



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_base = 192

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

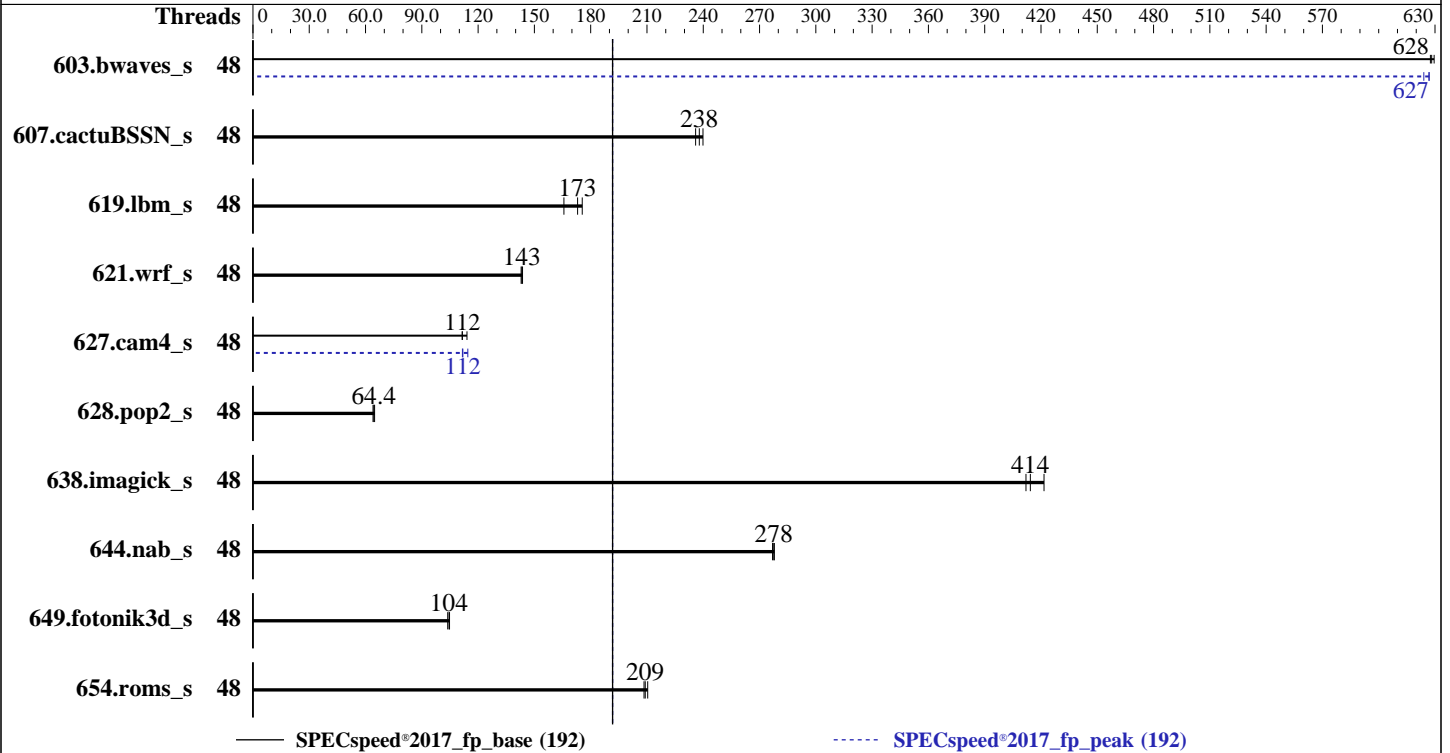
Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023



Hardware

CPU Name: Intel Xeon Gold 5318Y
 Max MHz: 3400
 Nominal: 2100
 Enabled: 48 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chips
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 1.25 MB I+D on chip per core
 L3: 36 MB I+D on chip per chip
 Other: None
 Memory: 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R, running at 2933)
 Storage: 960 GB SSD
 Other: None

Software

OS: Red Hat Enterprise Linux 8.4 (Ootpa)
 4.18.0-305.el8.x86_64
 Compiler: C/C++: Version 2023.2.3 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2023.2.3 of Intel Fortran Compiler for Linux;
 Parallel: Yes
 Firmware: Version F26 released May-2023
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: jemalloc memory allocator V5.0.1
 Power Management: 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

