SPEC CPU®2017 Integer Rate Result

Dell Inc.

PowerEdge R760 (Intel Xeon Platinum 8562Y+)

$SPECrate^{®}2017\_int\_base = 349$

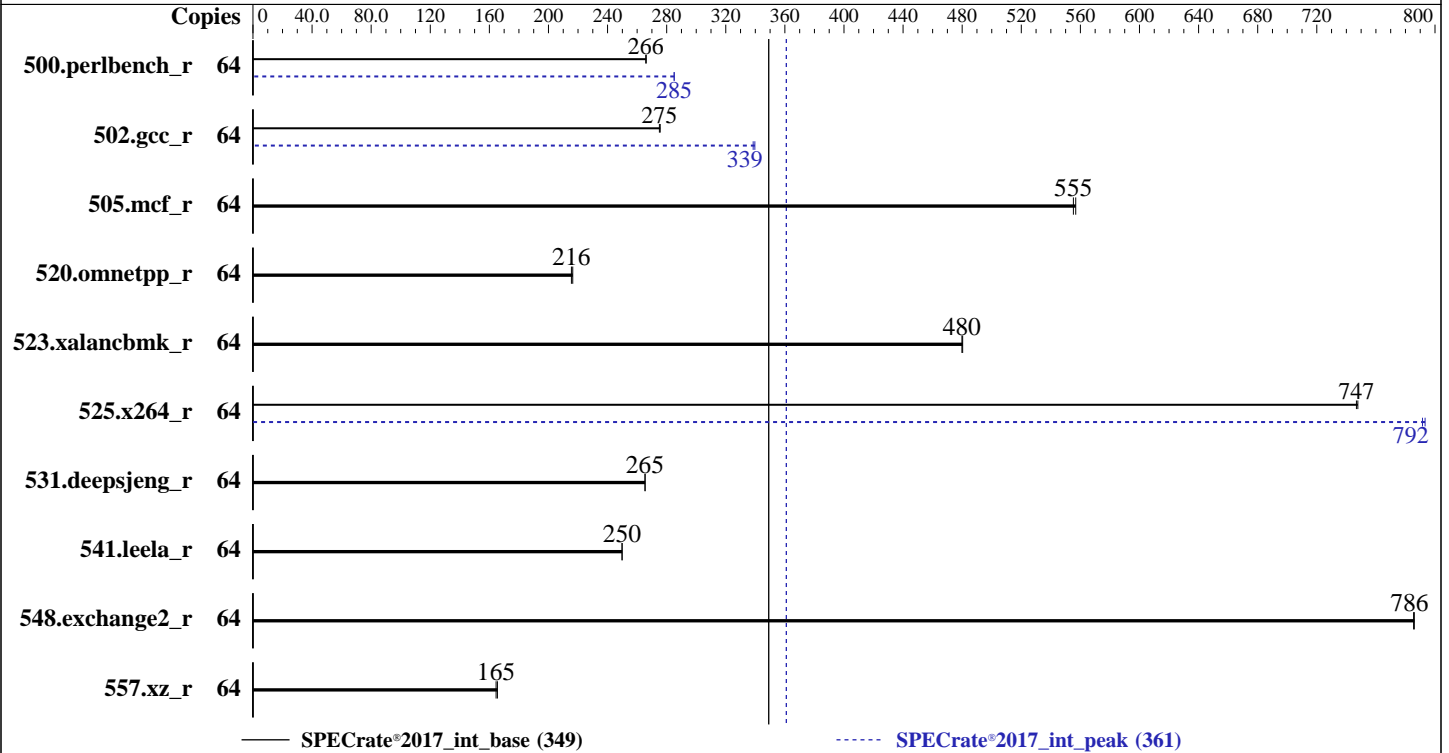$SPECrate^{®}2017\_int\_peak = 361$

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

Test Date: Sep-2024
Hardware Availability: Feb-2024
Software Availability: Mar-2024

Benchmark	Copies	Base	Peak
500.perlbench_r	64	266	285
502.gcc_r	64	275	339
505.mcf_r	64	555	
520.omnetpp_r	64	216	
523.xalancbmk_r	64	480	
525.x264_r	64	747	792
531.deepsjeng_r	64	265	
541.leela_r	64	250	
548.exchange2_r	64	786	
557.xz_r	64	165	

— SPECrate®2017_int_base (349)   ----- SPECrate®2017_int_peak (361)

Hardware

CPU Name: Intel Xeon Platinum 8562Y+
 Max MHz: 4100
 Nominal: 2800
Enabled: 32 cores, 1 chip, 2 threads/core
Orderable: 1 chip
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 60 MB I+D on chip per chip
 Other: None
Memory: 512 GB (8 x 64 GB 2Rx4 PC5-5600B-R)
Storage: 60 GB on tmpfs
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP5
  5.14.21-150500.53-default
Compiler: C/C++: Version 2024.1 of Intel oneAPI DPC++/C++
  Compiler for Linux;
  Fortran: Version 2024.1 of Intel Fortran Compiler
  for Linux;
Parallel: No
Firmware: Version 2.3.4 released Jul-2024
File System: tmpfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS and OS set to prefer performance at the cost
  of additional power usage.

