



SPEC CPU®2017 Floating Point Rate Result

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Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 532

eterio 220 RC3 (3.60 GHz, Intel Xeon Gold 6444Y)

SPECrate®2017_fp_peak = 543

CPU2017 License: 9081

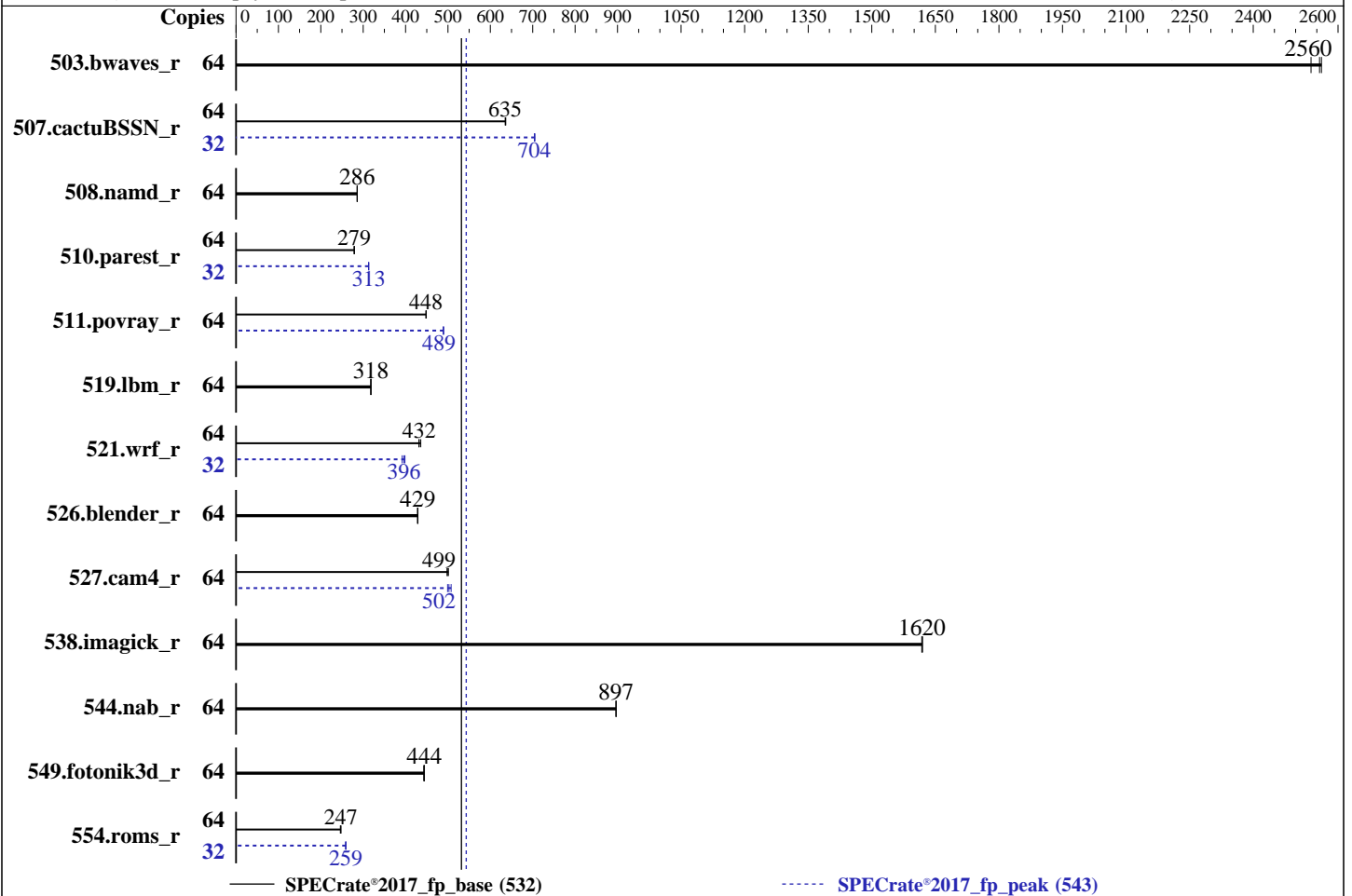
Test Date: Mar-2026

Test Sponsor: Epsilon IT Sp. z o.o.

