SPEC CPU®2017 Integer Rate Result

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Dell Inc.

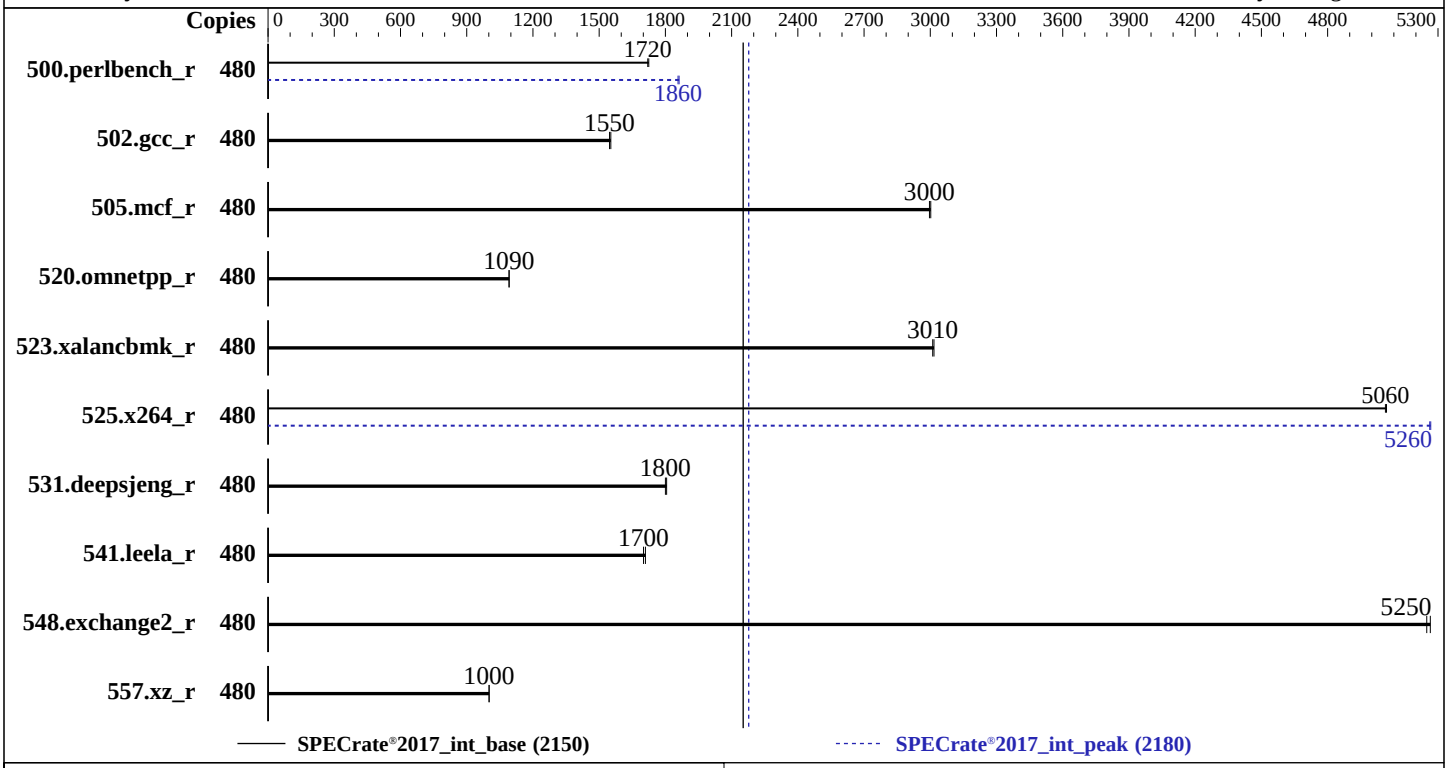
PowerEdge R770AP (Intel Xeon 6978P)

SPECrate®2017_int_base = 2150

SPECrate®2017_int_peak = 2180

CPU2017 License: 6573
Test Sponsor: Dell Inc.
Tested by: Dell Inc.

Test Date: Nov-2025
Hardware Availability: Nov-2025
Software Availability: Aug-2025



Hardware

CPU Name:	Intel Xeon 6978P
Max MHz:	3900
Nominal:	2100
Enabled:	240 cores, 2 chips, 2 threads/core
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:	230 GB on tmpfs
Other:	CPU Cooling: Air

