



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

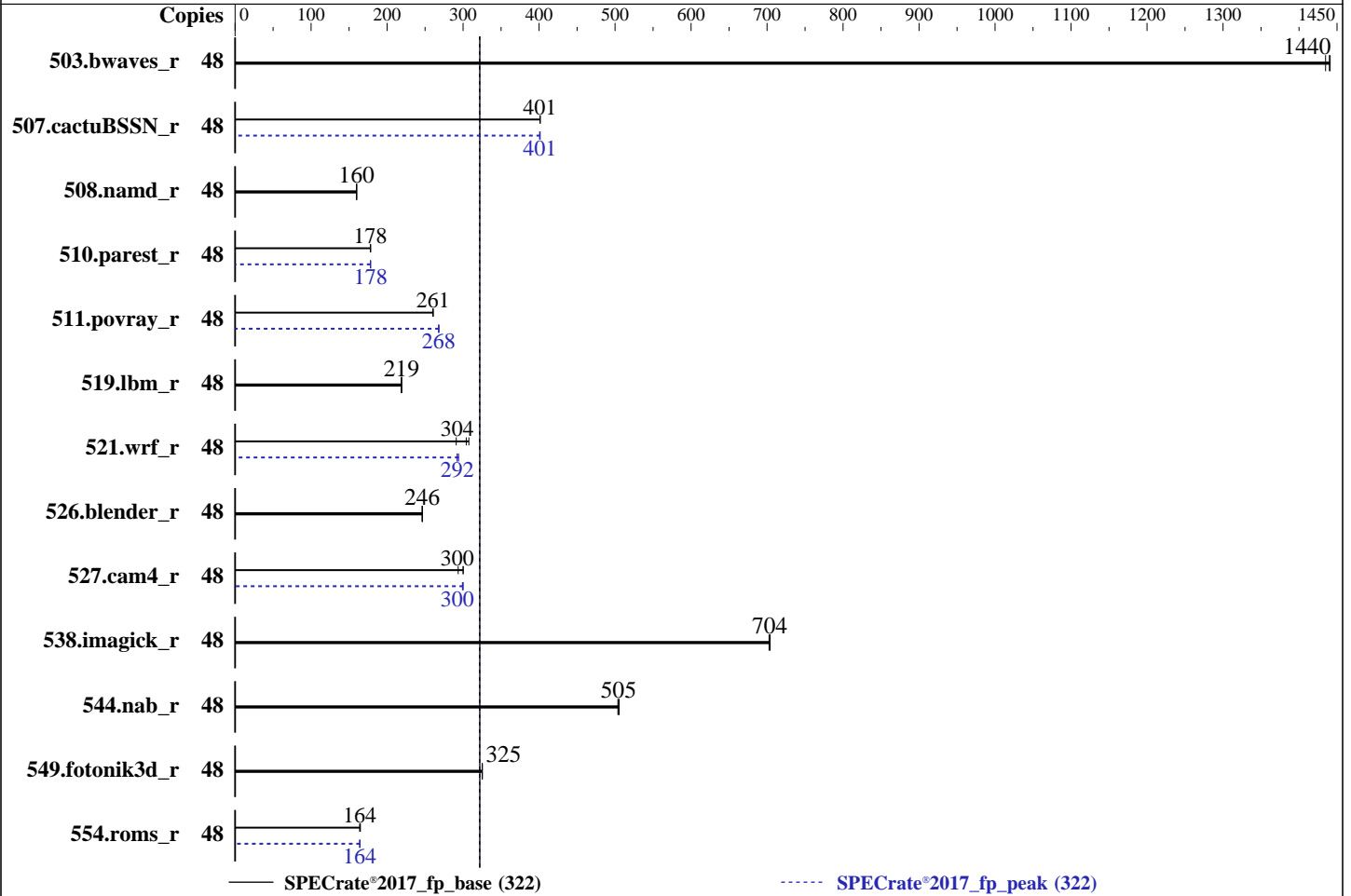
Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024



