SPEC CPU®2026 Floating Point Speed Result

Lenovo Global Technology

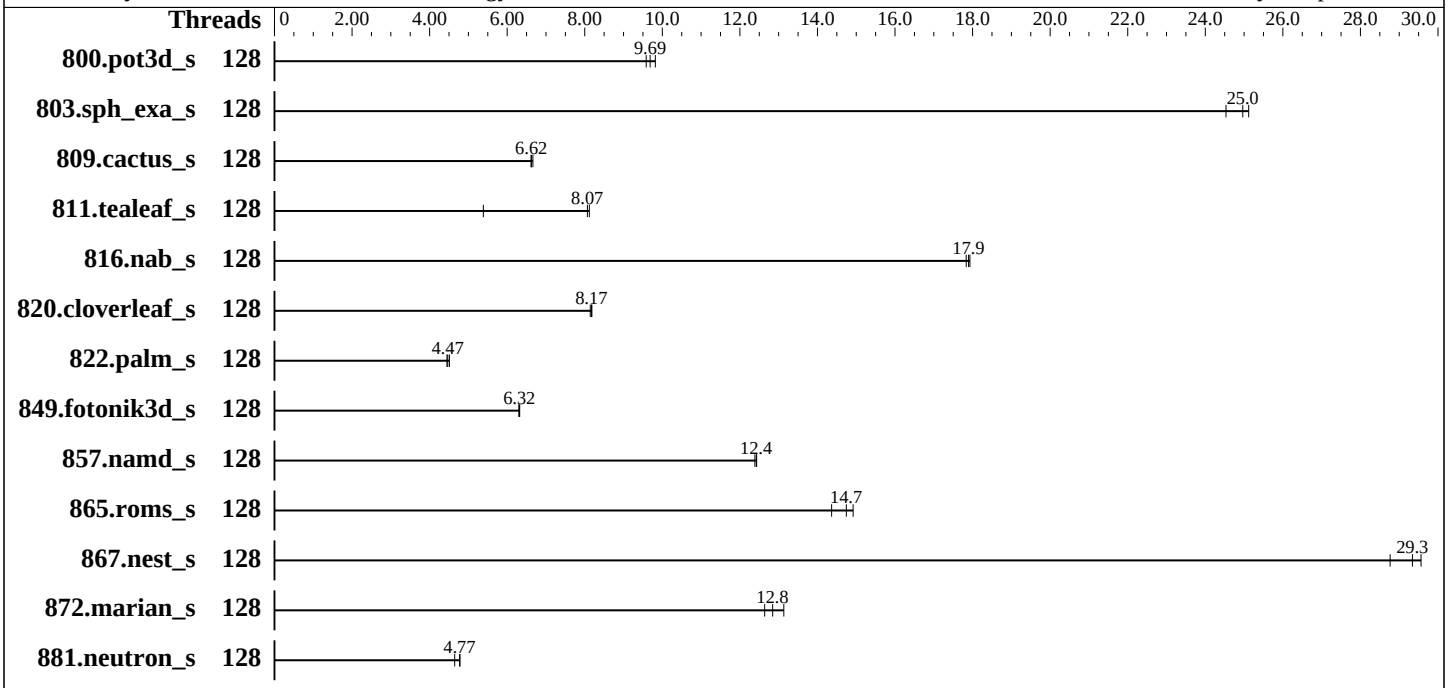
ThinkSystem SR650 V3
(1.90 GHz,Intel Xeon Platinum 8592+)

SPECspeed®2026_fp_base = 10.4

SPECspeed®2026_fp_peak = Not Run

CPU2026 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test Date: May-2026
Hardware Availability: Feb-2024
Software Availability: Apr-2026