Hardware Availability: Dec-2023

Tested by: Epsilon IT Sp. z o.o.

Software Availability: Feb-2026



Hardware

CPU Name: Intel Xeon Gold 6444Y
 Max MHz: 4000
 Nominal: 3600
 Enabled: 32 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chip(s)
 Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 45 MB I+D on chip per chip
 Other: None
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-6400B-R, running at 4800)
 Storage: 1 x 1.92 TB SATA III SSD
 Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 16.0
 Kernel 6.12.0-160000.9-default x86_64
 Compiler: C/C++: Version 2025.2 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2025.2 of Intel Fortran Compiler for Linux;
 Parallel: No
 Firmware: BIOS Version 06.09.01 released Aug-2025
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: jemalloc memory allocator V5.0.1
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	64	251	2560	<u>251</u>	<u>2560</u>	253	2540	64	251	2560	<u>251</u>	<u>2560</u>	253	2540
507.cactuBSSN_r	64	128	635	<u>128</u>	<u>635</u>	127	636	32	57.6	704	57.4	705	<u>57.5</u>	<u>704</u>
508.namd_r	64	213	286	213	286	<u>213</u>	<u>286</u>	64	213	286	213	286	<u>213</u>	<u>286</u>
510.parest_r	64	600	279	<u>600</u>	<u>279</u>	600	279	32	<u>267</u>	<u>313</u>	268	313	267	313
511.povray_r	64	334	448	<u>333</u>	<u>448</u>	333	449	64	306	489	<u>305</u>	<u>489</u>	305	490
519.lbm_r	64	212	318	<u>212</u>	<u>318</u>	212	318	64	212	318	<u>212</u>	<u>318</u>	212	318
521.wrf_r	64	332	432	<u>332</u>	<u>432</u>	329	436	32	<u>181</u>	<u>396</u>	180	399	183	392
526.blender_r	64	227	429	228	428	<u>227</u>	<u>429</u>	64	227	429	228	428	<u>227</u>	<u>429</u>
527.cam4_r	64	225	498	<u>224</u>	<u>499</u>	223	501	64	224	499	221	507	<u>223</u>	<u>502</u>
538.imagick_r	64	<u>98.3</u>	<u>1620</u>	98.4	1620	98.3	1620	64	<u>98.3</u>	<u>1620</u>	98.4	1620	98.3	1620
544.nab_r	64	120	896	<u>120</u>	<u>897</u>	120	897	64	120	896	<u>120</u>	<u>897</u>	120	897
549.fotonik3d_r	64	563	443	561	444	<u>561</u>	<u>444</u>	64	563	443	561	444	<u>561</u>	<u>444</u>
554.roms_r	64	413	246	<u>411</u>	<u>247</u>	411	247	32	197	258	<u>196</u>	<u>259</u>	196	259

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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"
The Linux operating system is running in multiuser.target.
'systemctl stop tuned; systemctl disable tuned' were used to disable the tuned daemon.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/cpu2017-1.1.9/lib/intel64:/cpu2017-1.1.9/je5.0.1-64"
MALLOC_CONF = "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

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)

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General Notes (Continued)

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 settings:
ENERGY_PERF_BIAS_CFG mode = Performance
Patrol Scrub = Disabled
SNC = Enable SNC2 (2 Clusters)
Enable LP [Global] = ALL LPs

BMC Configuration:
Fan mode = Generic mode

Sysinfo program /cpu2017-1.1.9/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on SUT Thu Mar 19 21:08:13 2026

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. Systemd service manager version: systemd 257 (257.10+suse.31.gfb9d92682b)
11. Services, from systemctl list-unit-files
12. Linux kernel boot-time arguments, from /proc/cmdline
13. cpupower frequency-info
14. tuned-adm active
15. sysctl
16. /sys/kernel/mm/transparent_hugepage
17. /sys/kernel/mm/transparent_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS

```
-----
1. uname -a
   Linux SUT 6.12.0-160000.9-default #1 SMP PREEMPT_DYNAMIC Fri Jan 16 09:29:05 UTC 2026 (9badd3c) x86_64
   x86_64 x86_64 GNU/Linux
-----
```

2. w

(Continued on next page)



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Platform Notes (Continued)

```

21:08:13 up 4:56, 1 user, load average: 45.03, 59.43, 61.98
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU      WHAT
root      tty1    -             16:17      4:49m      0.80s     0.01s    -bash

