



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Quanta Cloud Technology**

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

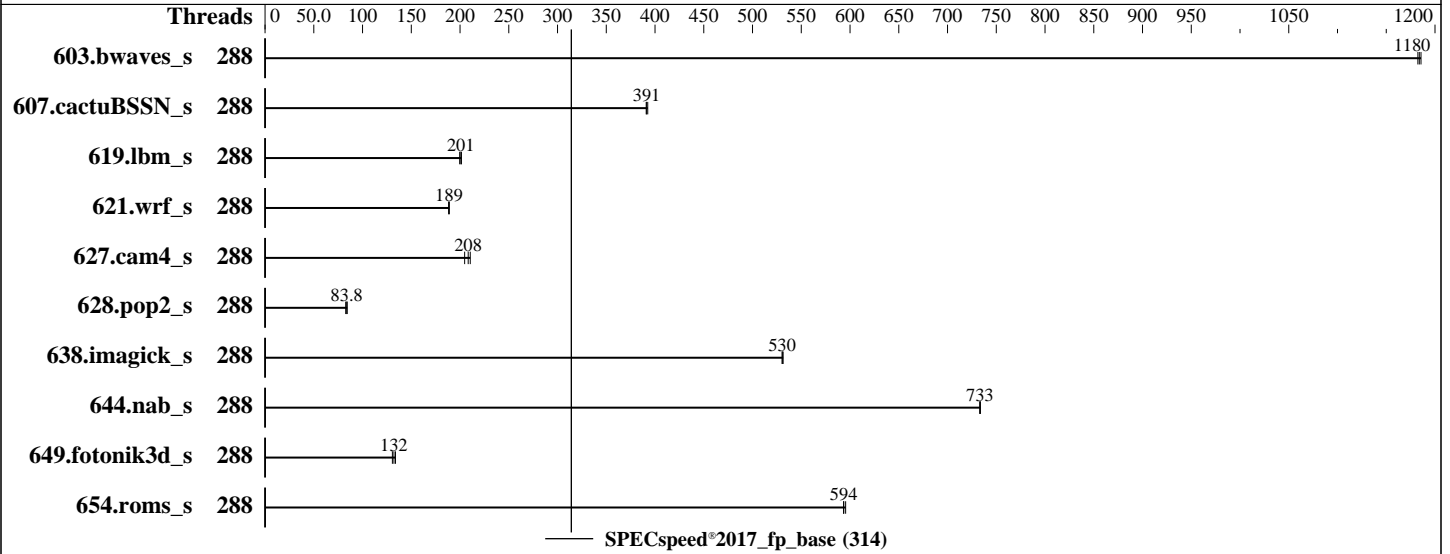
Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024



### Hardware

CPU Name: Intel Xeon 6780E  
 Max MHz: 3000  
 Nominal: 2200  
 Enabled: 144 cores, 2 chips  
 Orderable: 1,2 chips  
 Cache L1: 64 KB I + 32 KB D on chip per core  
 L2: 4 MB I+D on chip per core  
 L3: 108 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-6400B-R)  
 Storage: 892 GB on btrfs  
 Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise High Performance Computing 15 SP5 5.14.21-150500.55.28-default  
 Compiler: C/C++: Version 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;  
 Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;  
 Parallel: Yes  
 Firmware: Version 3A03.QCT001 released Aug-2024  
 File System: btrfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: Not Applicable  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	288	<b>49.8</b>	<b>1180</b>	49.9	1180	49.8	1190							
607.cactuBSSN_s	288	42.6	391	42.5	393	<b>42.6</b>	<b>391</b>							
619.lbm_s	288	26.2	200	26.0	201	<b>26.1</b>	<b>201</b>							
621.wrf_s	288	<b>70.1</b>	<b>189</b>	70.0	189	70.2	188							
627.cam4_s	288	42.1	210	<b>42.5</b>	<b>208</b>	43.3	205							
628.pop2_s	288	141	84.2	144	82.7	<b>142</b>	<b>83.8</b>							
638.imagick_s	288	<b>27.2</b>	<b>530</b>	27.2	530	27.1	531							
644.nab_s	288	23.8	734	<b>23.8</b>	<b>733</b>	23.8	733							
649.fotonik3d_s	288	69.8	131	68.1	134	<b>68.9</b>	<b>132</b>							
654.roms_s	288	<b>26.5</b>	<b>594</b>	26.5	593	26.4	595							

