SPEC CPU®2026 Floating Point Speed Result

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Dell Inc.

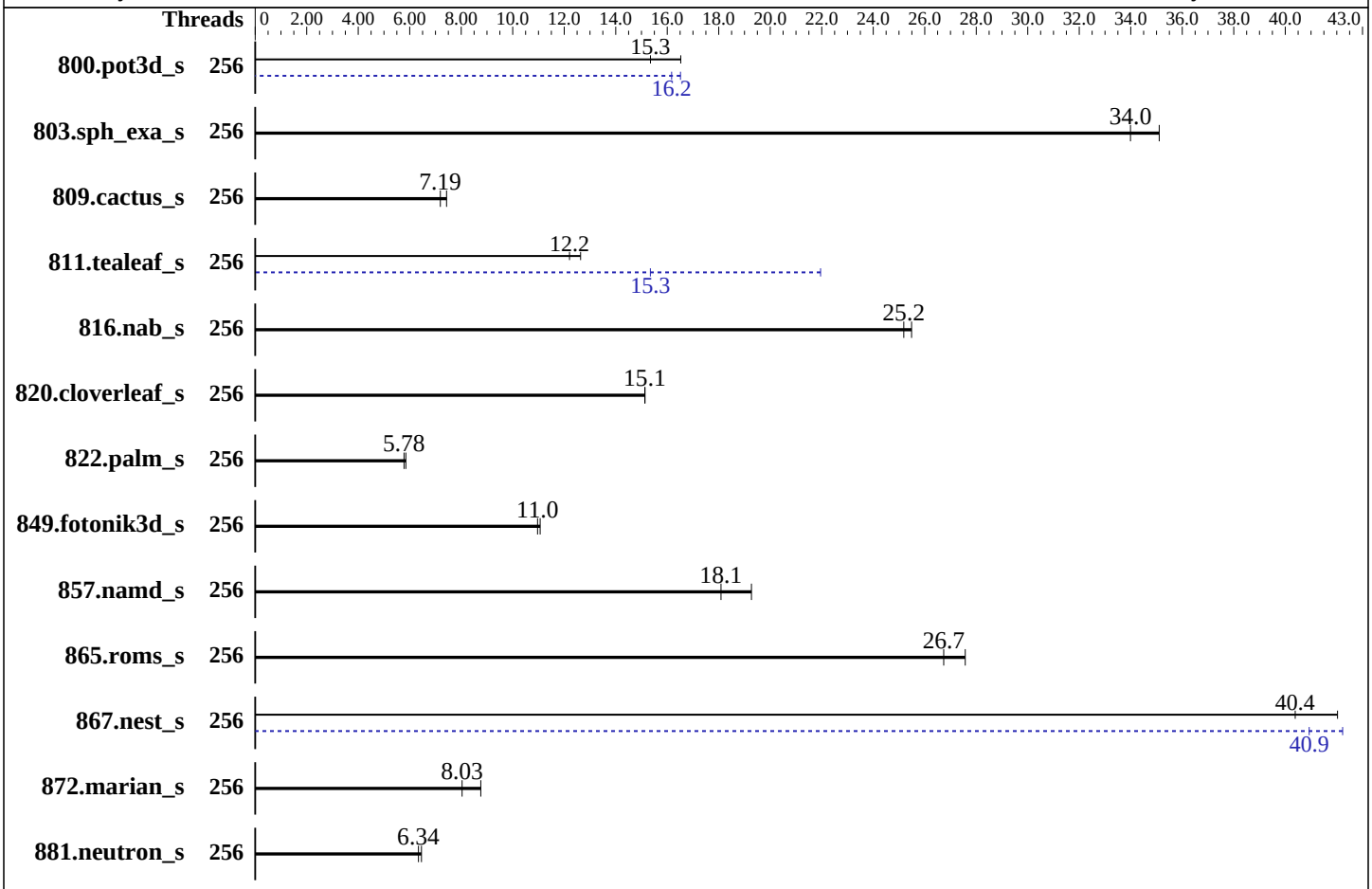
PowerEdge R770AP (Intel Xeon 6980P)

SPECspeed®2026_fp_base = 14.4

SPECspeed®2026_fp_peak = 14.7

CPU2026 License: 6573
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

Test Date: Feb-2026
Hardware Availability: Dec-2025
Software Availability: Nov-2025



Hardware

CPU Name:	Intel Xeon 6980P
Max MHz:	3900
Nominal:	2000
Enabled:	256 cores, 2 chips
Orderable:	1,2 chips
Cache L1:	64 KB I + 48 KB D on chip per core
L2:	2 MB I+D on chip per core
L3:	504 MB I+D on chip per chip
Other:	None
Memory:	1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)
Storage:	150 GB on tmpfs
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 16.0 6.12.0-160000.5-default
Compiler:	C/C++: Version 2025.3 of Intel oneAPI DPC++/C++ Compiler for Linux; Fortran: Version 2025.3 of Intel Fortran Compiler for Linux
Compiler Category:	Vendor
Firmware:	Version 1.1.6 released Nov-2025
File System:	tmpfs
System State:	Run level 5 (graphical 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.

