SPEC CPU®2026 Floating Point Speed Result

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Hewlett Packard Enterprise

(Test Sponsor: HPE)

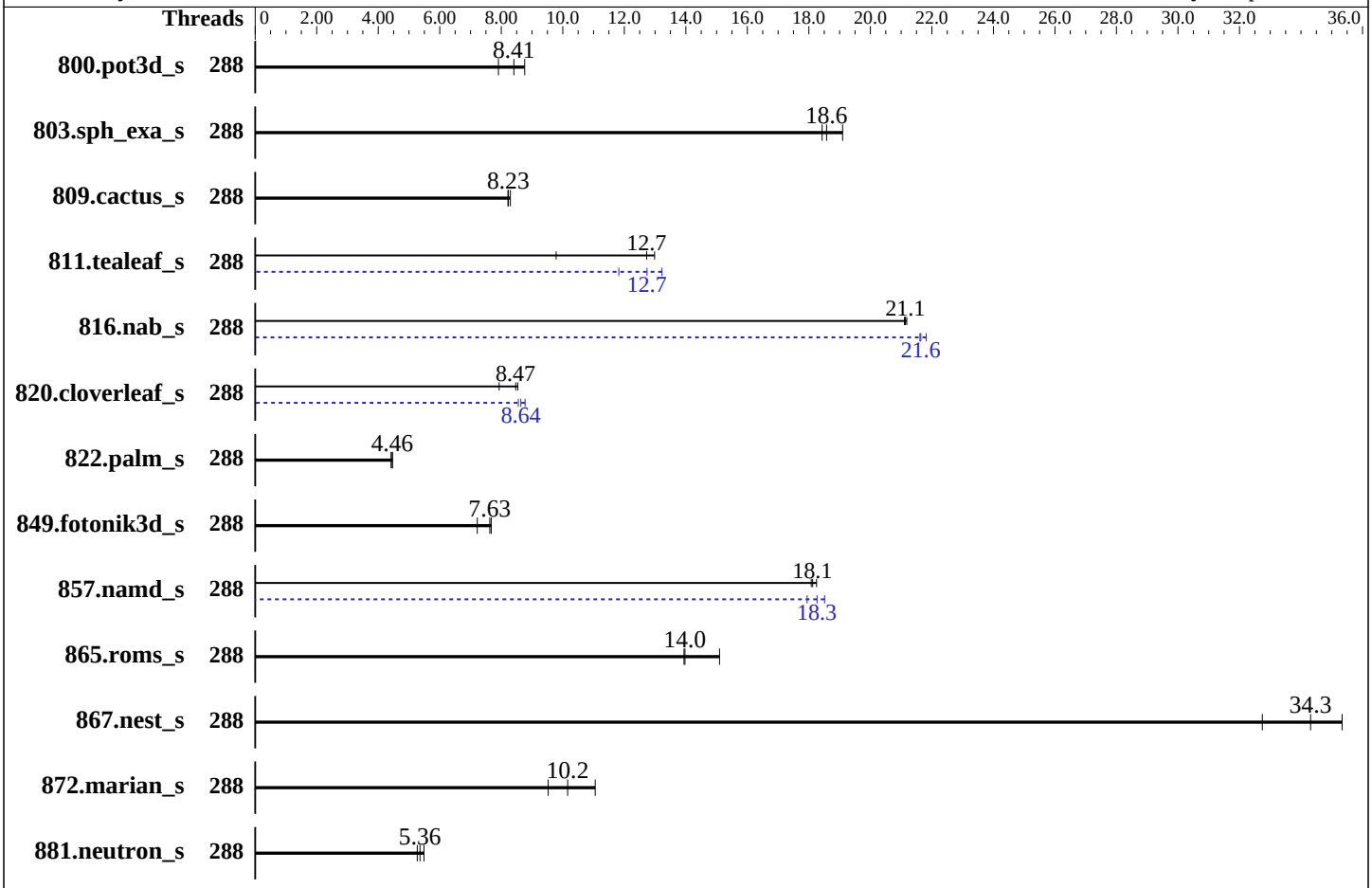
ProLiant Compute DL540 Gen12
(2.20 GHz, Intel Xeon 6990E+)

SPECspeed®2026_fp_base = 11.3

SPECspeed®2026_fp_peak = 11.3

CPU2026 License: 3
Test Sponsor: HPE
Tested by: HPE

Test Date: Oct-2026
Hardware Availability: Dec-2026
Software Availability: Apr-2026