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECSpeed®2017_fp_base = 192

SPECSpeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	48	93.7	630	94.0	628	<u>93.9</u>	<u>628</u>	48	94.1	627	<u>94.1</u>	<u>627</u>	94.5	624
607.cactuBSSN_s	48	69.5	240	70.7	236	<u>70.1</u>	<u>238</u>	48	69.5	240	70.7	236	<u>70.1</u>	<u>238</u>
619.lbm_s	48	31.6	166	<u>30.3</u>	<u>173</u>	29.8	175	48	31.6	166	<u>30.3</u>	<u>173</u>	29.8	175
621.wrf_s	48	<u>92.3</u>	<u>143</u>	92.1	144	92.5	143	48	<u>92.3</u>	<u>143</u>	92.1	144	92.5	143
627.cam4_s	48	<u>79.4</u>	<u>112</u>	77.7	114	79.5	112	48	<u>79.2</u>	<u>112</u>	79.4	112	77.4	115
628.pop2_s	48	186	64.0	183	64.8	<u>184</u>	<u>64.4</u>	48	186	64.0	183	64.8	<u>184</u>	<u>64.4</u>
638.imagick_s	48	34.2	422	<u>34.8</u>	<u>414</u>	35.0	412	48	34.2	422	<u>34.8</u>	<u>414</u>	35.0	412
644.nab_s	48	62.9	278	63.1	277	<u>62.9</u>	<u>278</u>	48	62.9	278	63.1	277	<u>62.9</u>	<u>278</u>
649.fotonik3d_s	48	87.0	105	87.8	104	<u>87.2</u>	<u>104</u>	48	87.0	105	87.8	104	<u>87.2</u>	<u>104</u>
654.roms_s	48	75.5	208	<u>75.3</u>	<u>209</u>	74.8	210	48	75.5	208	<u>75.3</u>	<u>209</u>	74.8	210

SPECSpeed®2017_fp_base = **192**

SPECSpeed®2017_fp_peak = **192**

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 = "/home/ub/cpu17/lib/intel64:/home/ub/cpu17/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
```

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>

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.



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_base = 192

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Platform Notes

BIOS settings: Default

Sysinfo program /home/ub/cpul7/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost.localdomain Fri Dec 22 03:29:29 2023

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 239 (239-45.el8)
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. Kernel self-reported vulnerability status, from /sys/devices/system/cpu/vulnerabilities
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS

```
1. uname -a
Linux localhost.localdomain 4.18.0-305.el8.x86_64 #1 SMP Thu Apr 29 08:54:30 EDT 2021 x86_64 x86_64 x86_64
GNU/Linux
```

```
2. w
03:29:29 up 7:38, 1 user, load average: 5.70, 6.39, 3.79
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU      WHAT
ub        pts/0    172.16.5.40   19:54      4:00m      1.11s    0.00s    sh
reportable-ic2023.2.3-lin-core-avx512-speed-smt-on-20231121.sh
```

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

```
4. ulimit -a
core file size          (blocks, -c) unlimited
data seg size          (kbytes, -d) unlimited
scheduling priority    (-e) 0
file size              (blocks, -f) unlimited
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_base = 192

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Platform Notes (Continued)

```

pending signals          (-i) 4125556
max locked memory       (kbytes, -l) 64
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) 4125556
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited

```

5. sysinfo process ancestry

```

/usr/lib/systemd/systemd --switched-root --system --deserialize 18
/usr/sbin/sshd -D
-oCiphers=aes256-gcm@openssh.com,chacha20-poly1305@openssh.com,aes256-ctr,aes256-cbc,aes128-gcm@openssh.com,aes128-ctr,aes128-cbc
-oMACs= hmac-sha2-256-etm@openssh.com,hmac-sha1-etm@openssh.com,umac-128-etm@openssh.com,hmac-sha2-512-etm@openssh.com,hmac-sha2-256,hmac-sha1,umac-128@openssh.com,hmac-sha2-512...
sshd: ub [priv]
sshd: ub@pts/0
-bash
sh reportable-ic2023.2.3-lin-core-avx512-speed-smt-on-20231121.sh
runcpu --nobuild --action validate --define default-platform-flags -c
ic2023.2.3-lin-core-avx512-speed-20231121.cfg --define cores=48 --tune base,peak -o all --define smt-on
--define drop_caches fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
ic2023.2.3-lin-core-avx512-speed-20231121.cfg --define cores=48 --tune base,peak --output_format all
--define smt-on --define drop_caches --nopower --runmode speed --tune base:peak --size refspeed fpspeed
--nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.002/temlogs/preenv.fpspeed.002.0.log --lognum 002.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/ub/cpul7