Hardware

CPU Name: Intel Xeon Silver 4410Y
 Max MHz: 3900
 Nominal: 2000
 Enabled: 24 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chips
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 30 MB I+D on chip per chip
 Other: None
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R, running at 4000)
 Storage: 1 x 960 GB SATA SSD
 Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP6
 6.4.0-150600.21-default
 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: No
 Firmware: Version R07 released Jun-2024
 File System: btrfs
 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 Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|-----------------|--------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|--------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 503.bwaves_r | 48 | 335 | 1430 | <u>334</u> | <u>1440</u> | 334 | 1440 | 48 | 335 | 1430 | <u>334</u> | <u>1440</u> | 334 | 1440 |
| 507.cactuBSSN_r | 48 | 151 | 401 | 151 | 402 | <u>151</u> | <u>401</u> | 48 | <u>152</u> | <u>401</u> | 152 | 401 | 151 | 401 |
| 508.namd_r | 48 | 285 | 160 | 285 | 160 | <u>285</u> | <u>160</u> | 48 | 285 | 160 | 285 | 160 | <u>285</u> | <u>160</u> |
| 510.parest_r | 48 | <u>705</u> | <u>178</u> | 706 | 178 | 704 | 178 | 48 | <u>704</u> | <u>178</u> | 705 | 178 | 704 | 178 |
| 511.povray_r | 48 | 430 | 261 | 431 | 260 | <u>430</u> | <u>261</u> | 48 | <u>418</u> | <u>268</u> | 418 | 268 | 419 | 268 |
| 519.lbm_r | 48 | <u>231</u> | <u>219</u> | 231 | 219 | 231 | 219 | 48 | <u>231</u> | <u>219</u> | 231 | 219 | 231 | 219 |
| 521.wrf_r | 48 | 369 | 291 | <u>353</u> | <u>304</u> | 350 | 308 | 48 | 366 | 294 | <u>368</u> | <u>292</u> | 368 | 292 |
| 526.blender_r | 48 | <u>297</u> | <u>246</u> | 297 | 246 | 297 | 246 | 48 | <u>297</u> | <u>246</u> | 297 | 246 | 297 | 246 |
| 527.cam4_r | 48 | <u>280</u> | <u>300</u> | 280 | 300 | 286 | 294 | 48 | 280 | 300 | 281 | 299 | <u>280</u> | <u>300</u> |
| 538.imagick_r | 48 | 170 | 704 | 170 | 703 | <u>170</u> | <u>704</u> | 48 | 170 | 704 | 170 | 703 | <u>170</u> | <u>704</u> |
| 544.nab_r | 48 | <u>160</u> | <u>505</u> | 160 | 505 | 160 | 504 | 48 | <u>160</u> | <u>505</u> | 160 | 505 | 160 | 504 |
| 549.fotonik3d_r | 48 | 575 | 325 | 575 | 325 | <u>575</u> | <u>325</u> | 48 | 575 | 325 | 575 | 325 | <u>575</u> | <u>325</u> |
| 554.roms_r | 48 | <u>465</u> | <u>164</u> | 465 | 164 | 463 | 165 | 48 | 466 | 164 | 464 | 164 | <u>464</u> | <u>164</u> |

SPECrate®2017_fp_base = **322**

SPECrate®2017_fp_peak = **322**

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"
OS set to performance mode via cpupower frequency-set -g performance

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/root/cpul7/lib/intel64:/root/cpul7/je5.0.1-64"
MALLOCONF = "retain:true"

General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
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
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
jemalloc, a general purpose malloc implementation

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

General Notes (Continued)

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.

Platform Notes

BIOS settings: Default

Sysinfo program /root/cpu17/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Sun Jan 19 06:50:15 2025

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 254 (254.10+suse.84.ge8d77af424)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. sysctl
15. /sys/kernel/mm/transparent_hugepage
16. /sys/kernel/mm/transparent_hugepage/khugepaged
17. OS release
18. Disk information
19. /sys/devices/virtual/dmi/id
20. dmidecode
21. BIOS

1. uname -a
Linux localhost 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)
x86_64 x86_64 x86_64 GNU/Linux

2. w
06:50:15 up 6:14, 1 user, load average: 31.17, 43.70, 46.22
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 00:38 6:10m 0.95s 0.00s sh
reportable-ic2023.2.3-lin-sapphirerapids-rate-smt-on-20231121.sh

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

Platform Notes (Continued)

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) 4125010
max locked memory      (kbytes, -l) 8192
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) 4125010
virtual memory         (kbytes, -v) unlimited
file locks             (-x) unlimited

```

5. sysinfo process ancestry