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Environment Variables Notes

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

```
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/root/cpu2017/lib/intel64:/root/cpu2017/je5.0.1-64"
MALLOCONF = "retain:true"
OMP_STACKSIZE = "192M"
```

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM memory using Redhat Enterprise Linux 8.0  
Transparent Huge Pages enabled by default  
Prior to runcpu invocation  
Filesystem page cache synced and cleared with:  
sync; echo 3> /proc/sys/vm/drop\_caches

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, a general purpose malloc implementation  
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5  
sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

## Platform Notes

BIOS Configuration  
Hardware P-States set to Disable

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

### Platform Notes (Continued)

Package C State set to C6(non Retention) state

Sysinfo program /root/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost Sun Sep 8 18:58:31 2024

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

#### Table of contents

1. uname -a
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.16+suse.195.gb473c02cc0)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent\_hugepage
18. /sys/kernel/mm/transparent\_hugepage/khugepaged
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS

```
1. uname -a
Linux localhost 5.14.21-150500.55.28-default #1 SMP PREEMPT_DYNAMIC Fri Sep 22 10:04:29 UTC 2023 (c11336f)
x86_64 x86_64 x86_64 GNU/Linux
```

```
2. w
18:58:31 up 2 days, 9:31, 2 users, load average: 5.16, 5.63, 3.27
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU      WHAT
root      tty1     -              Fri09       2days     1.57s     0.00s    /bin/bash ./test.sh
root      tty2     -              Fri11       2days     0.07s     0.07s    -bash
```

```
3. Username
From environment variable $USER: root
```

```
4. ulimit -a
core file size          (blocks, -c) unlimited
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size                (blocks, -f) unlimited
pending signals         (-i) 4123321
max locked memory       (kbytes, -l) 8192
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

### Platform Notes (Continued)

```

max memory size      (kbytes, -m) unlimited
open files           (-n) 1024
pipe size            (512 bytes, -p) 8
POSIX message queues (bytes, -q) 819200
real-time priority   (-r) 0
stack size           (kbytes, -s) unlimited
cpu time             (seconds, -t) unlimited
max user processes   (-u) 4123321
virtual memory       (kbytes, -v) unlimited
file locks           (-x) unlimited

```

```

-----
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize 30
login -- root
-bash
/bin/bash ./test.sh
/bin/bash ./test.sh
runcpu --nobuild --action validate --define default-platform-flags -c
ic2024.1-lin-sierraforest-speed-20240308.cfg --define cores=288 --tune base -o all --define smt-on
--define drop_caches fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
ic2024.1-lin-sierraforest-speed-20240308.cfg --define cores=288 --tune base --output_format all --define
smt-on --define drop_caches --nopower --runmode speed --tune base --size refspeed fpspeed --nopreenv
--note-preenv --logfile $SPEC/tmp/CPU2017.024/templogs/preenv.fpspeed.024.0.log --lognum 024.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /root/cpu2017

```

```

-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) 6780E
vendor_id      : GenuineIntel
cpu family     : 6
model          : 175
stepping       : 3
microcode      : 0x13000211
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores      : 144
siblings       : 144
2 physical ids (chips)
288 processors (hardware threads)
physical id 0: core ids 0-143
physical id 1: core ids 0-143
physical id 0: apicids
0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72
,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,1
32,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,18
4,186,188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224,226,228,230,232,234,236
,238,240,242,244,246,248,250,252,254,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286
physical id 1: apicids
512,514,516,518,520,522,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,5
64,566,568,570,572,574,576,578,580,582,584,586,588,590,592,594,596,598,600,602,604,606,608,610,612,614,61
6,618,620,622,624,626,628,630,632,634,636,638,640,642,644,646,648,650,652,654,656,658,660,662,664,666,668
,670,672,674,676,678,680,682,684,686,688,690,692,694,696,698,700,702,704,706,708,710,712,714,716,718,720,
722,724,726,728,730,732,734,736,738,740,742,744,746,748,750,752,754,756,758,760,762,764,766,768,770,772,7
74,776,778,780,782,784,786,788,790,792,794,796,798
Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
virtualized systems. Use the above data carefully.