```

6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) Gold 5318Y CPU @ 2.10GHz
vendor_id      : GenuineIntel
cpu family     : 6
model          : 106
stepping      : 6
microcode     : 0xd0003a5
bugs          : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores     : 24
siblings      : 48
2 physical ids (chips)
96 processors (hardware threads)
physical id 0: core ids 0-23
physical id 1: core ids 0-23
physical id 0: apicids 0-47
physical id 1: apicids 64-111

```

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

7. lscpu

From lscpu from util-linux 2.32.1:

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_base = 192

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Platform Notes (Continued)

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
CPU(s):                 96
On-line CPU(s) list:   0-95
Thread(s) per core:    2
Core(s) per socket:    24
Socket(s):              2
NUMA node(s):          2
Vendor ID:              GenuineIntel
CPU family:             6
Model:                  106
Model name:             Intel(R) Xeon(R) Gold 5318Y CPU @ 2.10GHz
Stepping:               6
CPU MHz:                800.000
CPU max MHz:           3400.0000
CPU min MHz:           800.0000
BogoMIPS:               4200.00
Virtualization:        VT-x
L1d cache:              48K
L1i cache:              32K
L2 cache:               1280K
L3 cache:               36864K
NUMA node0 CPU(s):     0-23,48-71
NUMA node1 CPU(s):     24-47,72-95
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 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 invpcid_single intel_ppin ssbd mba ibrs ibpb
                        stibp ibrs_enhanced tpr_shadow vmni flexpriority ept vpid ept_ad fsgsbase tsc_adjust
                        bmi1 hle avx2 smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
                        avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec
                        xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect
                        wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req avx512vbmi
                        umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme
                        avx512_vpopcntdq la57 rdpid fsrm md_clear pconfig flush_l1d arch_capabilities

```

8. numactl --hardware

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

```

available: 2 nodes (0-1)
node 0 cpus: 0-23,48-71
node 0 size: 515382 MB
node 0 free: 507940 MB
node 1 cpus: 24-47,72-95
node 1 size: 516045 MB
node 1 free: 509675 MB
node distances:
node  0  1
 0:  10  20
 1:  20  10

```

9. /proc/meminfo

MemTotal: 1056182840 kB

10. who -r

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_base = 192

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Platform Notes (Continued)

run-level 3 Dec 21 19:51

11. Systemd service manager version: systemd 239 (239-45.el8)

Default Target Status
multi-user running

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd autovt@ chronyd crond firewalld getty@ import-state irqbalance kdump loadmodules lvm2-monitor mdmonitor microcode nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sshd sssd syslog timedatex tuned udisks2
disabled	blk-availability chrony-wait console-getty cpupower debug-shell ebttables iprump iprinit iprupdate kvm_stat nftables rdisc rhcd rhsm rhsm-facts serial-getty@ sshd-keygen@ systemd-resolved tcsd
indirect	sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo
masked	systemd-timedated

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

BOOT_IMAGE=(hd0,gpt2)/vmlinuz-4.18.0-305.el8.x86_64
root=/dev/mapper/rhel-root
ro
crashkernel=auto
resume=/dev/mapper/rhel-swap
rd.lvm.lv=rhel/root
rd.lvm.lv=rhel/swap
rhgb
quiet

14. cpupower frequency-info

analyzing CPU 0:
current policy: frequency should be within 800 MHz and 3.40 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	0
vm.dirty_background_bytes	0
vm.dirty_background_ratio	10
vm.dirty_bytes	0
vm.dirty_expire_centisecs	3000
vm.dirty_ratio	40
vm.dirty_writeback_centisecs	500
vm.dirtytime_expire_seconds	43200
vm.extfrag_threshold	500
vm.min_unmapped_ratio	1