Software

OS:	SUSE Linux Enterprise Server 16.0 6.12.0-160000.20-default
Compiler:	C/C++: Version 2025.2 of Intel oneAPI DPC++/C++ Compiler for Linux; Fortran: Version 2025.2 of Intel Fortran Compiler for Linux;
Parallel:	No
Firmware:	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:	None
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
500.perlbench_r	480	443	1720	**444**	**1720**			480	410	1860	**411**	**1860**		
502.gcc_r	480	**439**	**1550**	438	1550			480	**439**	**1550**	438	1550		
505.mcf_r	480	**259**	**3000**	258	3000			480	**259**	**3000**	258	3000		
520.omnetpp_r	480	577	1090	**577**	**1090**			480	577	1090	**577**	**1090**		
523.xalancbmk_r	480	**168**	**3010**	168	3020			480	**168**	**3010**	168	3020		
525.x264_r	480	**166**	**5060**	166	5070			480	160	5270	**160**	**5260**		
531.deepsjeng_r	480	**306**	**1800**	305	1810			480	**306**	**1800**	305	1810		
541.leela_r	480	465	1710	**467**	**1700**			480	465	1710	**467**	**1700**		
548.exchange2_r	480	239	5270	**240**	**5250**			480	239	5270	**240**	**5250**		
557.xz_r	480	**518**	**1000**	518	1000			480	**518**	**1000**	518	1000		

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

Submit Notes

```
The numactl mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate numactl commands to bind each copy to a specific processor.
For details, please see the config file.
```

Operating System Notes

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

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
     "/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/lib/ia32:/mnt/ram
     disk/cpu2017-1.1.9-ic2025.2/je5.0.1-32"
MALLOC_CONF = "retain:true"
```

General Notes

```
Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
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
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>

Benchmark run from a 230 GB ramdisk created with the cmd: "mount -t tmpfs -o size=230G tmpfs /mnt/ramdisk"
```

Platform Notes

```
BIOS Settings:
        Sub NUMA Cluster : Enabled
 SST-Performance Profile : Operating Point 2 | P1: 2.5 GHz, TDP:500w, Core Count:120

          System Profile : Custom
    CPU Power Management : Maximum Performance
                C-States : Autonomous
  Latency Optimized Mode : Enabled
 Energy Efficient Policy : Performance

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-ic2025.2/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on NDN1035-R770AP Fri Nov 21 05:11:01 2025

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

------------------------------------------------------------
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 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
------------------------------------------------------------

------------------------------------------------------------
1. uname -a
  Linux NDN1035-R770AP 6.12.0-160000.20-default #1 SMP PREEMPT_DYNAMIC Mon Jul 21 10:20:07 UTC 2025 (b00eabe)
  x86_64 x86_64 x86_64 GNU/Linux

------------------------------------------------------------
2. w
   05:11:01 up  1:05,  1 user,  load average: 0.38, 0.15, 0.12
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root     tty1     -                04:06    2.00s  0.99s  0.01s /bin/bash
  /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=6.4_T17 --output_format html,pdf,txt

------------------------------------------------------------
3. Username
  From environment variable $USER:  root

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

(Continued on next page)

Platform Notes (Continued)

```
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) 6189327
  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) 6189327
  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_rate.sh
 /bin/bash /home/DellFiles/bin/dell-run-main.sh rate
 /bin/bash /home/DellFiles/bin/dell-run-main.sh rate
 /bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=6.4_T17 --output_format
   html,pdf,txt
 /bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=6.4_T17 --output_format
   html,pdf,txt
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=480 -c
   ic2025.2-linux64-graniterapids-rate-20250605.cfg --define smt-on --define cores=240 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base,peak -o all --iterations 2 --define
   DL-VERS=6.4_T17 --output_format html,pdf,txt intrate
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=480 --configfile
   ic2025.2-linux64-graniterapids-rate-20250605.cfg --define smt-on --define cores=240 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --iterations 2
   --define DL-VERS=6.4_T17 --output_format html,pdf,txt --nopower --runmode rate --tune base:peak --size
   refrate intrate --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.001/templogs/preenv.intrate.001.0.log
   --lognum 001.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2017-1.1.9-ic2025.2

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6978P
    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       : 120
    siblings        : 240
    2 physical ids (chips)
    480 processors (hardware threads)
    physical id 0: core ids 0-39,64-103,128-167
    physical id 1: core ids 0-39,64-103,128-167
    physical id 0: apicids 0-79,128-207,256-335
```

(Continued on next page)