Hardware

CPU Name:	Intel Xeon Platinum 8592+
Max MHz:	3900
Nominal:	1900
Enabled:	128 cores, 2 chips
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:	320 MB I+D on chip per chip
Other:	None
Memory:	512 GB (16 x 32 GB 2Rx8 PC5-5600B-R)
Storage:	1 x 480 GB SATA SSD
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 16.0 Kernel 6.12.0-160000.5-default
Compiler:	C/C++: Version 2026.0 of Intel oneAPI DPC++/C++ Compiler for Linux; Fortran: Version 2026.0 of Intel Fortran Compiler for Linux
Compiler Category:	Vendor
Firmware:	Lenovo BIOS Version ESE139E 3.90 released May-2026
File System:	btrfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other:	jemalloc memory allocator v5.3
Power Management:	BIOS and OS set to prefer performance at the cost of additional power usage

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
800.pot3d_s	128	68.5	9.82	**69.5**	**9.69**	70.2	9.58							
803.sph_exa_s	128	50.5	24.5	49.3	25.1	**49.6**	**25.0**							
809.cactus_s	128	168	6.66	**169**	**6.62**	170	6.62							
811.tealeaf_s	128	68.6	8.12	103	5.39	**69.0**	**8.07**							
816.nab_s	128	**62.9**	**17.9**	63.1	17.8	62.8	17.9							
820.cloverleaf_s	128	105	8.14	105	8.18	**105**	**8.17**							
822.palm_s	128	**275**	**4.47**	272	4.51	276	4.45							
849.fotonik3d_s	128	104	6.32	105	6.30	**105**	**6.32**							
857.namd_s	128	**117**	**12.4**	117	12.4	117	12.4							
865.roms_s	128	73.1	14.9	**73.9**	**14.7**	75.9	14.4							
867.nest_s	128	**73.6**	**29.3**	73.1	29.6	75.1	28.8							
872.marian_s	128	82.4	13.1	85.6	12.6	**84.2**	**12.8**							
881.neutron_s	128	175	4.65	**171**	**4.77**	170	4.78							

SPECspeed®2026_fp_base = 10.4

SPECspeed®2026_fp_peak = Not Run

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

Operating System Notes

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

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2026-1.0.1-ic2026.0/lib"
MALLOC_CONF = "retain:true"
OMP_STACKSIZE = "192M"
```

General Notes

```
 Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
 memory using CentOS Stream 9.
 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.
```

(Continued on next page)

General Notes (Continued)

```
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)
is mitigated in the system as tested and documented.
 jemalloc, a general purpose malloc implementation
 built with the CentOS Stream 9, and the system compiler gcc 11.5.0
 sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases
```

Platform Notes

```
BIOS configuration:
Choose Operating Mode set to Maximum Performance and then set it to Custom Mode
CPU P-state Control set to Legacy
HyperThreading set to Disabled
Misc set to Option4

 Sysinfo program /home/cpu2026-1.0.1-ic2026.0/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
 running on localhost Thu May 28 13:35:07 2026

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

 ------------------------------------------------------------
 Table of contents
 ------------------------------------------------------------
  1. uname -srvm
  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 (257.7+suse.19.ga0dfd5de4c)
 11. Services, from systemctl list-unit-files
 12. Linux kernel boot-time arguments, from /proc/cmdline
 13. cpupower frequency-info
 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
 ------------------------------------------------------------
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
1. uname -srvm
  Linux 6.12.0-160000.5-default #1 SMP PREEMPT_DYNAMIC Wed Sep 10 15:26:25 UTC 2025 (3545bbd) x86_64

------------------------------------------------------------
2. w
   13:35:07 up 8 min,  1 user,  load average: 0.24, 0.44, 0.28
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root             172.30.81.13     13:34           0.00s  0.03s sshd-session: root [priv]