```

/usr/lib/systemd/systemd --switched-root --system --deserialize=31
login -- root
-bash
sh reportable-ic2023.2.3-lin-sapphirerapids-rate-smt-on-20231121.sh
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=48 -c
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=24 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak -o all fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=48 --configfile
ic2023.2.3-lin-sapphirerapids-rate-20231121.cfg --define smt-on --define cores=24 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
--runmode rate --tune base:peak --size refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.002/temlogs/preenv.fprate.002.0.log --lognum 002.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /root/cpul7

```

6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) Silver 4410Y
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping      : 8
microcode     : 0x2b0005d1
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi
cpu cores     : 12
siblings      : 24
2 physical ids (chips)
48 processors (hardware threads)
physical id 0: core ids 0-11
physical id 1: core ids 0-11
physical id 0: apicids 0-23
physical id 1: apicids 128-151

```

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 Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

Platform Notes (Continued)

7. lscpu

From lscpu from util-linux 2.39.3:

```

Architecture:                x86_64
CPU op-mode(s):              32-bit, 64-bit
Address sizes:               52 bits physical, 57 bits virtual
Byte Order:                  Little Endian
CPU(s):                      48
On-line CPU(s) list:        0-47
Vendor ID:                   GenuineIntel
BIOS Vendor ID:             Intel(R) Corporation
Model name:                  Intel(R) Xeon(R) Silver 4410Y
BIOS Model name:            Intel(R) Xeon(R) Silver 4410Y  CPU @ 2.0GHz
BIOS CPU family:            179
CPU family:                  6
Model:                      143
Thread(s) per core:         2
Core(s) per socket:         12
Socket(s):                   2
Stepping:                   8
CPU(s) scaling MHz:         37%
CPU max MHz:                 3900.0000
CPU min MHz:                 800.0000
BogoMIPS:                   4000.00
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 sse3 sdbg fma cx16
                             xtpr pcdm 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 intel_ppin cdp_l2
                             ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept
                             vpid ept_ad fsgsbase tsc_adjust bmil hle avx2 smep bmi2 erms invpcid
                             rtm cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma cflushopt
                             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 user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida
                             arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req hfi vnmi
                             avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq
                             avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid
                             bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear
                             serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile
                             amx_int8 flush_lld arch_capabilities
Virtualization:              VT-x
L1d cache:                   1.1 MiB (24 instances)
L1i cache:                   768 KiB (24 instances)
L2 cache:                    48 MiB (24 instances)
L3 cache:                    60 MiB (2 instances)
NUMA node(s):                2
NUMA node0 CPU(s):          0-11,24-35
NUMA node1 CPU(s):          12-23,36-47
Vulnerability Gather data sampling: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability Lltf:         Not affected
Vulnerability Mds:         Not affected
Vulnerability Meltdown:    Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Reg file data sampling: Not affected
Vulnerability Retbleed:    Not affected

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

SPECrate®2017_fp_base = 322

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Date: Jan-2025

Test Sponsor: Esconet Technologies Ltd.

Hardware Availability: Mar-2023

Tested by: Esconet Technologies Ltd.

Software Availability: Jun-2024

Platform Notes (Continued)

Vulnerability Spec rstack overflow: Not affected
 Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
 Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
 Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PBRSE-eIBRS SW sequence; BHI BHI_DIS_S
 Vulnerability Srbds: Not affected
 Vulnerability Tsx async abort: Not affected

From lscpu --cache:

| NAME | ONE-SIZE | ALL-SIZE | WAYS | TYPE | LEVEL | SETS | PHY-LINE | COHERENCY-SIZE |
|------|----------|----------|------|-------------|-------|-------|----------|----------------|
| L1d | 48K | 1.1M | 12 | Data | 1 | 64 | 1 | 64 |
| L1i | 32K | 768K | 8 | Instruction | 1 | 64 | 1 | 64 |
| L2 | 2M | 48M | 16 | Unified | 2 | 2048 | 1 | 64 |
| L3 | 30M | 60M | 15 | Unified | 3 | 32768 | 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: 0-11,24-35
node 0 size: 515623 MB
node 0 free: 499670 MB
node 1 cpus: 12-23,36-47
node 1 size: 515655 MB
node 1 free: 504399 MB
node distances:
node  0  1
 0:  10  21
 1:  21  10
```

9. /proc/meminfo

MemTotal: 1056029468 kB

10. who -r

run-level 3 Jan 19 00:35

11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)

```
Default Target Status
multi-user      running
```

