



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Lenovo Global Technology

ThinkEdge SE100
(2.0 GHz, Intel Core Ultra 7 255H)

SPECrate®2017_fp_base = 69.1

SPECrate®2017_fp_peak = 69.7

CPU2017 License: 9017

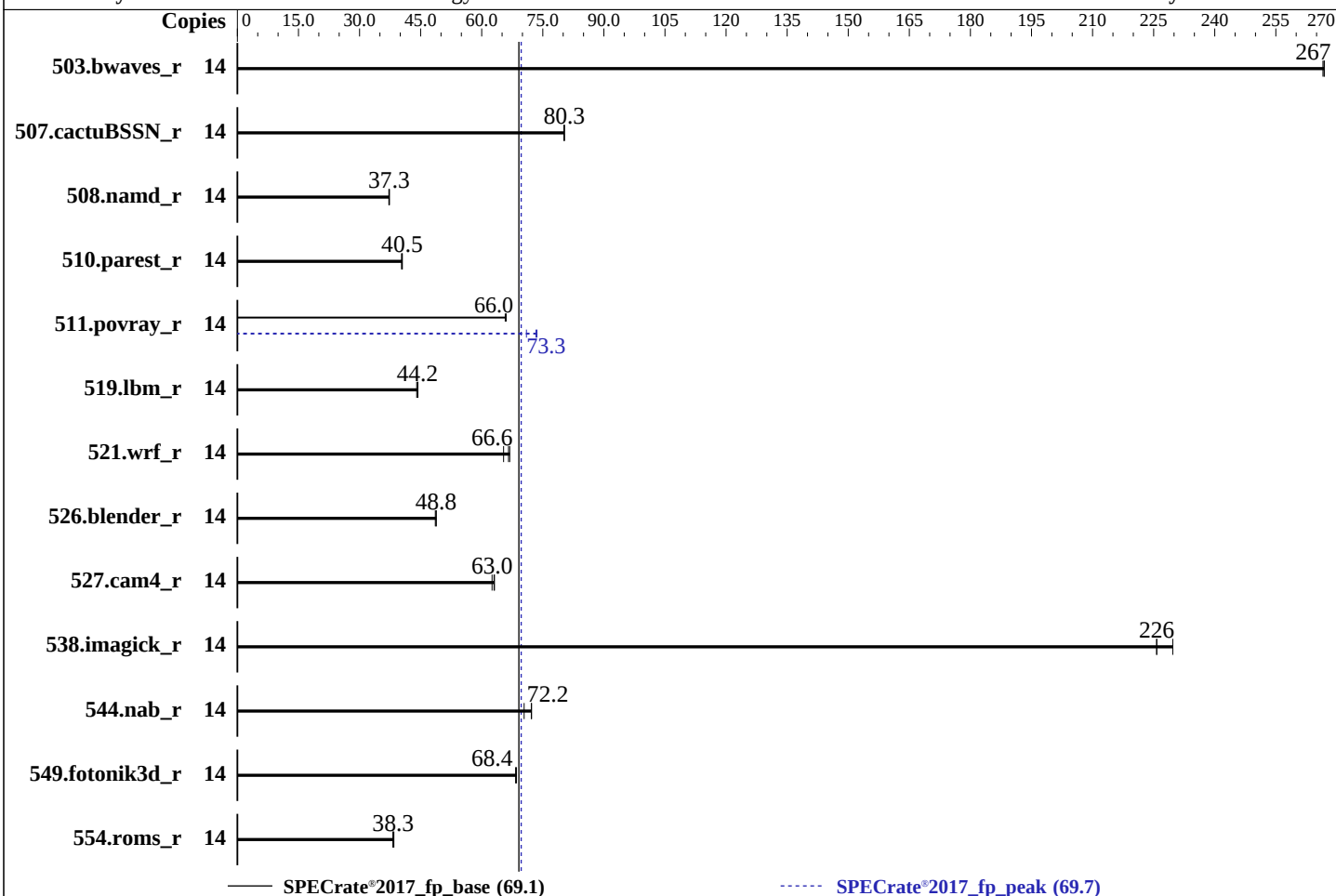
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: May-2025

