
 kernel 4.12.14-195-default
 Compiler: C/C++/Fortran: Version 2.0.0 of AOCC
 Parallel: Yes
 Firmware: Version 0.4.2 released Jul-2019
 File System: xfs
 System State: Run level 5 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: jemalloc: jemalloc memory allocator library v5.1.0
 Power Management: --



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECSpeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECSpeed®2017_fp_peak = 190

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

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

Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	128	87.2	676	87.5	675	87.5	674	128	87.7	673	87.4	675	87.4	675
607.cactuBSSN_s	128	61.7	270	61.8	270	61.9	269	128	61.7	270	61.8	270	61.9	269
619.lbm_s	128	69.4	75.5	105	49.8	70.8	74.0	128	69.4	75.5	105	49.8	70.8	74.0
621.wrf_s	128	127	104	108	123	115	115	128	127	104	108	123	115	115
627.cam4_s	128	75.4	117	75.6	117	75.5	117	128	75.3	118	75.1	118	75.0	118
628.pop2_s	128	185	64.1	179	66.5	185	64.0	128	185	64.2	186	63.7	184	64.6
638.imagick_s	128	41.3	350	42.1	343	41.1	351	128	41.3	350	42.1	343	41.1	351
644.nab_s	128	37.5	466	37.5	466	37.0	472	256	36.5	478	36.3	481	36.5	479
649.fotonik3d_s	128	104	87.3	105	86.5	105	86.5	128	104	87.4	105	86.6	105	86.7
654.roms_s	128	44.6	353	44.3	355	44.2	357	128	44.6	353	44.3	355	44.2	357

SPECSpeed®2017_fp_base = **189**

SPECSpeed®2017_fp_peak = **190**

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 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

General Notes

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

GOMP_CPU_AFFINITY = "0-127"

LD_LIBRARY_PATH = "/root/cpu2017-1.0.5/amd_speed_aocc200_rome_B_lib/64;

/root/cpu2017-1.0.5/amd_speed_aocc200_rome_B_lib/32:"

MALLOC_CONF = "retain:true"

OMP_DYNAMIC = "false"

OMP_SCHEDULE = "static"

OMP_STACKSIZE = "128M"

OMP_THREAD_LIMIT = "128"

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 5.1.0 is available here:

<https://github.com/jemalloc/jemalloc/releases/download/5.1.0/jemalloc-5.1.0.tar.bz2>

Platform Notes

BIOS settings:

NUMA Nodes Per Socket set to 4

CCX as NUMA Domain set to Enabled

System Profile set to Custom

CPU Power Management set to Maximum Performance

Memory Frequency set to Maximum Performance

Turbo Boost Enabled

Cstates set to Enabled

Memory Patrol Scrub Disabled

Memory Refresh Rate set to 1x

PCI ASPM L1 Link Power Management Disabled

Determinism Slider set to Power Determinism

Efficiency Optimized Mode Disabled

Sysinfo program /root/cpu2017-1.0.5/bin/sysinfo

Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9

running on linux-g3ob Mon Aug 26 19:15:48 2019

SUT (System Under Test) info as seen by some common utilities.

For more information on this section, see

<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Platform Notes (Continued)

From /proc/cpuinfo

model name : AMD EPYC 7742 64-Core Processor

2 "physical id"s (chips)

256 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 64

siblings : 128

physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

53 54 55 56 57 58 59 60 61 62 63

physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

53 54 55 56 57 58 59 60 61 62 63

From lscpu:

Architecture: x86_64

CPU op-mode(s): 32-bit, 64-bit

Byte Order: Little Endian

Address sizes: 43 bits physical, 48 bits virtual

CPU(s): 256

On-line CPU(s) list: 0-255

Thread(s) per core: 2

Core(s) per socket: 64

Socket(s): 2

NUMA node(s): 32

Vendor ID: AuthenticAMD

CPU family: 23

Model: 49

Model name: AMD EPYC 7742 64-Core Processor

Stepping: 0

CPU MHz: 2245.919

BogoMIPS: 4491.83

Virtualization: AMD-V

L1d cache: 32K

L1i cache: 32K

L2 cache: 512K

L3 cache: 16384K

NUMA node0 CPU(s): 0-3,128-131

NUMA node1 CPU(s): 4-7,132-135

NUMA node2 CPU(s): 8-11,136-139

NUMA node3 CPU(s): 12-15,140-143

NUMA node4 CPU(s): 16-19,144-147

NUMA node5 CPU(s): 20-23,148-151

NUMA node6 CPU(s): 24-27,152-155

NUMA node7 CPU(s): 28-31,156-159

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECSpeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECSpeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Platform Notes (Continued)

```

NUMA node8 CPU(s): 32-35,160-163
NUMA node9 CPU(s): 36-39,164-167
NUMA node10 CPU(s): 40-43,168-171
NUMA node11 CPU(s): 44-47,172-175
NUMA node12 CPU(s): 48-51,176-179
NUMA node13 CPU(s): 52-55,180-183
NUMA node14 CPU(s): 56-59,184-187
NUMA node15 CPU(s): 60-63,188-191
NUMA node16 CPU(s): 64-67,192-195
NUMA node17 CPU(s): 68-71,196-199
NUMA node18 CPU(s): 72-75,200-203
NUMA node19 CPU(s): 76-79,204-207
NUMA node20 CPU(s): 80-83,208-211
NUMA node21 CPU(s): 84-87,212-215
NUMA node22 CPU(s): 88-91,216-219
NUMA node23 CPU(s): 92-95,220-223
NUMA node24 CPU(s): 96-99,224-227
NUMA node25 CPU(s): 100-103,228-231
NUMA node26 CPU(s): 104-107,232-235
NUMA node27 CPU(s): 108-111,236-239
NUMA node28 CPU(s): 112-115,240-243
NUMA node29 CPU(s): 116-119,244-247
NUMA node30 CPU(s): 120-123,248-251
NUMA node31 CPU(s): 124-127,252-255

```

```

Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr_opt pdpe1gb rdtscp lm
constant_tsc rep_good nopl xtopology nonstop_tsc cpuid extd_apicid aperfmperf pni
pclmulqdq monitor ssse3 fma cx16 sse4_1 sse4_2 x2apic movbe popcnt aes xsave avx
f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse
3dnowprefetch osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
perfctr_l2 mwaitx cpb cat_l3 cdp_l3 hw_pstate sme ssbd sev ibrs ibpb stibp vmmcall
fsgsbase bmi1 avx2 smep bmi2 cqm rdt_a rdseed adx smap clflushopt clwb sha_ni
xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
clzero irperf xsaveerptr arat npt lbrv svm_lock nrip_save tsc_scale vmcb_clean
flushbyasid decodeassists pausefilter pfthreshold avic v_omsave_vmload vgif umip
rdpid overflow_recov succor smca

```

```

/proc/cpuinfo cache data
cache size : 512 KB

```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.

```

available: 32 nodes (0-31)
node 0 cpus: 0 1 2 3 128 129 130 131
node 0 size: 15691 MB
node 0 free: 15487 MB
node 1 cpus: 4 5 6 7 132 133 134 135

```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Platform Notes (Continued)

```

node 1 size: 16126 MB
node 1 free: 16066 MB
node 2 cpus: 8 9 10 11 136 137 138 139
node 2 size: 16126 MB
node 2 free: 15475 MB
node 3 cpus: 12 13 14 15 140 141 142 143
node 3 size: 16095 MB
node 3 free: 16012 MB
node 4 cpus: 16 17 18 19 144 145 146 147
node 4 size: 16126 MB
node 4 free: 16083 MB
node 5 cpus: 20 21 22 23 148 149 150 151
node 5 size: 16126 MB
node 5 free: 16075 MB
node 6 cpus: 24 25 26 27 152 153 154 155
node 6 size: 16126 MB
node 6 free: 16092 MB
node 7 cpus: 28 29 30 31 156 157 158 159
node 7 size: 16125 MB
node 7 free: 16003 MB
node 8 cpus: 32 33 34 35 160 161 162 163
node 8 size: 16126 MB
node 8 free: 15990 MB
node 9 cpus: 36 37 38 39 164 165 166 167
node 9 size: 16126 MB
node 9 free: 15995 MB
node 10 cpus: 40 41 42 43 168 169 170 171
node 10 size: 16126 MB
node 10 free: 16084 MB
node 11 cpus: 44 45 46 47 172 173 174 175
node 11 size: 16125 MB
node 11 free: 16004 MB
node 12 cpus: 48 49 50 51 176 177 178 179
node 12 size: 16126 MB
node 12 free: 16087 MB
node 13 cpus: 52 53 54 55 180 181 182 183
node 13 size: 16126 MB
node 13 free: 16101 MB
node 14 cpus: 56 57 58 59 184 185 186 187
node 14 size: 16126 MB
node 14 free: 16095 MB
node 15 cpus: 60 61 62 63 188 189 190 191
node 15 size: 16113 MB
node 15 free: 16081 MB
node 16 cpus: 64 65 66 67 192 193 194 195
node 16 size: 16126 MB
node 16 free: 16107 MB