Hardware

CPU Name:	Intel Xeon 6990E+
Max MHz:	3200
Nominal:	2200
Enabled:	288 cores, 1 chip
Orderable:	1 Chip
Cache L1:	64 KB I + 32 KB D on chip per core
L2:	288 MB I+D on chip per chip, 4 MB shared / 4 cores
L3:	576 MB I+D on chip per chip
Other:	None
Memory:	768 GB (12 x 64 GB 2Rx4 PC5-8000B-R)
Storage:	1 x 1.6 TB NVMe SSD
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 SP7 Kernel 6.4.0-150700.53.6-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:	HPE BIOS Version v1.92 09/18/2026 released Sep-2026
File System:	btrfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	jemalloc memory allocator v5.3
Power Management:	BIOS 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	288	85.1	7.91	**80.0**	**8.41**	76.8	8.76	288	85.1	7.91	**80.0**	**8.41**	76.8	8.76
803.sph_exa_s	288	**66.6**	**18.6**	67.2	18.4	64.8	19.1	288	**66.6**	**18.6**	67.2	18.4	64.8	19.1
809.cactus_s	288	135	8.30	**136**	**8.23**	137	8.22	288	135	8.30	**136**	**8.23**	137	8.22
811.tealeaf_s	288	42.9	13.0	**43.8**	**12.7**	56.9	9.78	288	47.1	11.8	42.1	13.2	**43.7**	**12.7**
816.nab_s	288	53.2	21.2	53.3	21.1	**53.3**	**21.1**	288	51.6	21.8	52.1	21.6	**52.0**	**21.6**
820.cloverleaf_s	288	100	8.54	108	7.93	**101**	**8.47**	288	**99.2**	**8.64**	97.7	8.77	100	8.55
822.palm_s	288	275	4.46	278	4.42	**275**	**4.46**	288	275	4.46	278	4.42	**275**	**4.46**
849.fotonik3d_s	288	86.0	7.67	91.4	7.22	**86.5**	**7.63**	288	86.0	7.67	91.4	7.22	**86.5**	**7.63**
857.namd_s	288	79.6	18.3	**80.1**	**18.1**	80.3	18.1	288	**79.5**	**18.3**	78.4	18.5	80.9	17.9
865.roms_s	288	72.2	15.1	**78.0**	**14.0**	78.2	13.9	288	72.2	15.1	**78.0**	**14.0**	78.2	13.9
867.nest_s	288	66.0	32.7	61.1	35.3	**63.0**	**34.3**	288	66.0	32.7	61.1	35.3	**63.0**	**34.3**
872.marian_s	288	**107**	**10.2**	97.9	11.1	114	9.53	288	**107**	**10.2**	97.9	11.1	114	9.53
881.neutron_s	288	**152**	**5.36**	155	5.27	149	5.49	288	**152**	**5.36**	155	5.27	149	5.49

SPECspeed®2026_fp_base = 11.3

SPECspeed®2026_fp_peak = 11.3

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"
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
tuned-adm profile was stopped using 'systemctl stop tuned'
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/home/cpu2026/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.
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.
```

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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 Configurations : Parameters are selected in the order shown below
Workload Profile set to General Throughput Compute
Thermal Configuration set to Maximum Cooling
Enhanced Processor Performance Profile set to Aggressive
Enhanced C-states set to Disabled

 Sysinfo program /home/cpu2026/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
 running on localhost Sun Oct 11 00:38:13 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. who -r
 11. Systemd service manager version: systemd 254 (254.27+suse.167.g130293e510)
 12. Services, from systemctl list-unit-files
 13. Linux kernel boot-time arguments, from /proc/cmdline
 14. cpupower frequency-info
 15. tuned-adm active
 16. sysctl
 17. /sys/kernel/mm/transparent_hugepage
 18. /sys/kernel/mm/transparent_hugepage/khugepaged
 19. OS release
 20. Disk information
 21. /sys/devices/virtual/dmi/id
 22. dmidecode
 23. BIOS
```

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Platform Notes (Continued)

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

------------------------------------------------------------
1. uname -srvm
  Linux 6.4.0-150700.53.6-default #1 SMP PREEMPT_DYNAMIC Tue Jul  1 14:54:47 UTC 2025 (8ab7501) x86_64

------------------------------------------------------------
2. w
   00:38:13 up  8:16,  5 users,  load average: 0.02, 0.01, 0.00
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     pts/0    172.16.0.100     00:34   45.00s  0.04s  0.04s -bash

------------------------------------------------------------
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) 3094216
  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) 3094216
  virtual memory          (kbytes, -v) unlimited
  file locks                      (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: root [priv]
 sshd: root@notty
 bash -c cd $SPEC/ && $SPEC/fpspeed_sierra.sh
 runcpu --nobuild --reportable --action validate --define default-platform-flags -c
   ic2026.0-sierraforest-cpu2026-1.0.1-speed-20260429.cfg --iterations=3 --reportable --threads 288 --define
    cores=288 --tune base,peak -o all --define smt-on --define drop_caches fpspeed
 runcpu --nobuild --reportable --action validate --define default-platform-flags --configfile
   ic2026.0-sierraforest-cpu2026-1.0.1-speed-20260429.cfg --iterations 3 --reportable --threads 288 --define
```

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Platform Notes (Continued)

