SPEC CPU®2017 Integer Rate Result

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Dell Inc.

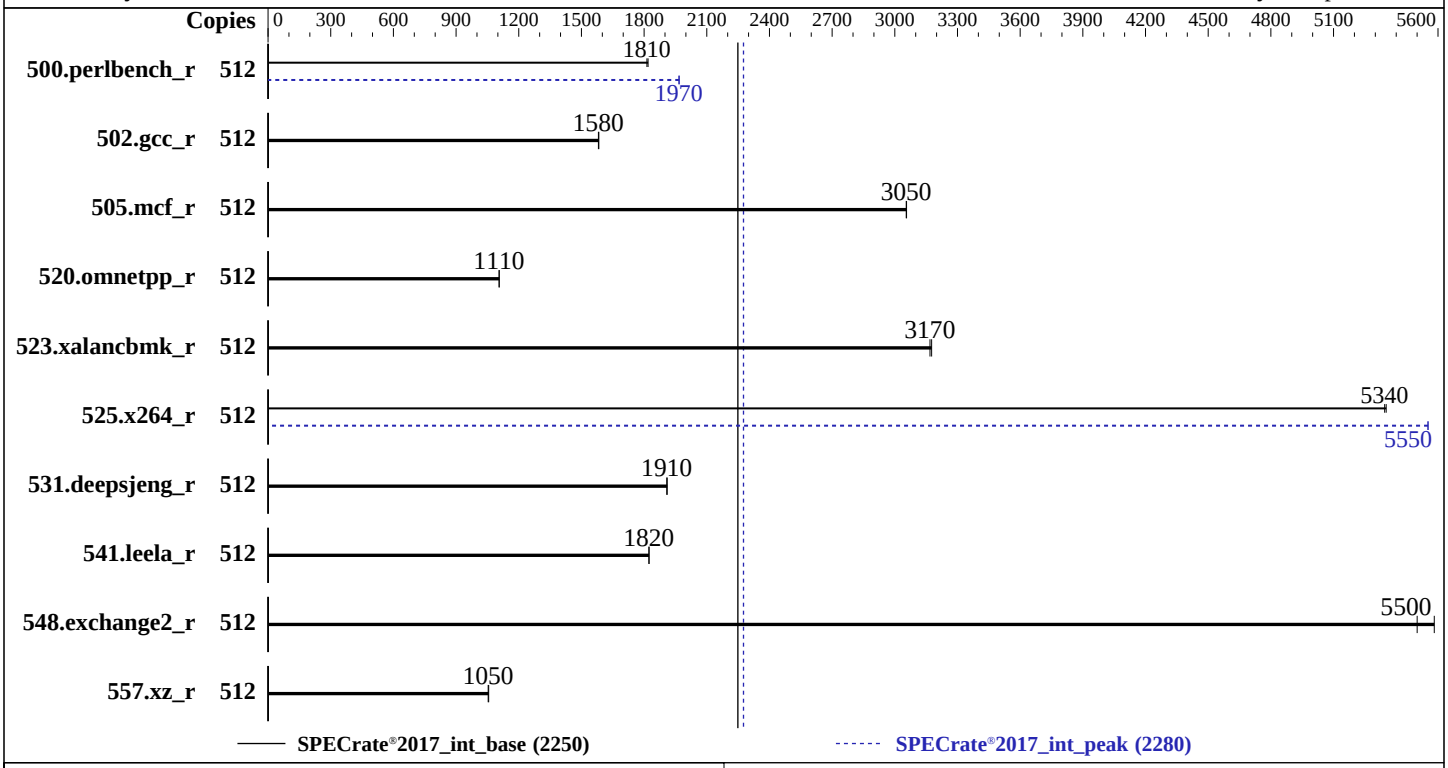
PowerEdge R770AP (Intel Xeon 6980P)

SPECrate®2017_int_base = 2250

SPECrate®2017_int_peak = 2280

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

Test Date: Oct-2025
Hardware Availability: Dec-2025
Software Availability: Sep-2025



Hardware

CPU Name:	Intel Xeon 6980P
Max MHz:	3900
Nominal:	2000
Enabled:	256 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:	240 GB on tmpfs
Other:	CPU Cooling: Air