```

3. Username

From environment variable \$USER: root

4. ulimit -a

```

real-time non-blocking time (microseconds, -R) unlimited
core file size              (blocks, -c) unlimited
data seg size                (kbytes, -d) unlimited
scheduling priority         (-e) 0
file size                    (blocks, -f) unlimited
pending signals              (-i) unlimited
max locked memory            (kbytes, -l) unlimited
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) unlimited
virtual memory                (kbytes, -v) unlimited
file locks                   (-x) unlimited

```

5. sysinfo process ancestry

```

/usr/lib/systemd/systemd --switched-root --system --deserialize=47
login -- root
-bash
-bash
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 -c
  ic2025.2-linux64-sapphirerapids-rate-20250605.cfg --define smt-on --define cores=32 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base,peak -o pdf fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 --configfile
  ic2025.2-linux64-sapphirerapids-rate-20250605.cfg --define smt-on --define cores=32 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base,peak --output_format pdf --nopower
  --runmode rate --tune base:peak --size refrate fprate --nopreenv --note-preenv --logfile
  $SPEC/tmp/CPU2017.002/templogs/preenv.fprate.002.0.log --lognum 002.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
SPEC = /cpu2017-1.1.9

```

6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) Gold 6444Y
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping      : 7
microcode     : 0x2b000643
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi spectre_v2_user vmscape
cpu cores     : 16
siblings      : 32
2 physical ids (chips)
64 processors (hardware threads)
physical id 0: core ids 0-15
physical id 1: core ids 0-15

```

(Continued on next page)



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Platform Notes (Continued)

physical id 0: apicids 0-31
physical id 1: apicids 128-159

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 2.41.1:

```

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):                      64
On-line CPU(s) list:        0-63
Vendor ID:                   GenuineIntel
Model name:                  Intel(R) Xeon(R) Gold 6444Y
CPU family:                  6
Model:                       143
Thread(s) per core:         2
Core(s) per socket:         16
Socket(s):                   2
Stepping:                    7
CPU(s) scaling MHz:         20%
CPU max MHz:                 4000.0000
CPU min MHz:                 800.0000
BogoMIPS:                    7200.00
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 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 intel_ppin cdp_l2 ssbd mba ibrs ibpb
                             stibp ibrs_enhanced tpr_shadow flexpriority ept vpid ept_ad
                             fsgsbase tsc_adjust bmi1 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 user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm
                             ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req hfi vnni
                             avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes
                             vpclmulqdq avx512_vnni avx512_bitalg avx512_vppopcntdq 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:                   1.5 MiB (32 instances)
L1i cache:                   1 MiB (32 instances)
L2 cache:                    64 MiB (32 instances)
L3 cache:                    90 MiB (2 instances)
NUMA node(s):                2
NUMA node0 CPU(s):          0-15,32-47
NUMA node1 CPU(s):          16-31,48-63
Vulnerability Gather data sampling: Not affected
Vulnerability Indirect target selection: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:         Not affected
Vulnerability Mds:          Not affected

```

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Platform Notes (Continued)

Vulnerability Meltdown:	Not affected
Vulnerability Mmio stale data:	Not affected
Vulnerability Reg file data sampling:	Not affected
Vulnerability Retbleed:	Not affected
Vulnerability Spec rstack overflow:	Not affected
Vulnerability Spec store bypass:	Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1:	Mitigation; usercopy/swappgs barriers and __user pointer sanitization
Vulnerability Spectre v2:	Mitigation; Enhanced / Automatic IBRS; IBPB conditional; PBR SB-eIBRS SW sequence; BHI BHI_DIS_S
Vulnerability Srbds:	Not affected
Vulnerability Tsa:	Not affected
Vulnerability Tsx async abort:	Not affected
Vulnerability Vmscape:	Mitigation; IBPB before exit to userspace

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	1.5M	12	Data	1	64	1	64
L1i	32K	1M	8	Instruction	1	64	1	64
L2	2M	64M	16	Unified	2	2048	1	64
L3	45M	90M	15	Unified	3	49152	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: 0-15,32-47
node 0 size: 515673 MB
node 0 free: 495790 MB
node 1 cpus: 16-31,48-63
node 1 size: 516021 MB
node 1 free: 500886 MB
node distances:
node    0    1
  0:   10   21
  1:   21   10
```