```
   cores=288 --tune base,peak --output_format all --define smt-on --define drop_caches --nopower --runmode
    speed --tune base:peak --size refspeed fpspeed --nopreenv --note-preenv --logfile
    $SPEC/tmp/CPU2026.001/templogs/preenv.fpspeed.001.0.log --lognum 001.0 --from_runcpu 2
  specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6990E+
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 221
    stepping        : 1
    microcode       : 0x1000151
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
    cpu cores       : 288
    siblings        : 288
    1 physical ids (chips)
    288 processors (hardware threads)
    physical id 0: core ids 0-95,128-223,256-351
    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
   ,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,1
   32,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,18
   4,186,188,190,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286,288,290,292,294,296,298,300
   ,302,304,306,308,310,312,314,316,318,320,322,324,326,328,330,332,334,336,338,340,342,344,346,348,350,352,
   354,356,358,360,362,364,366,368,370,372,374,376,378,380,382,384,386,388,390,392,394,396,398,400,402,404,4
   06,408,410,412,414,416,418,420,422,424,426,428,430,432,434,436,438,440,442,444,446,512,514,516,518,520,52
   2,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,564,566,568,570,572,574
   ,576,578,580,582,584,586,588,590,592,594,596,598,600,602,604,606,608,610,612,614,616,618,620,622,624,626,
   628,630,632,634,636,638,640,642,644,646,648,650,652,654,656,658,660,662,664,666,668,670,672,674,676,678,6
    80,682,684,686,688,690,692,694,696,698,700,702
  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 2.40.4:
  Architecture:                            x86_64
  CPU op-mode(s):                          32-bit, 64-bit
  Address sizes:                           52 bits physical, 48 bits virtual
  Byte Order:                              Little Endian
  CPU(s):                                  288
  On-line CPU(s) list:                     0-287
  Vendor ID:                               GenuineIntel
  Model name:                              Intel(R) Xeon(R) 6990E+
```

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Platform Notes (Continued)

```
  CPU family:                          6
  Model:                               221
  Thread(s) per core:                  1
  Core(s) per socket:                  288
  Socket(s):                           1
  Stepping:                            1
  BogoMIPS:                            4400.00
  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 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 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 rdseed adx smap clflushopt clwb
                                       intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves cqm_llc
                                       cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect
                                       user_shstk avx_vnni lam wbnoinvd dtherm ida arat pln pts vnmi umip
                                       pku ospke waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect
                                       cldemote movdiri movdir64b enqcmd fsrm md_clear serialize pconfig
                                       arch_lbr ibt flush_l1d arch_capabilities
  Virtualization:                      VT-x
  L1d cache:                           9 MiB (288 instances)
  L1i cache:                           18 MiB (288 instances)
  L2 cache:                            288 MiB (72 instances)
  L3 cache:                            576 MiB (1 instance)
  NUMA node(s):                        3
  NUMA node0 CPU(s):                   0-95
  NUMA node1 CPU(s):                   96-191
  NUMA node2 CPU(s):                   192-287
  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
  Vulnerability Spectre v2:                Mitigation; Enhanced / Automatic IBRS; IBPB conditional;
```

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Platform Notes (Continued)

```
                                       PBRSB-eIBRS Not affected; 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       32K       9M    8 Data            1     64        1             64
     L1i       64K      18M    8 Instruction     1    128        1             64
     L2         4M     288M   16 Unified         2   4096        1             64
     L3       576M     576M   16 Unified         3 589824        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 3 nodes (0-2)
  node 0 cpus: 0-95
  node 0 size: 257654 MB
  node 0 free: 256741 MB
  node 1 cpus: 96-191
  node 1 size: 258022 MB
  node 1 free: 254973 MB
  node 2 cpus: 192-287
  node 2 size: 257907 MB
  node 2 free: 257080 MB
  node distances:
  node   0   1   2
    0:  10  15  18
    1:  15  10  15
    2:  18  15  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       792150096 kB

------------------------------------------------------------
10. who -r
  run-level 3 Oct 10 16:23

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.27+suse.167.g130293e510)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd
```

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Platform Notes (Continued)