```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Platform Notes (Continued)

```

node 17 cpus: 68 69 70 71 196 197 198 199
node 17 size: 16126 MB
node 17 free: 16105 MB
node 18 cpus: 72 73 74 75 200 201 202 203
node 18 size: 16126 MB
node 18 free: 16107 MB
node 19 cpus: 76 77 78 79 204 205 206 207
node 19 size: 16125 MB
node 19 free: 16101 MB
node 20 cpus: 80 81 82 83 208 209 210 211
node 20 size: 16126 MB
node 20 free: 16106 MB
node 21 cpus: 84 85 86 87 212 213 214 215
node 21 size: 16126 MB
node 21 free: 16107 MB
node 22 cpus: 88 89 90 91 216 217 218 219
node 22 size: 16126 MB
node 22 free: 16108 MB
node 23 cpus: 92 93 94 95 220 221 222 223
node 23 size: 16125 MB
node 23 free: 16107 MB
node 24 cpus: 96 97 98 99 224 225 226 227
node 24 size: 16126 MB
node 24 free: 16107 MB
node 25 cpus: 100 101 102 103 228 229 230 231
node 25 size: 16126 MB
node 25 free: 16087 MB
node 26 cpus: 104 105 106 107 232 233 234 235
node 26 size: 16126 MB
node 26 free: 16108 MB
node 27 cpus: 108 109 110 111 236 237 238 239
node 27 size: 16125 MB
node 27 free: 16106 MB
node 28 cpus: 112 113 114 115 240 241 242 243
node 28 size: 16126 MB
node 28 free: 16107 MB
node 29 cpus: 116 117 118 119 244 245 246 247
node 29 size: 16126 MB
node 29 free: 16108 MB
node 30 cpus: 120 121 122 123 248 249 250 251
node 30 size: 16126 MB
node 30 free: 16105 MB
node 31 cpus: 124 125 126 127 252 253 254 255
node 31 size: 16122 MB
node 31 free: 16101 MB
node distances:
node 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

```

(Continued on next page)



SPEC CPU® 2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Platform Notes (Continued)

20	21	22	23	24	25	26	27	28	29	30	31																		
0:	10	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
1:	11	10	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
2:	11	11	10	11	12	12	12	12	12	12	12	12	12	12	12	12	12	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
3:	11	11	11	10	12	12	12	12	12	12	12	12	12	12	12	12	12	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
4:	12	12	12	12	10	11	11	11	12	12	12	12	12	12	12	12	12	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
5:	12	12	12	12	11	10	11	11	12	12	12	12	12	12	12	12	12	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
6:	12	12	12	12	11	11	10	11	12	12	12	12	12	12	12	12	12	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
7:	12	12	12	12	11	11	11	10	12	12	12	12	12	12	12	12	12	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
8:	12	12	12	12	12	12	12	12	12	10	11	11	11	12	12	12	32	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
9:	12	12	12	12	12	12	12	12	12	11	10	11	11	12	12	12	32	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
10:	12	12	12	12	12	12	12	12	12	11	11	10	11	12	12	12	32	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
11:	12	12	12	12	12	12	12	12	12	11	11	11	10	12	12	12	32	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
12:	12	12	12	12	12	12	12	12	12	12	12	12	12	10	11	11	32	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
13:	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	10	11	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
14:	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	10	11	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
15:	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	11	10	32	32	32	32								
32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32								
16:	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	10	11	11	11								
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12								
17:	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	11	10	11	11								
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12								
18:	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	11	11	10	11								
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12								
19:	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	11	11	11	10								
12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12								
20:	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12								
10	11	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12								
21:	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12								
11	10	11	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12								
22:	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	32	12	12	12	12								
11	11	10	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12								