Hardware Availability: May-2025

Software Availability: Feb-2025



Hardware

CPU Name: Intel Core Ultra 7 255H
Max MHz: 5100
Nominal: 2000
Enabled: 16 cores, 1 chip
Orderable: 1 chip
Cache L1: 64 KB I + 48 KB D on chip per core
L2: 3 MB I+D on chip per core
L3: 24 MB I+D on chip per chip
Other: None
Memory: 32 GB (2 x 16 GB 1Rx8 PC5-6400B-V)
Storage: 1 x 960GB M.2 NVMe SSD
Other: CPU Cooling: Air

Software

OS: Ubuntu 24.04.2 LTS
Kernel 6.8.0-53-generic
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: No
Firmware: BIOS Version DZE103U 1.10 released Mar-2025
File System: ext4
System State: Run level 5 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS 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	14	527	267	526	267	<u>526</u>	<u>267</u>	14	527	267	526	267	<u>526</u>	<u>267</u>
507.cactuBSSN_r	14	221	80.2	<u>221</u>	<u>80.3</u>	221	80.3	14	221	80.2	<u>221</u>	<u>80.3</u>	221	80.3
508.namd_r	14	358	37.2	<u>357</u>	<u>37.3</u>	356	37.3	14	358	37.2	<u>357</u>	<u>37.3</u>	356	37.3
510.parest_r	14	905	40.5	<u>905</u>	<u>40.5</u>	909	40.3	14	905	40.5	<u>905</u>	<u>40.5</u>	909	40.3
511.povray_r	14	<u>496</u>	<u>66.0</u>	496	66.0	497	65.8	14	444	73.6	<u>446</u>	<u>73.3</u>	461	71.0
519.lbm_r	14	333	44.3	335	44.0	<u>334</u>	<u>44.2</u>	14	333	44.3	335	44.0	<u>334</u>	<u>44.2</u>
521.wrf_r	14	480	65.4	<u>471</u>	<u>66.6</u>	469	66.9	14	480	65.4	<u>471</u>	<u>66.6</u>	469	66.9
526.blender_r	14	<u>437</u>	<u>48.8</u>	437	48.8	439	48.6	14	<u>437</u>	<u>48.8</u>	437	48.8	439	48.6
527.cam4_r	14	388	63.1	392	62.5	<u>389</u>	<u>63.0</u>	14	388	63.1	392	62.5	<u>389</u>	<u>63.0</u>
538.imagick_r	14	154	226	152	230	<u>154</u>	<u>226</u>	14	154	226	152	230	<u>154</u>	<u>226</u>
544.nab_r	14	<u>326</u>	<u>72.2</u>	335	70.4	326	72.2	14	<u>326</u>	<u>72.2</u>	335	70.4	326	72.2
549.fotonik3d_r	14	<u>798</u>	<u>68.4</u>	798	68.3	796	68.5	14	<u>798</u>	<u>68.4</u>	798	68.3	796	68.5
554.roms_r	14	579	38.4	<u>581</u>	<u>38.3</u>	582	38.2	14	579	38.4	<u>581</u>	<u>38.3</u>	582	38.2

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

Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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"

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2017-1.1.9-ic2024.1/lib/intel64:/home/cpu2017-1.1.9-ic2024.1/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

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 configuration:
Choose Operating Mode set to Custom Mode
CPU P-state Control set to Cooperative with Legacy
Active SOC-North Efficient-cores set to 0
In-Band ECC Support set to Disabled

Sysinfo program /home/cpu2017-1.1.9-ic2024.1/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on perf Tue May 13 02:58:57 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 255 (255.4-1ubuntu8.5)
 12. Failed units, from systemctl list-units --state=failed
 13. Services, from systemctl list-unit-files
 14. Linux kernel boot-time arguments, from /proc/cmdline
 15. cpupower frequency-info
 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 perf 6.8.0-53-generic #55-Ubuntu SMP PREEMPT_DYNAMIC Fri Jan 17 15:37:52 UTC 2025 x86_64 x86_64
x86_64 GNU/Linux
-
2. w
02:58:57 up 31 min, 1 user, load average: 0.45, 0.27, 0.14
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 02:28 2:49 1.60s 0.04s -bash

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Platform Notes (Continued)

3. Username

From environment variable \$USER: root

4. ulimit -a

```
time(seconds)      unlimited
file(blocks)       unlimited
data(kbytes)       unlimited
stack(kbytes)      unlimited
coredump(blocks)   0
memory(kbytes)     unlimited
locked memory(kbytes) 4051220
process            126308
nofiles            1024
vmemory(kbytes)    unlimited
locks              unlimited
rtprio             0
```