```
                bluetooth cron display-manager getty@ irqbalance issue-generator kbdsettings klog
              lvm2-monitor nscd nvmefc-boot-connections nvmf-autoconnect postfix purge-kernels rollback
               rsyslog smartd sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6
                  wickedd-nanny wpa_supplicant
  enabled-runtime  systemd-remount-fs
  disabled        NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon autofs
                   autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates
                   chrony-wait chronyd console-getty cups cups-browsed debug-shell dnsmasq ebtables
                   exchange-bmc-os-info firewalld fsidd gnome-remote-desktop gpm grub2-once haveged
                   hwloc-dump-hwdata ipmi ipmievd issue-add-ssh-keys kexec-load lunmask man-db-create
                  multipathd nfs nfs-blkmap nmb openvpn@ ostree-remount ostree-state-overlay@ rpcbind
                rpmconfigcheck rsyncd rtkit-daemon samba-bgqd serial-getty@ smartd_generate_opts smb snmpd
                   snmptrapd speech-dispatcherd systemd-boot-check-no-failures systemd-confext
                systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd tuned
                   udisks2 update-system-flatpaks upower vncserver@ wpa_supplicant@
  indirect         pcscd saned@ systemd-userdbd wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.53.6-default
  root=UUID=9abe2d05-0ac6-4a22-9c17-585404eff336
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 19:
    Unable to determine current policy
    boost state support:
      Supported: yes
      Active: yes

------------------------------------------------------------
15. tuned-adm active
  It seems that tuned daemon is not running, preset profile is not activated.
  Preset profile: latency-performance

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

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Platform Notes (Continued)

```
  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+madvise [madvise] never
  enabled         [always] madvise 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 SUSE Linux Enterprise Server 15 SP7

------------------------------------------------------------
20. Disk information
SPEC is set to: /home/cpu2026
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/nvme0n1p2 btrfs  1.5T  369G  1.1T  25% /home

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:         HPE
    Product:        HPE ProLiant Compute DL540 Gen12
    Product Family: ProLiant
```

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Platform Notes (Continued)

```
     Serial:         SANJACSCM

 ------------------------------------------------------------
 22. 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:
      12x Hynix HMCG94CMBRAA3NN 64 GB 2 rank 8000


 ------------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       HPE
    BIOS Version:      1.92
    BIOS Date:         09/18/2026
    BIOS Revision:     1.92
    Firmware Revision: 1.25
```

Compiler Version Notes

```
==============================================================================
C       | 811.tealeaf_s(base, peak) 816.nab_s(base, peak) 881.neutron_s(base,
        | peak)
------------------------------------------------------------------------------
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, peak) 857.namd_s(base, peak) 867.nest_s(base,
        | peak) 872.marian_s(base, peak)
------------------------------------------------------------------------------
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, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
```

(Continued on next page)

Compiler Version Notes (Continued)

```
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
Fortran | 800.pot3d_s(base, peak) 820.cloverleaf_s(base, peak)
        | 822.palm_s(base, peak) 849.fotonik3d_s(base, peak) 865.roms_s(base,
        | peak)
------------------------------------------------------------------------------
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
-xsierraforest -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
-xsierraforest -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
-xsierraforest -O3 -ffp-model=fast -flto -mfpmath=sse -funroll-loops

(Continued on next page)

Base Optimization Flags (Continued)

Fortran benchmarks (continued):
-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 -xsierraforest -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

Peak Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Benchmarks using both C and C++:
icpx icx

Peak Optimization Flags

C benchmarks:

811.tealeaf_s: -m64 -std=c18 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xsierraforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-fiopenmp -DSPEC_OPENMP -L/usr/local/jemalloc-5.3.0/lib
-ljemalloc

816.nab_s: Same as 811.tealeaf_s

881.neutron_s: basepeak = yes

(Continued on next page)

Peak Optimization Flags (Continued)

C++ benchmarks:

803.sph_exa_s: basepeak = yes

857.namd_s: -m64 -std=c++17 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xsierraforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-pthread -fiopenmp -DSPEC_OPENMP
-L/usr/local/jemalloc-5.3.0/lib -ljemalloc

867.nest_s: basepeak = yes

872.marian_s: basepeak = yes

Fortran benchmarks:

800.pot3d_s: basepeak = yes

820.cloverleaf_s: -m64 -stand f18 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xsierraforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-nostandard-realloc-lhs -align array32byte -auto
-DSPEC_OPENMP -fiopenmp -L/usr/local/jemalloc-5.3.0/lib
-ljemalloc

822.palm_s: basepeak = yes

849.fotonik3d_s: basepeak = yes

865.roms_s: basepeak = yes

Benchmarks using both C and C++:

809.cactus_s: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.html
http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-Intel-GNR-rev1.5.html

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Tested by: HPE

Test Date: Oct-2026
Hardware Availability: Dec-2026
Software Availability: Apr-2026

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.xml
http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-Intel-GNR-rev1.5.xml

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