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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
800.pot3d_s	256	40.7	16.5	**43.8**	**15.3**			256	40.8	16.5	**41.6**	**16.2**		
803.sph_exa_s	256	35.3	35.1	**36.4**	**34.0**			256	35.3	35.1	**36.4**	**34.0**		
809.cactus_s	256	151	7.43	**156**	**7.19**			256	151	7.43	**156**	**7.19**		
811.tealeaf_s	256	44.1	12.6	**45.6**	**12.2**			256	25.4	22.0	**36.3**	**15.3**		
816.nab_s	256	**44.7**	**25.2**	44.2	25.5			256	**44.7**	**25.2**	44.2	25.5		
820.cloverleaf_s	256	56.6	15.1	**56.6**	**15.1**			256	56.6	15.1	**56.6**	**15.1**		
822.palm_s	256	210	5.85	**212**	**5.78**			256	210	5.85	**212**	**5.78**		
849.fotonik3d_s	256	59.6	11.1	**60.2**	**11.0**			256	59.6	11.1	**60.2**	**11.0**		
857.namd_s	256	75.3	19.3	**80.3**	**18.1**			256	75.3	19.3	**80.3**	**18.1**		
865.roms_s	256	**40.8**	**26.7**	39.5	27.6			256	**40.8**	**26.7**	39.5	27.6		
867.nest_s	256	**53.5**	**40.4**	51.4	42.0			256	51.2	42.2	**52.8**	**40.9**		
872.marian_s	256	**135**	**8.03**	124	8.76			256	**135**	**8.03**	124	8.76		
881.neutron_s	256	126	6.46	**129**	**6.34**			256	126	6.46	**129**	**6.34**		

SPECspeed®2026_fp_base = **14.4**

SPECspeed®2026_fp_peak = **14.7**

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:
LD_LIBRARY_PATH = "/mnt/ramdisk/cpu2026-0.902.0-ic2025p3/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
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
Benchmark run from a 150 GB ramdisk created with the cmd: "mount -t tmpfs -o size=150G tmpfs /mnt/ramdisk"
```

Platform Notes

```
BIOS Settings:
         Logical Processor : Disabled
              LLC Prefetch : Enabled

            System Profile : Custom
      CPU Power Management : Maximum Performance
                       C1E : Disabled
                   C-States : Autonomous
    Latency Optimized Mode : Enabled
   Energy Efficient Policy : Performance
       DIMM Self Healing -
on Uncorrectable Memory Error : Disabled

Sysinfo program /mnt/ramdisk/cpu2026-0.902.0-ic2025p3/bin/sysinfo
Rev: 069f95da7e7f5d81b2ce48a82150e54f
running on R7702AP-R770AP Sun Feb  8 02:23:20 2026

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

------------------------------------------------------------
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------------------------------------------------------------
 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
   02:23:20 up  4:25,  1 user,  load average: 0.19, 0.05, 0.02
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root     tty1     -                22:00   24.00s  1.23s   ?    /bin/bash
  /home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=7.0_T04 --output_format html,pdf,txt

------------------------------------------------------------
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) 6185899
  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) 6185899
  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
 /bin/bash /home/DellFiles/bin/DELL_speed.sh
 /bin/bash /home/DellFiles/bin/dell-run-main.sh speed
 /bin/bash /home/DellFiles/bin/dell-run-main.sh speed
 /bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=7.0_T04 --output_format
   html,pdf,txt
 /bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=7.0_T04 --output_format
   html,pdf,txt
 runcpu --nobuild --reportable --action validate --define default-platform-flags -c
```

(Continued on next page)

Platform Notes (Continued)

```
   ic2025.3-graniterapids-cpu2026-0.902-speed-20260121.cfg --threads 256 --define cores=256 --tune base,peak
   -o all --define drop_caches --iterations 2 --define DL-VERS=7.0_T04 --output_format html,pdf,txt fpspeed
 runcpu --nobuild --reportable --action validate --define default-platform-flags --configfile
   ic2025.3-graniterapids-cpu2026-0.902-speed-20260121.cfg --threads 256 --define cores=256 --tune base,peak
   --output_format all --define drop_caches --iterations 2 --define DL-VERS=7.0_T04 --output_format
   html,pdf,txt --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 = /mnt/ramdisk/cpu2026-0.902.0-ic2025p3