Software

OS:	SUSE Linux Enterprise Server 16.0 6.12.0-160000.5-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 1.1.5 released Oct-2025
File System:	tmpfs
System State:	Run level 3 (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	512	448	1820	**449**	**1810**			512	**415**	**1970**	414	1970		
502.gcc_r	512	**458**	**1580**	458	1580			512	**458**	**1580**	458	1580		
505.mcf_r	512	**271**	**3050**	271	3060			512	**271**	**3050**	271	3060		
520.omnetpp_r	512	**607**	**1110**	607	1110			512	**607**	**1110**	607	1110		
523.xalancbmk_r	512	170	3180	**171**	**3170**			512	170	3180	**171**	**3170**		
525.x264_r	512	**168**	**5340**	168	5350			512	161	5550	**161**	**5550**		
531.deepsjeng_r	512	307	1910	**307**	**1910**			512	307	1910	**307**	**1910**		
541.leela_r	512	465	1820	**465**	**1820**			512	465	1820	**465**	**1820**		
548.exchange2_r	512	240	5580	**244**	**5500**			512	240	5580	**244**	**5500**		
557.xz_r	512	**525**	**1050**	524	1060			512	**525**	**1050**	524	1060		

SPECrate®2017_int_base = 2250

SPECrate®2017_int_peak = 2280

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 240 GB ramdisk created with the cmd: "mount -t tmpfs -o size=240G tmpfs /mnt/ramdisk"
```

Platform Notes

```
BIOS Settings:
          Sub NUMA Cluster : Enabled

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

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-ic2025.2/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on R7702AP-R770AP Thu Oct 30 16:44:46 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 R7702AP-R770AP 6.12.0-160000.5-default #1 SMP PREEMPT_DYNAMIC Wed Sep 10 15:26:25 UTC 2025 (3545bbd)
  x86_64 x86_64 x86_64 GNU/Linux

------------------------------------------------------------
2. w
   16:44:46 up 20 min,  2 users,  load average: 0.25, 0.12, 0.28
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root     tty1     -                16:44   28.00s  1.01s   ?    /bin/bash
  /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-VERS=6.4_T17 --output_format html,pdf,txt
  root     tty2     -                16:44   42.00s  0.01s  0.01s -bash

------------------------------------------------------------
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) 6188992
  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) 6188992
  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=512 -c
   ic2025.2-linux64-graniterapids-rate-20250605.cfg --define smt-on --define cores=256 --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=512 --configfile
   ic2025.2-linux64-graniterapids-rate-20250605.cfg --define smt-on --define cores=256 --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) 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        : 256
    2 physical ids (chips)
    512 processors (hardware threads)
    physical id 0: core ids 0-42,64-106,128-169
```

(Continued on next page)

Platform Notes (Continued)

```
    physical id 1: core ids 0-42,64-106,128-169
    physical id 0: apicids 0-85,128-213,256-339
    physical id 1: apicids 512-597,640-725,768-851
  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):                               512
  On-line CPU(s) list:                  0-511
  Vendor ID:                            GenuineIntel
  Model name:                           Intel(R) Xeon(R) 6980P
  CPU family:                           6
  Model:                                173
  Thread(s) per core:                   2
  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):                         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
                                        ,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,256,258,
                                        260,262,264,266,268,270,272,274,276,278,280,282,284,286,288,290,29
                                        2,294,296,298,300,302,304,306,308,310,312,314,316,318,320,322,324,
                                        326,328,330,332,334,336,338,340
  NUMA node1 CPU(s):                    86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,1
                                        22,124,126,128,130,132,134,136,138,140,142,144,146,148,150,152,154
                                        ,156,158,160,162,164,166,168,170,342,344,346,348,350,352,354,356,3
                                        58,360,362,364,366,368,370,372,374,376,378,380,382,384,386,388,390
```

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Platform Notes (Continued)

```
                                        ,392,394,396,398,400,402,404,406,408,410,412,414,416,418,420,422,4
                                        24,426
   NUMA node2 CPU(s):                   172,174,176,178,180,182,184,186,188,190,192,194,196,198,200,202,20
                                        4,206,208,210,212,214,216,218,220,222,224,226,228,230,232,234,236,
                                        238,240,242,244,246,248,250,252,254,428,430,432,434,436,438,440,44
                                        2,444,446,448,450,452,454,456,458,460,462,464,466,468,470,472,474,
                                        476,478,480,482,484,486,488,490,492,494,496,498,500,502,504,506,50
                                        8,510
   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
                                        ,49,51,53,55,57,59,61,63,65,67,69,71,73,75,77,79,81,83,85,257,259,
                                        261,263,265,267,269,271,273,275,277,279,281,283,285,287,289,291,29
                                        3,295,297,299,301,303,305,307,309,311,313,315,317,319,321,323,325,
                                        327,329,331,333,335,337,339,341
   NUMA node4 CPU(s):                   87,89,91,93,95,97,99,101,103,105,107,109,111,113,115,117,119,121,1
                                        23,125,127,129,131,133,135,137,139,141,143,145,147,149,151,153,155
                                        ,157,159,161,163,165,167,169,171,343,345,347,349,351,353,355,357,3
                                        59,361,363,365,367,369,371,373,375,377,379,381,383,385,387,389,391
                                        ,393,395,397,399,401,403,405,407,409,411,413,415,417,419,421,423,4
                                        25,427
   NUMA node5 CPU(s):                   173,175,177,179,181,183,185,187,189,191,193,195,197,199,201,203,20
                                        5,207,209,211,213,215,217,219,221,223,225,227,229,231,233,235,237,
                                        239,241,243,245,247,249,251,253,255,429,431,433,435,437,439,441,44
                                        3,445,447,449,451,453,455,457,459,461,463,465,467,469,471,473,475,
                                        477,479,481,483,485,487,489,491,493,495,497,499,501,503,505,507,50
                                        9,511
   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: 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
   4,76,78,80,82,84,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286,288,290,292,294,296,298,30
   0,302,304,306,308,310,312,314,316,318,320,322,324,326,328,330,332,334,336,338,340
   node 0 size: 257543 MB
```

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Platform Notes (Continued)