Platform Notes (Continued)

```
    physical id 1: apicids 512-591,640-719,768-847
  Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
  virtualized systems.  Use the above data carefully.

------------------------------------------------------------
7. lscpu

From lscpu from util-linux 2.41.1:
  Architecture:                         x86_64
  CPU op-mode(s):                       32-bit, 64-bit
  Address sizes:                        52 bits physical, 57 bits virtual
  Byte Order:                           Little Endian
  CPU(s):                               480
  On-line CPU(s) list:                  0-479
  Vendor ID:                            GenuineIntel
  Model name:                           Intel(R) Xeon(R) 6978P
  CPU family:                           6
  Model:                                173
  Thread(s) per core:                   2
  Core(s) per socket:                   120
  Socket(s):                            2
  Stepping:                             1
  BogoMIPS:                             5000.00
  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 hfi 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:                            11.3 MiB (240 instances)
  L1i cache:                            15 MiB (240 instances)
  L2 cache:                             480 MiB (240 instances)
  L3 cache:                             1008 MiB (2 instances)
  NUMA node(s):                         6
  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
                                        ,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,240,242,244,246,2
                                        48,250,252,254,256,258,260,262,264,266,268,270,272,274,276,278,280
                                        ,282,284,286,288,290,292,294,296,298,300,302,304,306,308,310,312,3
                                        14,316,318
  NUMA node1 CPU(s):                    80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,
                                        118,120,122,124,126,128,130,132,134,136,138,140,142,144,146,148,15
                                        0,152,154,156,158,320,322,324,326,328,330,332,334,336,338,340,342,
                                        344,346,348,350,352,354,356,358,360,362,364,366,368,370,372,374,37
                                        6,378,380,382,384,386,388,390,392,394,396,398
  NUMA node2 CPU(s):                    160,162,164,166,168,170,172,174,176,178,180,182,184,186,188,190,19
```

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Platform Notes (Continued)

```
                                   2,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222,224,
                                   226,228,230,232,234,236,238,400,402,404,406,408,410,412,414,416,41
                                   8,420,422,424,426,428,430,432,434,436,438,440,442,444,446,448,450,
                                   452,454,456,458,460,462,464,466,468,470,472,474,476,478
  NUMA node3 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
                                   ,49,51,53,55,57,59,61,63,65,67,69,71,73,75,77,79,241,243,245,247,2
                                   49,251,253,255,257,259,261,263,265,267,269,271,273,275,277,279,281
                                   ,283,285,287,289,291,293,295,297,299,301,303,305,307,309,311,313,3
                                   15,317,319
  NUMA node4 CPU(s):               81,83,85,87,89,91,93,95,97,99,101,103,105,107,109,111,113,115,117,
                                   119,121,123,125,127,129,131,133,135,137,139,141,143,145,147,149,15
                                   1,153,155,157,159,321,323,325,327,329,331,333,335,337,339,341,343,
                                   345,347,349,351,353,355,357,359,361,363,365,367,369,371,373,375,37
                                   7,379,381,383,385,387,389,391,393,395,397,399
  NUMA node5 CPU(s):               161,163,165,167,169,171,173,175,177,179,181,183,185,187,189,191,19
                                   3,195,197,199,201,203,205,207,209,211,213,215,217,219,221,223,225,
                                   227,229,231,233,235,237,239,401,403,405,407,409,411,413,415,417,41
                                   9,421,423,425,427,429,431,433,435,437,439,441,443,445,447,449,451,
                                   453,455,457,459,461,463,465,467,469,471,473,475,477,479
  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    11.3M   12 Data            1     64        1             64
     L1i       64K      15M   16 Instruction     1     64        1             64
     L2         2M     480M   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: 6 nodes (0-5)
  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
  4,76,78,240,242,244,246,248,250,252,254,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286,288
  ,290,292,294,296,298,300,302,304,306,308,310,312,314,316,318
  node 0 size: 257586 MB
  node 0 free: 244084 MB
  node 1 cpus:
  80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,132,134,136,1
  38,140,142,144,146,148,150,152,154,156,158,320,322,324,326,328,330,332,334,336,338,340,342,344,346,348,350,
  352,354,356,358,360,362,364,366,368,370,372,374,376,378,380,382,384,386,388,390,392,394,396,398
  node 1 size: 258018 MB
```

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Platform Notes (Continued)

```
   node 1 free: 257640 MB
   node 2 cpus:
   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
   ,214,216,218,220,222,224,226,228,230,232,234,236,238,400,402,404,406,408,410,412,414,416,418,420,422,424,42
   6,428,430,432,434,436,438,440,442,444,446,448,450,452,454,456,458,460,462,464,466,468,470,472,474,476,478
   node 2 size: 257977 MB
   node 2 free: 257583 MB
   node 3 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
   5,77,79,241,243,245,247,249,251,253,255,257,259,261,263,265,267,269,271,273,275,277,279,281,283,285,287,289
   ,291,293,295,297,299,301,303,305,307,309,311,313,315,317,319
   node 3 size: 258018 MB
   node 3 free: 257656 MB
   node 4 cpus:
   81,83,85,87,89,91,93,95,97,99,101,103,105,107,109,111,113,115,117,119,121,123,125,127,129,131,133,135,137,1
   39,141,143,145,147,149,151,153,155,157,159,321,323,325,327,329,331,333,335,337,339,341,343,345,347,349,351,
   353,355,357,359,361,363,365,367,369,371,373,375,377,379,381,383,385,387,389,391,393,395,397,399
   node 4 size: 258018 MB
   node 4 free: 257647 MB
   node 5 cpus:
   161,163,165,167,169,171,173,175,177,179,181,183,185,187,189,191,193,195,197,199,201,203,205,207,209,211,213
   ,215,217,219,221,223,225,227,229,231,233,235,237,239,401,403,405,407,409,411,413,415,417,419,421,423,425,42
   7,429,431,433,435,437,439,441,443,445,447,449,451,453,455,457,459,461,463,465,467,469,471,473,475,477,479
   node 5 size: 257939 MB
   node 5 free: 257578 MB
   node distances:
   node     0    1    2    3    4    5
      0:   10   15   17   21   28   26
      1:   15   10   15   23   26   23
      2:   17   15   10   26   23   21
      3:   21   28   26   10   15   17
      4:   23   26   23   15   10   15
      5:   26   23   21   17   15   10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1584700828 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-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
```