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6980P
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 173
    stepping        : 1
    microcode       : 0x10003f3
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi spectre_v2_user
    cpu cores       : 128
    siblings        : 128
    2 physical ids (chips)
    256 processors (hardware threads)
    physical id 0: core ids 0-42,64-106,128-169
    physical id 1: core ids 0-42,64-106,128-169
    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
   ,74,76,78,80,82,84,128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,17
   0,172,174,176,178,180,182,184,186,188,190,192,194,196,198,200,202,204,206,208,210,212,256,258,260,262,264
   ,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
    physical id 1: apicids
   512,514,516,518,520,522,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,5
   64,566,568,570,572,574,576,578,580,582,584,586,588,590,592,594,596,640,642,644,646,648,650,652,654,656,65
   8,660,662,664,666,668,670,672,674,676,678,680,682,684,686,688,690,692,694,696,698,700,702,704,706,708,710
   ,712,714,716,718,720,722,724,768,770,772,774,776,778,780,782,784,786,788,790,792,794,796,798,800,802,804,
    806,808,810,812,814,816,818,820,822,824,826,828,830,832,834,836,838,840,842,844,846,848,850
  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
```

(Continued on next page)

Platform Notes (Continued)

```
  Byte Order:                      Little Endian
  CPU(s):                          256
  On-line CPU(s) list:             0-255
  Vendor ID:                       GenuineIntel
  Model name:                      Intel(R) Xeon(R) 6980P
  CPU family:                      6
  Model:                           173
  Thread(s) per core:              1
  Core(s) per socket:              128
  Socket(s):                       2
  Stepping:                        1
  BogoMIPS:                        4000.00
  Flags:                           fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
                                   pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx
                                   pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good
                                   nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni
                                   pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 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:                       12 MiB (256 instances)
  L1i cache:                       16 MiB (256 instances)
  L2 cache:                        512 MiB (256 instances)
  L3 cache:                        1008 MiB (2 instances)
  NUMA node(s):                    2
  NUMA node0 CPU(s):               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
                                   ,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,1
                                   26,128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158
                                   ,160,162,164,166,168,170,172,174,176,178,180,182,184,186,188,190,1
                                   92,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224
                                   ,226,228,230,232,234,236,238,240,242,244,246,248,250,252,254
  NUMA node1 CPU(s):               1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47
                                   ,49,51,53,55,57,59,61,63,65,67,69,71,73,75,77,79,81,83,85,87,89,91
```

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Platform Notes (Continued)

```
                                        ,93,95,97,99,101,103,105,107,109,111,113,115,117,119,121,123,125,1
                                        27,129,131,133,135,137,139,141,143,145,147,149,151,153,155,157,159
                                        ,161,163,165,167,169,171,173,175,177,179,181,183,185,187,189,191,1
                                        93,195,197,199,201,203,205,207,209,211,213,215,217,219,221,223,225
                                          ,227,229,231,233,235,237,239,241,243,245,247,249,251,253,255
   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;
                                            PBRSB-eIBRS Not affected; 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      12M   12 Data            1     64        1             64
      L1i       64K      16M   16 Instruction     1     64        1             64
      L2         2M     512M   16 Unified         2   2048        1             64
      L3       504M    1008M   16 Unified         3 516096        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:
  0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,7
  4,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,132,1
  34,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,184,186,
  188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224,226,228,230,232,234,236,238,240
   ,242,244,246,248,250,252,254
   node 0 size: 772720 MB
   node 0 free: 755622 MB
   node 1 cpus:
  1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59,61,63,65,67,69,71,73,7
  5,77,79,81,83,85,87,89,91,93,95,97,99,101,103,105,107,109,111,113,115,117,119,121,123,125,127,129,131,133,1
  35,137,139,141,143,145,147,149,151,153,155,157,159,161,163,165,167,169,171,173,175,177,179,181,183,185,187,
```

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Platform Notes (Continued)

```
  189,191,193,195,197,199,201,203,205,207,209,211,213,215,217,219,221,223,225,227,229,231,233,235,237,239,241
   ,243,245,247,249,251,253,255
   node 1 size: 773978 MB
   node 1 free: 758185 MB
   node distances:
   node     0    1
      0:   10   21
      1:   21   10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1583820428 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 nvmefc-boot-connections nvmf-autoconnect rollback rsyslog smartd
                   soft-reboot-cleanup 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 debug-shell dnsmasq gpm grub2-once hwloc-dump-hwdata 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 sshd
                   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=5b29d236-615c-4a3f-a6f0-3da4c3dd18d0
  mitigations=auto
  quiet
  security=selinux
  selinux=1
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
13. cpupower frequency-info
  analyzing CPU 73:
    Unable to determine current policy
    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
  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
```

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Platform Notes (Continued)