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_base = 192

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Platform Notes (Continued)

```

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+madvice [madvice] never
enabled         [always] madvice 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_swap         64
pages_to_scan         4096
scan_sleep_millisecs 10000

```

```

-----
19. OS release
From /etc/*-release /etc/*-version
os-release      Red Hat Enterprise Linux 8.4 (Ootpa)
redhat-release Red Hat Enterprise Linux release 8.4 (Ootpa)
system-release Red Hat Enterprise Linux release 8.4 (Ootpa)

```

```

-----
20. Kernel self-reported vulnerability status, from /sys/devices/system/cpu/vulnerabilities
itlb_multihit      Not affected
l1tf               Not affected
mds                Not affected
meltdown           Not affected
spec_store_bypass  Mitigation: Speculative Store Bypass disabled via prctl and seccomp
spectre_v1         Mitigation: usercopy/swapgs barriers and __user pointer sanitization
spectre_v2         Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
srbds              Not affected
tsx_async_abort    Not affected

```

For more information, see the Linux documentation on hardware vulnerabilities, for example <https://www.kernel.org/doc/html/latest/admin-guide/hw-vuln/index.html>

```

-----
21. Disk information
SPEC is set to: /home/ub/cpul7
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs  819G  16G  803G   2% /home

```

```

-----
22. /sys/devices/virtual/dmi/id
Vendor:          ESCONET TECHNOLOGIES LTD.
Product:         HEXADATA
Product Family:  Server

```

```

-----
23. dmidecode
Additional information from dmidecode 3.2 follows.  WARNING: Use caution when you interpret this section.

```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECSpeed®2017_fp_base = 192

SPECSpeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Platform Notes (Continued)

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 M393A8G40AB2-CWE 64 GB 2 rank 3200, configured at 2933

24. BIOS

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

BIOS Vendor: GIGABYTE
BIOS Version: F26
BIOS Date: 05/29/2023
BIOS Revision: 5.22

Compiler Version Notes

=====
C | 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base, peak)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====
C++, C, Fortran | 607.cactuBSSN_s(base, peak)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

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

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

=====
Fortran, C | 621.wrf_s(base, peak) 627.cam4_s(base, peak) 628.pop2_s(base, peak)
=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:

icx

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

SPECspeed®2017_fp_base = 192

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Base Compiler Invocation (Continued)

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 -xCORE-AVX512 -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
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512 -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 -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

SPECspeed®2017_fp_base = 192

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Date: Dec-2023

Test Sponsor: Esconet Technologies Ltd.

Hardware Availability: May-2021

Tested by: Esconet Technologies Ltd.

Software Availability: Dec-2023

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

```
-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 -xCORE-AVX512 -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
```

Peak 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
```

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: basepeak = yes
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: ILX-002
(Intel Xeon Gold 5318Y, 2.10 GHz)

SPECspeed®2017_fp_base = 192

SPECspeed®2017_fp_peak = 192

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Dec-2023

Hardware Availability: May-2021

Software Availability: Dec-2023

Peak Optimization Flags (Continued)

Fortran benchmarks:

```
603.bwaves_s: -w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512
-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
```

649.fotonik3d_s: basepeak = yes

654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf_s: basepeak = yes

```
627.cam4_s: -w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -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
```

628.pop2_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

607.cactuBSSN_s: basepeak = yes

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

<http://www.spec.org/cpu2017/flags/Hexadata-Default-Platform-Flags.html>

<http://www.spec.org/cpu2017/flags/Hexadata-Intel-ic2023p2-official-linux64.html>

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

<http://www.spec.org/cpu2017/flags/Hexadata-Default-Platform-Flags.xml>

<http://www.spec.org/cpu2017/flags/Hexadata-Intel-ic2023p2-official-linux64.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 v1.1.9 on 2023-12-21 16:59:29-0500.

Report generated on 2024-02-21 16:49:39 by CPU2017 PDF formatter v6716.

Originally published on 2024-02-21.