------------------------------------------------------------
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) 2061595
  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) 2061595
  virtual memory              (kbytes, -v) unlimited
  file locks                          (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=47
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd-session: root [priv]
 sshd-session: root@notty
 /bin/bash ./02.remote_local_SPECcpu_1.02.sh
 sh Run553-compliant-ic2026.0-lin-sapphirerapids-speedfp-base-smt-off-20260429.sh
 runcpu --nobuild --iterations=3 --reportable --action validate --define default-platform-flags -c
   ic2026.0-sapphirerapids-cpu2026-1.0.1-speed-20260429.cfg --threads 128 --define cores=128 --tune base -o
    all --define drop_caches fpspeed
 runcpu --nobuild --iterations 3 --reportable --action validate --define default-platform-flags --configfile
   ic2026.0-sapphirerapids-cpu2026-1.0.1-speed-20260429.cfg --threads 128 --define cores=128 --tune base
```

(Continued on next page)

Platform Notes (Continued)

```
   --output_format all --define drop_caches --nopower --runmode speed --tune base --size refspeed fpspeed
   --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2026.014/templogs/preenv.fpspeed.014.0.log --lognum 014.0
    --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026-1.0.1-ic2026.0

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : INTEL(R) XEON(R) PLATINUM 8592+
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 207
    stepping        : 2
    microcode       : 0x210002d3
   bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi spectre_v2_user
    cpu cores       : 64
    siblings        : 64
    2 physical ids (chips)
    128 processors (hardware threads)
    physical id 0: core ids 0-63
    physical id 1: core ids 0-63
    physical id 0: apicids
   0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72
   ,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126
    physical id 1: apicids
   128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,1
   80,182,184,186,188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224,226,228,230,23
    2,234,236,238,240,242,244,246,248,250,252,254
  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:                           46 bits physical, 57 bits virtual
  Byte Order:                              Little Endian
  CPU(s):                                  128
  On-line CPU(s) list:                     0-127
  Vendor ID:                               GenuineIntel
  Model name:                              INTEL(R) XEON(R) PLATINUM 8592+
  CPU family:                              6
  Model:                                   207
  Thread(s) per core:                      1
  Core(s) per socket:                      64
```

(Continued on next page)

Platform Notes (Continued)

```
  Socket(s):                          2
  Stepping:                           2
  CPU(s) scaling MHz:                 21%
  CPU max MHz:                        3900.0000
  CPU min MHz:                        800.0000
  BogoMIPS:                           3800.00
  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 vnmi avx512vbmi umip pku ospke waitpkg
                                      avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg
                                      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_l1d
                                      arch_capabilities
  Virtualization:                     VT-x
  L1d cache:                          6 MiB (128 instances)
  L1i cache:                          4 MiB (128 instances)
  L2 cache:                           256 MiB (128 instances)
  L3 cache:                           640 MiB (2 instances)
  NUMA node(s):                       2
  NUMA node0 CPU(s):                  0-63
  NUMA node1 CPU(s):                  64-127
  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
  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/swapgs barriers and __user pointer
                                           sanitization
```

(Continued on next page)

Platform Notes (Continued)

```
  Vulnerability Spectre v2:             Mitigation; Enhanced / Automatic IBRS; IBPB conditional;
                                              PBRSB-eIBRS SW sequence; BHI BHI_DIS_S
   Vulnerability Srbds:                 Not affected
   Vulnerability Tsa:                   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       6M   12 Data            1     64        1             64
     L1i       32K       4M    8 Instruction     1     64        1             64
     L2         2M     256M   16 Unified         2   2048        1             64
     L3       320M     640M   20 Unified         3 262144        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: 0-63
  node 0 size: 257688 MB
  node 0 free: 256676 MB
  node 1 cpus: 64-127
  node 1 size: 257943 MB
  node 1 free: 256799 MB
  node distances:
  node     0    1
     0:   10   21
     1:   21   10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       528006680 kB

'who -r' did not return a run level

------------------------------------------------------------
10. Systemd service manager version: systemd 257 (257.7+suse.19.ga0dfd5de4c)
  Default Target  Status
  graphical       running

------------------------------------------------------------
11. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          NetworkManager NetworkManager-dispatcher NetworkManager-wait-online 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-remount-fs
```

(Continued on next page)

Platform Notes (Continued)