9. /proc/meminfo

MemTotal: 1056455572 kB

'who -r' did not return a run level

10. Systemd service manager version: systemd 257 (257.10+suse.31.gfb9d92682b)

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

11. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	NetworkManager NetworkManager-dispatcher NetworkManager-wait-online appstream-sync-cache audit-rules auditd chronyd dbus-broker firewalld getty@ irqbalance issue-generator kbdsettings klog lvm2-monitor rollback rsyslog smartd soft-reboot-cleanup sshd systemd-pstore wpa_supplicant wtmpdb-update-boot
enabled-runtime	systemd-fsck-root systemd-remount-fs
disabled	blk-availability boot-sysctl ca-certificates ca-certificates-setup chrony-wait console-getty containerd debug-shell dnsmasq docker exchange-bmc-os-info gpm grub2-once hwloc-dump-hwdata ipmiev d issue-add-ssh-keys jeos-firstboot jeos-firstboot-snapshot kernel-sysctl kexec-load langset lastlog2-import lunmask lvm-devices-import man-db-create

(Continued on next page)



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Platform Notes (Continued)

```

multipathd nftables nis-domainname rpmconfigcheck rsyncd serial-getty@
setup-systemd-proxy-env smartd_generate_opts snmpd snmptrapd
systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-sysext
systemd-time-wait-sync systemd-timesyncd systemd-udev-load-credentials tuned udisks2
wpa_supplicant@
systemd-userdbd

```

indirect

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

```

BOOT_IMAGE=/boot/vmlinuz-6.12.0-160000.9-default
root=UUID=59f9f04f-e759-4ecc-8e22-28acb39f7f76
mitigations=auto
quiet
security=

```

13. cpupower frequency-info

```

analyzing CPU 37:
  current policy: frequency should be within 800 MHz and 4.00 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

boost state support:
  Supported: yes
  Active: yes

```

14. tuned-adm active

```

It seems that tuned daemon is not running, preset profile is not activated.
Preset profile: throughput-performance

```

15. 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

```

16. /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

```

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Platform Notes (Continued)

17. /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

```

18. OS release

```

From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 16.0

```

19. Disk information

SPEC is set to: /cpu2017-1.1.9

```

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 ext4 877G 48G 785G 6% /

```

20. /sys/devices/virtual/dmi/id

```

Vendor: NULL
Product: NULL
Product Family: Not specified
Serial: 21D532845

```

21. dmidecode

Additional information from dmidecode 3.6 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 M321R8GA0PB2-CCPWF 64 GB 2 rank 6400, configured at 4800

22. BIOS

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

```

BIOS Vendor: American Megatrends International, LLC.
BIOS Version: 06.09.01
BIOS Date: 08/18/2025

```

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 2025.2.0 Build 20250605
Copyright (C) 1985-2025 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 2025.2.0 Build 20250605
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Compiler Version Notes (Continued)

=====
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 2025.2.0 Build 20250605
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
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=====

=====
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
=====

=====
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 2025.2.0 Build 20250605
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=====

=====
Fortran, C | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
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=====

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

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SPEC CPU®2017 Floating Point Rate Result

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Epsilon IT Sp. z o.o.

SPECrate®2017_fp_base = 532

eterio 220 RC3 (3.60 GHz, Intel Xeon Gold 6444Y)

SPECrate®2017_fp_peak = 543

CPU2017 License: 9081

Test Sponsor: Epsilon IT Sp. z o.o.

Tested by: Epsilon IT Sp. z o.o.

Test Date: Mar-2026

Hardware Availability: Dec-2023

Software Availability: Feb-2026

Base Compiler Invocation (Continued)

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
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 -xsaphirerapids -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 -xsaphirerapids -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 -xsaphirerapids -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 -xsaphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
```

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

```
-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 -xsapfirerapids -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 -xsapfirerapids -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
```

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



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Software Availability: Feb-2026

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 -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:

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

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Software Availability: Feb-2026

Peak Optimization Flags (Continued)

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-ic2025-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Epsilon-Platform-Flags-RevA-Feb-2026-For-Intel-Processors.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Epsilon-Platform-Flags-RevA-Feb-2026-For-Intel-Processors.xml>

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