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

### Platform Notes (Continued)

7. lscpu

From lscpu from util-linux 2.37.4:

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Address sizes:          52 bits physical, 48 bits virtual
Byte Order:             Little Endian
CPU(s):                 288
On-line CPU(s) list:   0-287
Vendor ID:              GenuineIntel
Model name:             Intel(R) Xeon(R) 6780E
CPU family:             6
Model:                  175
Thread(s) per core:    1
Core(s) per socket:    144
Socket(s):              2
Stepping:               3
Frequency boost:        enabled
CPU max MHz:           2201.0000
CPU min MHz:           800.0000
BogoMIPS:               4400.00
Flags:                  fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
                        clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb
                        rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl
                        xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq
                        dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm
                        pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
                        avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cat_l2
                        cdp_l3 invpcid_single cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced
                        tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1
                        avx2 smep bmi2 erms invpcid cqm rdt_a rdseed adx smap clflushopt clwb
                        intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc
                        cqm_mbm_total cqm_mbm_local avx_vnni wbnoinvd dtherm ida arat pln pts
                        umip pku ospke waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect
                        cldemote movdiri movdir64b enqcmd fsrm md_clear serialize pconfig
                        arch_lbr flush_l1d arch_capabilities
Virtualization:         VT-x
L1d cache:              9 MiB (288 instances)
L1i cache:              18 MiB (288 instances)
L2 cache:               288 MiB (72 instances)
L3 cache:               216 MiB (2 instances)
NUMA node(s):          2
NUMA node0 CPU(s):     0-143
NUMA node1 CPU(s):     144-287
Vulnerability Gather data sampling: Not affected
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 rstack overflow: Not affected
Vulnerability Spec store bypass:  Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1:         Mitigation; userscopy/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2:         Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSE-eIBRS
                                Not affected
Vulnerability Srbds:              Not affected
Vulnerability Tsx async abort:    Not affected

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

### Platform Notes (Continued)

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	32K	9M	8	Data	1	64	1	64
L1i	64K	18M	8	Instruction	1	128	1	64
L2	4M	288M	16	Unified	2	4096	1	64
L3	108M	216M	12	Unified	3	147456	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

```

available: 2 nodes (0-1)
node 0 cpus: 0-143
node 0 size: 515397 MB
node 0 free: 468026 MB
node 1 cpus: 144-287
node 1 size: 515460 MB
node 1 free: 473967 MB
node distances:
node  0  1
  0: 10 21
  1: 21 10

```

9. /proc/meminfo

MemTotal: 1055598452 kB

10. who -r

run-level 3 Sep 6 09:27

11. Systemd service manager version: systemd 249 (249.16+suse.195.gb473c02cc0)

```

Default Target  Status
multi-user      running

```

12. Services, from systemctl list-unit-files

```

STATE      UNIT FILES
enabled    YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager getty@ irqbalance
           issue-generator kbdsettings kdump kdump-early klog lvm2-monitor nscd
           nvme-fc-boot-connections postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore
           tuned wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime  systemd-remount-fs
disabled        autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
           chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info
           firewallld gpm grub2-once haveged haveged-switch-root hwloc-dump-hwdata ipmi ipmievd
           issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap
           nvme-fc-autoconnect rpcbind rpmconfigcheck rsyncd serial-getty@ smartd_generate_opts snmpd
           snmptrapd systemd-boot-check-no-failures systemd-network-generator systemd-sysext
           systemd-time-wait-sync systemd-timesyncd udisks2 vncserver@
indirect      wickedd