```
  disabled         blk-availability boot-sysctl ca-certificates ca-certificates-setup chrony-wait
                   console-getty debug-shell dnsmasq exchange-bmc-os-info gpm grub2-once ipmievd
                 issue-add-ssh-keys kernel-sysctl kexec-load lastlog2-import lunmask lvm-devices-import
                  man-db-create 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 udisks2
                     wpa_supplicant@
  indirect         systemd-userdbd

------------------------------------------------------------
12. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.12.0-160000.5-default
  root=UUID=947e53e0-d208-4ab7-9188-9ca936e60a3f
  mitigations=auto
  quiet
  security=selinux
  selinux=1

------------------------------------------------------------
13. cpupower frequency-info
  analyzing CPU 53:
    current policy: frequency should be within 800 MHz and 3.90 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes

------------------------------------------------------------
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
```

(Continued on next page)

Platform Notes (Continued)

```
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                0

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

------------------------------------------------------------
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 16.0

------------------------------------------------------------
18. Disk information
SPEC is set to: /home/cpu2026-1.0.1-ic2026.0
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/sda2      btrfs  445G  140G  305G  32% /home

------------------------------------------------------------
19. /sys/devices/virtual/dmi/id
    Vendor:          Lenovo
    Product:         ThinkSystem SR650 V3 MB,EGS,DDR5,SH,2U
    Product Family: ThinkSystem
    Serial:          1234567890

------------------------------------------------------------
20. 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 M321R4GA3PB0-CWMXH 32 GB 2 rank 5600
```

(Continued on next page)

Platform Notes (Continued)

```
 ------------------------------------------------------------
 21. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       Lenovo
    BIOS Version:      ESE139E-3.90
    BIOS Date:         05/07/2026
    BIOS Revision:     3.90
    Firmware Revision: 8.10
```

Compiler Version Notes

```
==============================================================================
C       | 811.tealeaf_s(base) 816.nab_s(base) 881.neutron_s(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++     | 803.sph_exa_s(base) 857.namd_s(base) 867.nest_s(base)
        | 872.marian_s(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++, C  | 809.cactus_s(base)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
Fortran | 800.pot3d_s(base) 820.cloverleaf_s(base) 822.palm_s(base)
        | 849.fotonik3d_s(base) 865.roms_s(base)
------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version
  2026.0.0 Build 20260331
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Benchmarks using both C and C++:
icpx icx

Base Optimization Flags

C benchmarks:
-m64 -std=c18 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xsapphirerapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -L/usr/local/jemalloc-5.3.0/lib -ljemalloc

C++ benchmarks:
-m64 -std=c++17 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xsapphirerapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -pthread
-fiopenmp -DSPEC_OPENMP -L/usr/local/jemalloc-5.3.0/lib -ljemalloc

Fortran benchmarks:
-m64 -stand f18 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xsapphirerapids -mprefer-vector-width=512 -O3 -ffp-model=fast -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -DSPEC_OPENMP
-fiopenmp -L/usr/local/jemalloc-5.3.0/lib -ljemalloc

Benchmarks using both C and C++:
-m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500 -xsapphirerapids
-mprefer-vector-width=512 -O3 -ffp-model=fast -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-pthread -L/usr/local/jemalloc-5.3.0/lib -ljemalloc

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2026/results/flags/Lenovo-Platform-SPECcpu2026-Flags-V1.2-Eaglestream-AD.html
http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.html

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

http://www.spec.org/cpu2026/results/flags/Lenovo-Platform-SPECcpu2026-Flags-V1.2-Eaglestream-AD.xml
http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.xml

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

Tested with SPEC CPU®2026 v1.0.1 on 2026-05-28 01:35:07-0400.
Report generated on 2026-06-16 17:18:47 by CPU2026 PDF formatter (unknown).
Originally published on 2026-06-16.