(Continued on next page)

Platform Notes (Continued)

```
                  wpa_supplicant@
  indirect        systemd-userdbd

------------------------------------------------------------
12. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.12.0-160000.20-default
  root=UUID=e849977e-7169-4917-b3d0-cfe8c813bf4d
  mitigations=auto
  quiet
  security=selinux
  selinux=1

------------------------------------------------------------
13. cpupower frequency-info
  analyzing CPU 0:
    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

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

(Continued on next page)

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/cpu2017-1.1.9-ic2025.2
   Filesystem     Type   Size  Used Avail Use% Mounted on
   tmpfs          tmpfs  230G  5.8G  225G   3% /mnt/ramdisk

 ------------------------------------------------------------
 19. /sys/devices/virtual/dmi/id
     Vendor:         Dell Inc.
     Product:        PowerEdge R770AP
     Product Family: PowerEdge
     Serial:         NDN1035

 ------------------------------------------------------------
 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:
     13x 002C069D002C MTC40F2046S1RC64BD1 USFF 64 GB 2 rank 6400
     11x 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       | 500.perlbench_r(base, peak) 502.gcc_r(base, peak) 505.mcf_r(base, peak) 525.x264_r(base, peak)
        | 557.xz_r(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
--------------------------------------------------------------------------------------------------------------

==============================================================================================================
C++     | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak) 531.deepsjeng_r(base, peak)
        | 541.leela_r(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
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--------------------------------------------------------------------------------------------------------------

==============================================================================================================
Fortran | 548.exchange2_r(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
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```

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Compiler Version Notes (Continued)

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Base Portability Flags

500.perlbench_r: -DSPEC_LP64 -DSPEC_LINUX_X64
502.gcc_r: -DSPEC_LP64
505.mcf_r: -DSPEC_LP64
520.omnetpp_r: -DSPEC_LP64
523.xalancbmk_r: -DSPEC_LP64 -DSPEC_LINUX
525.x264_r: -DSPEC_LP64
531.deepsjeng_r: -DSPEC_LP64
541.leela_r: -DSPEC_LP64
548.exchange2_r: -DSPEC_LP64
557.xz_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-w -std=c11 -m64 -Wl,-z,muldefs -xgraniterapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/home/specdev/intel-compilers/compiler/2025.2/lib -lqkmalloc

C++ benchmarks:
-w -std=c++14 -m64 -Wl,-z,muldefs -xgraniterapids -O3 -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-fdelayed-template-parsing
-L/home/specdev/intel-compilers/compiler/2025.2/lib -lqkmalloc

Fortran benchmarks:
-w -m64 -Wl,-z,muldefs -xgraniterapids -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

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Base Optimization Flags (Continued)

Fortran benchmarks (continued):
-nostandard-realloc-lhs -align array32byte -auto
-L/home/specdev/intel-compilers/compiler/2025.2/lib -lqkmalloc

Peak Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

500.perlbench_r: -w -std=c11 -m64 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-fno-strict-overflow -fno-strict-aliasing
-L/home/specdev/intel-compilers/compiler/2025.2/lib
-lqkmalloc

502.gcc_r: basepeak = yes

505.mcf_r: basepeak = yes

525.x264_r: -w -std=c11 -m64 -Wl,-z,muldefs -xgraniterapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-alias
-L/home/specdev/intel-compilers/compiler/2025.2/lib

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Peak Optimization Flags (Continued)

525.x264_r (continued):
-lqkmalloc

557.xz_r: basepeak = yes

C++ benchmarks:

520.omnetpp_r: basepeak = yes

523.xalancbmk_r: basepeak = yes

531.deepsjeng_r: basepeak = yes

541.leela_r: basepeak = yes

Fortran benchmarks:

548.exchange2_r: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.html
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.18b2.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.xml
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.18b2.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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