5. sysinfo process ancestry

```
/sbin/init
/bin/login -p --
-bash
-bash
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=14 -c
ic2024.1-lin-core-avx2-rate-20240308.cfg --define smt-on --define cores=7 --define physicalfirst --define
no-numa --tune base,peak -o all --define drop_caches fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=14 --configfile
ic2024.1-lin-core-avx2-rate-20240308.cfg --define smt-on --define cores=7 --define physicalfirst --define
no-numa --tune base,peak --output_format all --define drop_caches --nopower --runmode rate --tune
base:peak --size refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.014/temlogs/preenv.fprate.014.0.log --lognum 014.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017-1.1.9-ic2024.1
```

6. /proc/cpuinfo

```
model name      : Intel(R) Core(TM) Ultra 7 255H
vendor_id       : GenuineIntel
cpu family      : 6
model           : 197
stepping        : 2
microcode       : 0x115
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores       : 1
siblings        : 1
1 physical ids (chips)
14 processors (hardware threads)
physical id 0:  core ids 0,4,8-16,20,24,28
physical id 0:  apicids 0,8,16,18,20,22,24,26,28,30,32,40,48,56
```

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

WARNING: the 'lscpu' utility claims that 14 "Socket(s)" were seen, which does not match the 1 "physical id"s seen in /proc/cpuinfo. Please verify counts independently.

WARNING: the number of "processors" from /proc/cpuinfo does not seem to match the number of hardware threads as reported by lscpu. Please verify counts independently.

7. lscpu

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Platform Notes (Continued)

From lscpu from util-linux 2.39.3:

Architecture:	x86_64
CPU op-mode(s):	32-bit, 64-bit
Address sizes:	42 bits physical, 48 bits virtual
Byte Order:	Little Endian
CPU(s):	14
On-line CPU(s) list:	0-13
Vendor ID:	GenuineIntel
BIOS Vendor ID:	Intel(R) Corporation
Model name:	Intel(R) Core(TM) Ultra 7 255H
BIOS Model name:	Intel(R) Core(TM) Ultra 7 255H None CPU @ 1.8GHz
BIOS CPU family:	774
CPU family:	6
Model:	197
Thread(s) per core:	1
Core(s) per socket:	1
Socket(s):	14
Stepping:	2
CPU(s) scaling MHz:	53%
CPU max MHz:	2500.0000
CPU min MHz:	400.0000
BogoMIPS:	7372.80
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 sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault ept intel_ppin ssbd ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid rdseed adx smap clflushopt clwb intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves split_lock_detect user_shstk avx_vnni lam wbnoinvd dtherm arat pln pts hwp hwp_notify hwp_act_window hwp_epp hwp_pkg_req hfi vnmi umip pku ospke waitpkg gfni vaes vpclmulqdq rdpid bus_lock_detect movdiri movdir64b fsrm md_clear serialize arch_lbr ibt flush_l1d arch_capabilities
Virtualization:	VT-x
L1d cache:	416 KiB (10 instances)
L1i cache:	640 KiB (10 instances)
L2 cache:	26 MiB (8 instances)
L3 cache:	24 MiB (1 instance)
NUMA node(s):	1
NUMA node0 CPU(s):	0-13
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 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/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2:	Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PBRSE-eIBRS Not affected; BHI BHI_DIS_S
Vulnerability Srbds:	Not affected
Vulnerability Tsx async abort:	Not affected

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Platform Notes (Continued)

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	416K	12	Data	1	64	1	64
L1i	64K	640K	16	Instruction	1	64	1	64
L2	3M	26M	12	Unified	2	4096	1	64
L3	24M	24M	12	Unified	3	32768	1	64

8. numactl --hardware

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

available: 1 nodes (0)

node 0 cpus: 0-13

node 0 size: 31650 MB

node 0 free: 29930 MB

node distances:

node 0

0: 10

9. /proc/meminfo

MemTotal: 32409760 kB

10. who -r

run-level 5 May 13 02:27

11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.5)

Default Target	Status
graphical	degraded

12. Failed units, from systemctl list-units --state=failed

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
* openipmi.service	loaded	failed	failed	LSB: OpenIPMI Driver init script

Legend: LOAD -> Reflects whether the unit definition was properly loaded.
ACTIVE -> The high-level unit activation state, i.e. generalization of SUB.
SUB -> The low-level unit activation state, values depend on unit type.
1 loaded units listed.

13. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	ModemManager apparmor appport blk-availability cloud-config cloud-final cloud-init cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ gpu-manager grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog secureboot-db setvtrgb snapd sysstat systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved systemd-timesyncd thermald ua-reboot-cmds ubuntu-advantage udisks2 ufw unattended-upgrades vgauth
enabled-runtime	netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled	console-getty debug-shell ipmiev d iscsid nftables rsync serial-getty@ ssh systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-networkd-wait-online@ systemd-pcrlock-file-system systemd-pcrlock-firmware-code systemd-pcrlock-firmware-config systemd-pcrlock-machine-id systemd-pcrlock-make-policy systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysextd systemd-time-wait-sync upower
generated	openipmi
indirect	systemd-sysupdate systemd-sysupdate-reboot uidd
masked	cryptdisks cryptdisks-early hwclock multipath-tools-boot screen-cleanup sudo x11-common

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Platform Notes (Continued)

14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.8.0-53-generic
root=UUID=909e2c5d-b6cb-4f8a-9073-c99883bf01de
ro

15. cpupower frequency-info
analyzing CPU 6:
current policy: frequency should be within 400 MHz and 2.10 GHz.
The governor "powersave" may decide which speed to use
within this range.
boost state support:
Supported: no
Active: no

16. sysctl
kernel.numa_balancing 0
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

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_shared 256
max_ptes_swap 64
pages_to_scan 4096
scan_sleep_millisecs 10000

19. OS release
From /etc/*-release /etc/*-version
os-release Ubuntu 24.04.2 LTS

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Platform Notes (Continued)

20. Disk information

SPEC is set to: /home/cpu2017-1.1.9-ic2024.1

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	ext4	879G	17G	817G	3%	/

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

Vendor: Lenovo
Product: ThinkEdge SE100 Planar
Product Family: ThinkSystem
Serial: 1234567890

22. dmidecode

Additional information from dmidecode 3.5 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:
2x Micron Technology MTC8C1084S1VC64BD1 B 16 GB 1 rank 6400

23. BIOS

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

BIOS Vendor: Lenovo
BIOS Version: DZE103U-1.10
BIOS Date: 03/28/2025
BIOS Revision: 1.10
Firmware Revision: 1.10

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 2024.1.0 Build 20240308
Copyright (C) 1985-2024 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 2024.1.0 Build 20240308
Copyright (C) 1985-2024 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 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
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Compiler Version Notes (Continued)

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

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 | 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 2024.1.0 Build 20240308
Copyright (C) 1985-2024 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 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

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



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Software Availability: Feb-2025

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 -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:

-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:

-w -m64 -Wl,-z,muldefs -xCORE-AVX2 -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 -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -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 -xCORE-AVX2 -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

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SPEC CPU®2017 Floating Point Rate Result

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Lenovo Global Technology

ThinkEdge SE100
(2.0 GHz, Intel Core Ultra 7 255H)

SPECrate®2017_fp_base = 69.1

SPECrate®2017_fp_peak = 69.7

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: May-2025

Hardware Availability: May-2025

Software Availability: Feb-2025

Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -Wno-implicit-int -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

Peak Optimization Flags

C benchmarks:

519.lbm_r: basepeak = yes

538.imagick_r: basepeak = yes

544.nab_r: basepeak = yes

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

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CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

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Test Date: May-2025

Hardware Availability: May-2025

Software Availability: Feb-2025

Peak Optimization Flags (Continued)

C++ benchmarks:

508.namd_r: basepeak = yes

510.parest_r: basepeak = yes

Fortran benchmarks:

503.bwaves_r: basepeak = yes

549.fotonik3d_r: basepeak = yes

554.roms_r: basepeak = yes

Benchmarks using both Fortran and C:

521.wrf_r: basepeak = yes

527.cam4_r: basepeak = yes

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 -flto
-Ofast -ffast-math -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: basepeak = yes

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/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Edge-A.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/Lenovo-Platform-SPECcpu2017-Flags-V1.2-Edge-A.xml>



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