```
  node 0 free: 243911 MB
  node 1 cpus:
  86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,132,134,136,138,140,14
  2,144,146,148,150,152,154,156,158,160,162,164,166,168,170,342,344,346,348,350,352,354,356,358,360,362,364,3
  66,368,370,372,374,376,378,380,382,384,386,388,390,392,394,396,398,400,402,404,406,408,410,412,414,416,418,
  420,422,424,426
  node 1 size: 258016 MB
  node 1 free: 257650 MB
  node 2 cpus:
  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
  ,226,228,230,232,234,236,238,240,242,244,246,248,250,252,254,428,430,432,434,436,438,440,442,444,446,448,45
  0,452,454,456,458,460,462,464,466,468,470,472,474,476,478,480,482,484,486,488,490,492,494,496,498,500,502,5
  04,506,508,510
  node 2 size: 258017 MB
  node 2 free: 257662 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
  5,77,79,81,83,85,257,259,261,263,265,267,269,271,273,275,277,279,281,283,285,287,289,291,293,295,297,299,30
  1,303,305,307,309,311,313,315,317,319,321,323,325,327,329,331,333,335,337,339,341
  node 3 size: 258016 MB
  node 3 free: 257670 MB
  node 4 cpus:
  87,89,91,93,95,97,99,101,103,105,107,109,111,113,115,117,119,121,123,125,127,129,131,133,135,137,139,141,14
  3,145,147,149,151,153,155,157,159,161,163,165,167,169,171,343,345,347,349,351,353,355,357,359,361,363,365,3
  67,369,371,373,375,377,379,381,383,385,387,389,391,393,395,397,399,401,403,405,407,409,411,413,415,417,419,
  421,423,425,427
  node 4 size: 258016 MB
  node 4 free: 257657 MB
  node 5 cpus:
  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
  ,227,229,231,233,235,237,239,241,243,245,247,249,251,253,255,429,431,433,435,437,439,441,443,445,447,449,45
  1,453,455,457,459,461,463,465,467,469,471,473,475,477,479,481,483,485,487,489,491,493,495,497,499,501,503,5
  05,507,509,511
  node 5 size: 257866 MB
  node 5 free: 257534 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:       1584615024 kB

'who -r' did not return a run level

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

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Platform Notes (Continued)

```
                  lvm2-monitor nvmefc-boot-connections nvmf-autoconnect rollback rsyslog smartd
                  soft-reboot-cleanup sshd 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
                  kea-ctrl-agent kea-dhcp-ddns kea-dhcp4 kea-dhcp6 kernel-sysctl kexec-load lastlog2-import
                  lunmask lvm-devices-import man-db-create multipathd named 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=38d2445f-8102-410c-a807-c44ce3225f10
  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

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

(Continued on next page)

Platform Notes (Continued)

```
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: /mnt/ramdisk/cpu2017-1.1.9-ic2025.2
  Filesystem     Type   Size  Used Avail Use% Mounted on
  tmpfs          tmpfs  240G  5.8G  235G   3% /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:
    24x 002C069D002C MTC40F2046S1RC64BD2 QSFF 64 GB 2 rank 6400


------------------------------------------------------------
21. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       Dell Inc.
   BIOS Version:      1.1.5
   BIOS Date:         10/22/2025
   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)
--------------------------------------------------------------------------------------------------------------
```

(Continued on next page)

Compiler Version Notes (Continued)

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

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

(Continued on next page)

Base Optimization Flags (Continued)

C++ benchmarks (continued):
-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
-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

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Peak Optimization Flags (Continued)

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 -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-v1.18.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-v1.18.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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