```

13. Linux kernel boot-time arguments, from /proc/cmdline

```

BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.55.28-default
root=UUID=e62d456f-c9c5-4d5c-a2b1-45214c3ad5f5
mitigations=auto
quiet
security=apparmor
crashkernel=478M,high

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

### Platform Notes (Continued)

crashkernel=72M,low

-----  
14. cpupower frequency-info

analyzing CPU 0:

current policy: frequency should be within 800 MHz and 2.20 GHz.

The governor "performance" may decide which speed to use within this range.

boost state support:

Supported: yes

Active: yes

-----  
15. tuned-adm active

Current active profile: throughput-performance

-----  
16. sysctl

kernel.numa_balancing	1
kernel.randomize_va_space	2
vm.compaction_proactiveness	20
vm.dirty_background_bytes	0
vm.dirty_background_ratio	10
vm.dirty_bytes	0
vm.dirty_expire_centisecs	3000
vm.dirty_ratio	20
vm.dirty_writeback_centisecs	500
vm.dirtytime_expire_seconds	43200
vm.extfrag_threshold	500
vm.min_unmapped_ratio	1
vm.nr_hugepages	0
vm.nr_hugepages_mempolicy	0
vm.nr_overcommit_hugepages	0
vm.swappiness	10
vm.watermark_boost_factor	15000
vm.watermark_scale_factor	10
vm.zone_reclaim_mode	0

-----  
17. /sys/kernel/mm/transparent\_hugepage

defrag	always	defer	defer+madvise	[madvise]	never
enabled	[always]	madvise	never		
hpage_pmd_size	2097152				
shmem_enabled	always	within_size	advise	[never]	deny force

-----  
18. /sys/kernel/mm/transparent\_hugepage/khugepaged

alloc_sleep_millisecs	60000
defrag	1
max_ptes_none	511
max_ptes_shared	256
max_ptes_swap	64
pages_to_scan	4096
scan_sleep_millisecs	10000

-----  
19. OS release

From /etc/\*-release /etc/\*-version

os-release SUSE Linux Enterprise High Performance Computing 15 SP5

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

### Platform Notes (Continued)

#### 20. Disk information

SPEC is set to: /root/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	btrfs	892G	96G	796G	11%	/root

#### 21. /sys/devices/virtual/dmi/id

Vendor: Quanta Cloud Technology Inc.  
 Product: QuantaGrid D55Q-2U

#### 22. dmidecode

Additional information from dmidecode 3.4 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 Samsung M321R8GA0PB1-CCPPC 64 GB 2 rank 6400

#### 23. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: American Megatrends International, LLC.  
 BIOS Version: 3A03.QCT001  
 BIOS Date: 08/16/2024  
 BIOS Revision: 5.35  
 Firmware Revision: 3.3

### Compiler Version Notes

C | 619.lbm\_s(base) 638.imagick\_s(base) 644.nab\_s(base)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

C++, C, Fortran | 607.cactuBSSN\_s(base)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Fortran | 603.bwaves\_s(base) 649.fotonik3d\_s(base) 654.roms\_s(base)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Fortran, C | 621.wrf\_s(base) 627.cam4\_s(base) 628.pop2\_s(base)

(Continued on next page)





# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

## Compiler Version Notes (Continued)

-----

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
 Copyright (C) 1985-2024 Intel Corporation. All rights reserved.  
 Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
 Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

-----

## Base Compiler Invocation

C benchmarks:

icx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Base Portability Flags

603.bwaves\_s: -DSPEC\_LP64  
 607.cactuBSSN\_s: -DSPEC\_LP64  
 619.lbm\_s: -DSPEC\_LP64  
 621.wrf\_s: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian  
 627.cam4\_s: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG  
 628.pop2\_s: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian  
 -assume byterecl  
 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:

-w -std=c11 -m64 -Wl,-z,muldefs -xsierraforest -Ofast -ffast-math  
 -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp  
 -DSPEC\_OPENMP -Wno-implicit-int -L/usr/local/jemalloc64-5.0.1/lib  
 -ljemalloc

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Quanta Cloud Technology

(Test Sponsor: Quanta Computer Inc.)

## D55Q-2U (Intel Xeon 6780E)

SPECspeed®2017\_fp\_base = 314

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: 9050

Test Sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test Date: Sep-2024

Hardware Availability: Sep-2024

Software Availability: Aug-2024

## Base Optimization Flags (Continued)

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsierraforest -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xsierraforest -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using Fortran, C, and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsierraforest -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

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

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html>

[http://www.spec.org/cpu2017/flags/Quanta-Computer-Inc-Birch\\_Stream-Platform-Settings-V1.3.html](http://www.spec.org/cpu2017/flags/Quanta-Computer-Inc-Birch_Stream-Platform-Settings-V1.3.html)

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

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

[http://www.spec.org/cpu2017/flags/Quanta-Computer-Inc-Birch\\_Stream-Platform-Settings-V1.3.xml](http://www.spec.org/cpu2017/flags/Quanta-Computer-Inc-Birch_Stream-Platform-Settings-V1.3.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](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2024-09-08 06:58:31-0400.

Report generated on 2024-09-25 09:18:16 by CPU2017 PDF formatter v6716.

Originally published on 2024-09-24.