12. Services, from systemctl list-unit-files

```
STATE UNIT FILES
enabled apparmor auditd cron firewalld getty@ irqbalance issue-generator kbdsettings kdump
kdump-early kdump-notify postfix purge-kernels rollback sshd systemd-pstore wicked
wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
disabled boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell ebttables fsidd
grub2-once haveged issue-add-ssh-keys kexec-load lunmask nfs nfs-blkmap rpcbind
rpmconfigcheck serial-getty@ systemd-boot-check-no-failures systemd-confext
systemd-network-generator systemd-sysexit systemd-time-wait-sync systemd-timesyncd
indirect systemd-userdbd wickedd
```

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

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=b324a62c-a0ff-4b92-a016-970aaa76219a
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

Platform Notes (Continued)

```
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=383M,high
crashkernel=72M,low
```

```
-----
14. 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                  60
vm.watermark_boost_factor     15000
vm.watermark_scale_factor     10
vm.zone_reclaim_mode          0
```

```
-----
15. /sys/kernel/mm/transparent_hugepage
defrag          always defer+madvice [madvice] never
enabled        [always] madvice never
hpage_pmd_size 2097152
shmem_enabled  always within_size advise [never] deny force
```

```
-----
16. /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
```

```
-----
17. OS release
From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP6
```

```
-----
18. Disk information
SPEC is set to: /root/cpul7
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda2       btrfs 687G  29G 657G   5% /root
```

```
-----
19. /sys/devices/virtual/dmi/id
Vendor:          HEXADATA
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

Platform Notes (Continued)

Product: HDR-RM2386212I
Product Family: Server
Serial: SN2440004157

20. 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:

8x Hynix TR564G48D440 64 GB 2 rank 4800, configured at 4000
8x V_Color TR564G48D440 64 GB 2 rank 4800, configured at 4000

21. BIOS

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

BIOS Vendor: GIGABYTE
BIOS Version: R07
BIOS Date: 06/20/2024
BIOS Revision: 5.32

Compiler Version Notes

C | 519.lbm_r(base, peak) 538.imagick_r(base, peak) 544.nab_r(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++ | 508.namd_r(base, peak) 510.parest_r(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 | 511.povray_r(base, peak) 526.blender_r(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.

C++, C, Fortran | 507.cactuBSSN_r(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.

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

Compiler Version Notes (Continued)

Fortran | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(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 | 521.wrf_r(base, peak) 527.cam4_r(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

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Base Portability Flags

503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
526.blender_r: -DSPEC_LP64 -DSPEC_LINUX -funsigned-char

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

SPECrate®2017_fp_base = 322

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Date: Jan-2025

Test Sponsor: Esconet Technologies Ltd.

Hardware Availability: Mar-2023

Tested by: Esconet Technologies Ltd.

Software Availability: Jun-2024

Base Portability Flags (Continued)

527.cam4_r: -DSPEC_LP64 -DSPEC_CASE_FLAG
538.imagick_r: -DSPEC_LP64
544.nab_r: -DSPEC_LP64
549.fotonik3d_r: -DSPEC_LP64
554.roms_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

Fortran benchmarks:

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

Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using Fortran, C, and C++:

```
-w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

SPECrate®2017_fp_base = 322

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

519.lbm_r: basepeak = yes

538.imagick_r: basepeak = yes

544.nab_r: basepeak = yes

C++ benchmarks:

508.namd_r: basepeak = yes

510.parest_r: -w -std=c++14 -m64 -Wl,-z,muldefs -xsapfirerapids
-Ofast -ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mprefer-vector-width=512
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

Peak Optimization Flags (Continued)

Fortran benchmarks:

503.bwaves_r: basepeak = yes

549.fotonik3d_r: basepeak = yes

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

Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:

```
511.povray_r: -w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -Wno-implicit-int
-mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

```
-w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

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

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

<http://www.spec.org/cpu2017/flags/Hexadata-Platform-Flags-Intel-rev1.6.html>

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

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

<http://www.spec.org/cpu2017/flags/Hexadata-Platform-Flags-Intel-rev1.6.xml>



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Esconet Technologies Ltd.

Hexadata HDR-RM2386212I Ver: SPR-002
(Intel Xeon Silver 4410Y, 2.0 GHz)

SPECrate®2017_fp_base = 322

SPECrate®2017_fp_peak = 322

CPU2017 License: 6523

Test Sponsor: Esconet Technologies Ltd.

Tested by: Esconet Technologies Ltd.

Test Date: Jan-2025

Hardware Availability: Mar-2023

Software Availability: Jun-2024

SPEC CPU and SPECrate 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 2025-01-18 20:20:14-0500.

Report generated on 2025-02-11 17:14:03 by CPU2017 PDF formatter v6716.

Originally published on 2025-02-11.