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECSpeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECSpeed®2017_fp_peak = 190

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

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

Platform Notes (Continued)

```

23:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
11  11  11  10  12  12  12  12  12  12  12  12
24:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
12  12  12  12  10  11  11  11  12  12  12  12
25:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
12  12  12  12  11  10  11  11  12  12  12  12
26:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
12  12  12  12  11  11  10  11  12  12  12  12
27:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
12  12  12  12  11  11  11  10  12  12  12  12
28:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
12  12  12  12  12  12  12  12  10  11  11  11
29:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
12  12  12  12  12  12  12  12  11  10  11  11
30:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
12  12  12  12  12  12  12  12  11  11  10  11
31:  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  32  12  12  12  12
12  12  12  12  12  12  12  12  11  11  11  10

```

From /proc/meminfo

```

MemTotal:      527929844 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

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

```

os-release:
NAME="SLES"
VERSION="15-SP1"
VERSION_ID="15.1"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp1"

```

uname -a:

```

Linux linux-g3ob 4.12.14-195-default #1 SMP Tue May 7 10:55:11 UTC 2019 (8fba516)
x86_64 x86_64 x86_64 GNU/Linux

```

Kernel self-reported vulnerability status:

```

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

```

run-level 5 Aug 22 19:36

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

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

Platform Notes (Continued)

SPEC is set to: /root/cpu2017-1.0.5

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	xf	440G	24G	417G	6%	/

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.

BIOS Dell Inc. 0.4.2 07/23/2019

Memory:

16x 80AD863280AD HMA84GR7CJR4N-XN 32 GB 2 rank 3200

(End of data from sysinfo program)

Compiler Version Notes

```

=====
C | 619.lbm_s(base, peak) 638.imagick_s(base, peak)
  | 644.nab_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++, C, Fortran | 607.cactuBSSN_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
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
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
-----

```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

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

Compiler Version Notes (Continued)

=====
Fortran | 603.bwaves_s(base, peak) 649.fotonik3d_s(base, peak)
654.roms_s(base, peak)

AOCCLLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCCLLVM.2.0.0.B191.2019_07_19) (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, C | 621.wrf_s(base, peak) 627.cam4_s(base, peak)
628.pop2_s(base, peak)

AOCCLLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCCLLVM.2.0.0.B191.2019_07_19) (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
AOCCLLVM.2.0.0.B191.2019_07_19 clang version 8.0.0 (CLANG: Jenkins
AOCCLLVM.2.0.0.B191.2019_07_19) (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

Fortran benchmarks:
flang

Benchmarks using both Fortran and C:
flang clang

Benchmarks using Fortran, C, and C++:
clang++ clang flang



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Base Portability Flags

```

603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_CASE_FLAG -Mbyteswapio -DSPEC_LP64
627.cam4_s: -DSPEC_CASE_FLAG -DSPEC_LP64
628.pop2_s: -DSPEC_CASE_FLAG -Mbyteswapio -DSPEC_LP64
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -DSPEC_LP64

```

Base Optimization Flags

C benchmarks:

```

-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
-march=znver2 -fstruct-layout=3 -mllvm -unroll-threshold=50
-freemap-arrays -mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp
-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000
-flv-function-specialization -z muldefs -DSPEC_OPENMP -fopenmp
-DUSE_OPENMP -fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm
-ljemalloc -lflang

```

Fortran benchmarks:

```

-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver2
-funroll-loops -Mrecursive -mllvm -vector-library=LIBMVEC -z muldefs
-Kieee -fno-finite-math-only -DSPEC_OPENMP -fopenmp -DUSE_OPENMP
-fopenmp=libomp -lomp -lpthread -ldl -lmvec -lamdlibm -ljemalloc
-lflang

```

Benchmarks using both Fortran and C:

```

-flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -ffast-math
-march=znver2 -fstruct-layout=3 -mllvm -unroll-threshold=50
-freemap-arrays -mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp
-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000
-flv-function-specialization -funroll-loops -Mrecursive -z muldefs
-Kieee -fno-finite-math-only -DSPEC_OPENMP -fopenmp -DUSE_OPENMP

```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

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

Benchmarks using Fortran, C, and C++:

```
-std=c++98 -flto -Wl,-mllvm -Wl,-function-specialize
-Wl,-mllvm -Wl,-region-vectorize -Wl,-mllvm -Wl,-vector-library=LIBMVEC
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-suppress-fmas -O3 -ffast-math -march=znver2
-fstruct-layout=3 -mllvm -unroll-threshold=50 -fremap-arrays
-mllvm -function-specialize -mllvm -enable-gvn-hoist
-mllvm -reduce-array-computations=3 -mllvm -global-vectorize-slp
-mllvm -vector-library=LIBMVEC -mllvm -inline-threshold=1000
-flv-function-specialization -mllvm -loop-unswitch-threshold=200000
-mllvm -unroll-threshold=100 -mllvm -enable-partial-unswitch
-funroll-loops -Mrecursive -z muldefs -Kieee -fno-finite-math-only
-DSPEC_OPENMP -fopenmp -DUSE_OPENMP -fopenmp=libomp -lomp -lpthread
-ldl -lmvec -lamdlibm -ljemalloc -lflang
```

Base Other Flags

C benchmarks:

```
-Wno-return-type
```

Fortran benchmarks:

```
-Wno-return-type
```

Benchmarks using both Fortran and C:

```
-Wno-return-type
```

Benchmarks using Fortran, C, and C++:

```
-Wno-return-type
```

Peak Compiler Invocation

C benchmarks:

```
clang
```

Fortran benchmarks:

```
flang
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

flang clang

Benchmarks using Fortran, C, and C++:

clang++ clang flang

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

619.lbm_s: basepeak = yes

638.imagick_s: basepeak = yes

```
644.nab_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
-DUSE_OPENMP -lmvec -lamdlibm -fopenmp=libomp -lomp
-lpthread -ldl -ljemalloc -lflang
```

Fortran benchmarks:

```
603.bwaves_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 -O3
-march=znver2 -funroll-loops -Mrecursive
-mllvm -vector-library=LIBMVEC -Kieee
-fno-finite-math-only -DSPEC_OPENMP -fopenmp -DUSE_OPENMP
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Peak Optimization Flags (Continued)

603.bwaves_s (continued):

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

649.fotonik3d_s: Same as 603.bwaves_s

654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf_s: basepeak = yes

627.cam4_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 -O3 -funroll-loops
-Mrecursive -Kieee -fno-finite-math-only -DSPEC_OPENMP
-fopenmp -DUSE_OPENMP -fopenmp=libomp -lomp -lpthread
-ldl -lmvec -lamdlibm -ljemalloc -lflang

628.pop2_s: Same as 627.cam4_s

Benchmarks using Fortran, C, and C++:

607.cactuBSSN_s: basepeak = yes

Peak Other Flags

C benchmarks:

-Wno-return-type

Fortran benchmarks:

-Wno-return-type

Benchmarks using both Fortran and C:

-Wno-return-type

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017_fp_base = 189

PowerEdge C6525 (AMD EPYC 7742, 2.25GHz)

SPECspeed®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Sep-2019

Hardware Availability: Sep-2019

Software Availability: Aug-2019

Peak Other Flags (Continued)

Benchmarks using Fortran, C, and C++:

-Wno-return-type

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

<http://www.spec.org/cpu2017/flags/aocc200-flags-B1-speed-Dell.html>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-revE5.html>

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

<http://www.spec.org/cpu2017/flags/aocc200-flags-B1-speed-Dell.xml>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-revE5.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 v1.0.5 on 2019-08-26 19:15:47-0400.

Report generated on 2019-10-29 16:10:32 by CPU2017 PDF formatter v6255.

Originally published on 2019-10-29.