```
 ------------------------------------------------------------
 17. OS release
   From /etc/*-release /etc/*-version
   os-release SUSE Linux Enterprise Server 16.0

 ------------------------------------------------------------
 18. Disk information
 SPEC is set to: /mnt/ramdisk/cpu2026-0.902.0-ic2025p3
   Filesystem     Type   Size  Used Avail Use% Mounted on
   tmpfs          tmpfs  150G   13G  138G   9% /mnt/ramdisk

 ------------------------------------------------------------
 19. /sys/devices/virtual/dmi/id
     Vendor:         Dell Inc.
     Product:        PowerEdge R770AP
     Product Family: PowerEdge
     Serial:         R7702AP

 ------------------------------------------------------------
 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:
      1x 00AD042300AD HMCG94AHBRA480N 64 GB 2 rank 6400
      23x 00AD063200AD HMCG94AHBRA277N 64 GB 2 rank 6400


 ------------------------------------------------------------
 21. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       Dell Inc.
    BIOS Version:      1.1.6
    BIOS Date:         11/06/2025
    BIOS Revision:     1.1
```

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 2025.3.0 Build 20251010
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```

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Compiler Version Notes (Continued)

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

==============================================================================
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 2025.3.0 Build 20251010
Copyright (C) 1985-2025 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 2025.3.0 Build 20251010
Copyright (C) 1985-2025 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
  2025.3.0 Build 20251010
Copyright (C) 1985-2025 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 Portability Flags

800.pot3d_s: -DSPEC_LP64
803.sph_exa_s: -DSPEC_LP64
809.cactus_s: -DSPEC_LP64
811.tealeaf_s: -DSPEC_LP64
816.nab_s: -DSPEC_LP64
820.cloverleaf_s: -DSPEC_LP64
822.palm_s: -DSPEC_LP64
849.fotonik3d_s: -DSPEC_LP64
857.namd_s: -DSPEC_LP64
865.roms_s: -DSPEC_LP64
867.nest_s: -DSPEC_LP64
872.marian_s: -DSPEC_LP64
881.neutron_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-m64 -std=c18 -Wl,-z,muldefs -xgraniterapids
-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:

803.sph_exa_s: -m64 -std=c++17 -Wl,-z,muldefs -xgraniterapids
-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

857.namd_s: Same as 803.sph_exa_s

867.nest_s: Same as 803.sph_exa_s

872.marian_s: -m64 -std=c++17 -Wl,-z,muldefs -xgraniterapids
-mprefer-vector-width=512 -O3 -ffp-model=fast -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-pthread -L/usr/local/jemalloc-5.3.0/lib -ljemalloc

Fortran benchmarks:
-m64 -stand f18 -Wl,-z,muldefs -xgraniterapids
-mprefer-vector-width=512 -O3 -ffp-model=fast -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -DSPEC_OPENMP -fiopenmp
-nostandard-realloc-lhs -align array32byte -auto

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Base Optimization Flags (Continued)

Fortran benchmarks (continued):
`-L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

Benchmarks using both C and C++:
`-m64 -std=c++17 -std=c18 -Wl,-z,muldefs -xgraniterapids -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`

Peak Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Benchmarks using both C and C++:
`icpx icx`

Peak Portability Flags

`Same as Base Portability Flags`

Peak Optimization Flags

C benchmarks:

811.tealeaf_s: `-m64 -std=c18 -Wl,-z,muldefs -fiopenmp -DSPEC_OPENMP -L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

816.nab_s: `basepeak = yes`

881.neutron_s: `basepeak = yes`

C++ benchmarks:

(Continued on next page)

Peak Optimization Flags (Continued)

803.sph_exa_s: `basepeak = yes`

857.namd_s: `basepeak = yes`

867.nest_s: `-m64 -std=c++17 -Wl,-z,muldefs -fiopenmp -DSPEC_OPENMP -L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

872.marian_s: `basepeak = yes`

Fortran benchmarks:

800.pot3d_s: `-m64 -stand f18 -Wl,-z,muldefs -DSPEC_OPENMP -fiopenmp -nostandard-realloc-lhs -align array32byte -auto -L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

820.cloverleaf_s: `basepeak = yes`

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-ic2025-official-linux64-cpu2026-0.902.html
http://www.spec.org/cpu2026/results/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.19.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64-cpu2026-0.902.xml
http://www.spec.org/cpu2026/results/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.19.xml

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

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