Standard Performance Evaluation Corporation (info@spec.org)
https://www.spec.org/

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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	64	383	266	**383**	**266**			64	357	285	**357**	**285**		
502.gcc_r	64	329	276	**329**	**275**			64	267	340	**268**	**339**		
505.mcf_r	64	186	557	**186**	**555**			64	186	557	**186**	**555**		
520.omnetpp_r	64	**390**	**216**	388	216			64	**390**	**216**	388	216		
523.xalancbmk_r	64	**141**	**480**	141	480			64	**141**	**480**	141	480		
525.x264_r	64	**150**	**747**	150	748			64	**142**	**792**	141	793		
531.deepsjeng_r	64	**276**	**265**	276	265			64	**276**	**265**	276	265		
541.leela_r	64	424	250	**424**	**250**			64	424	250	**424**	**250**		
548.exchange2_r	64	**213**	**786**	213	786			64	**213**	**786**	213	786		
557.xz_r	64	**420**	**165**	418	165			64	**420**	**165**	418	165		
SPECrate®2017_int_base =	**349**													
SPECrate®2017_int_peak =	**361**													

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-ic2024.1/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2024.1/lib/ia32:/mnt/ram
        disk/cpu2017-1.1.9-ic2024.1/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>
    jemalloc, a general purpose malloc implementation
    built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
    sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases

(Continued on next page)

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General Notes (Continued)

```
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.
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.

Benchmark run from a 60 GB ramdisk created with the cmd: "mount -t tmpfs -o size=60G tmpfs /mnt/ramdisk"
```

Platform Notes

```
BIOS settings:
                  ADDDC Setting : Disabled
         DIMM Self Healing on
   Uncorrectable Memory Error : Disabled

    Virtualization Technology : Disabled
      DCU Streamer Prefetcher : Disabled
             Sub NUMA Cluster : 2-way Clustering
                 LLC Prefetch : Disabled
         Dead Line LLC Alloc : Disabled
              Optimizer Mode : Enabled

              System Profile : Custom
      CPU Power Management : Maximum Performance
                        C1E : Disabled
                   C States : Autonomous
        Memory Patrol Scrub : Disabled
     Energy Efficiency Policy : Performance
         PCI ASPM L1 Link
           Power Management : Disabled

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-ic2024.1/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on SLR7604-R760 Thu Sep  5 10:25:41 2024

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

-------------------------------------------------------------
Table of contents
-------------------------------------------------------------
 1. uname -a
 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 249 (249.16+suse.171.gdad0071f15)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
16. tuned-adm active
17. sysctl
```

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Platform Notes (Continued)

```
18. /sys/kernel/mm/transparent_hugepage
19. /sys/kernel/mm/transparent_hugepage/khugepaged
20. OS release
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS
   -----------------------------------------------------------


   -----------------------------------------------------------
1. uname -a
  Linux SLR7604-R760 5.14.21-150500.53-default #1 SMP PREEMPT_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043)
  x86_64 x86_64 x86_64 GNU/Linux


   -----------------------------------------------------------
2. w
   10:25:41 up 2 min,  1 user,  load average: 0.27, 0.13, 0.05
  USER      TTY       FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root      tty1      -                10:25   29.00s  0.80s  0.00s /bin/bash
 /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define
 DL-BIOS-LogProc=1 --define DL-BIOS-adddcD=1 --define DL-VERS=5.3.3 --output_format html,pdf,txt


   -----------------------------------------------------------
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) 2061788
  max locked memory       (kbytes, -l) 64
  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) 2061788
  virtual memory          (kbytes, -v) unlimited
  file locks                      (-x) unlimited


   -----------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd linux --switched-root --system --deserialize 30
 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-BIOSinc=Dell-BIOS_Xeon-5.inc
   --define DL-BIOS-LogProc=1 --define DL-BIOS-adddcD=1 --define DL-VERS=5.3.3 --output_format html,pdf,txt
 /bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh rate --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc
   --define DL-BIOS-LogProc=1 --define DL-BIOS-adddcD=1 --define DL-VERS=5.3.3 --output_format html,pdf,txt
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 -c
   ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=32 --define physicalfirst
   --define invoke_with_interleave --define drop_caches --tune base,peak -o all --define DL-BIOS-SNC=2
```

(Continued on next page)

Dell Inc.

PowerEdge R760 (Intel Xeon Platinum 8562Y+)

SPECrate®2017_int_base = 349

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CPU2017 License: 6573　　　　　　　　　　　　　　　　　　**Test Date:**　　　　　　Sep-2024
Test Sponsor:　　Dell Inc.　　　　　　　　　　　　　　　**Hardware Availability:** Feb-2024
Tested by:　　　　Dell Inc.　　　　　　　　　　　　　　　**Software Availability:**　Mar-2024

Platform Notes (Continued)

```
    --iterations 2 --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define DL-BIOS-LogProc=1 --define
  DL-BIOS-adddcD=1 --define DL-VERS=5.3.3 --output_format html,pdf,txt intrate
 runcpu --nobuild --action validate --define default-platform-flags --define numcopies=64 --configfile
  ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=32 --define physicalfirst
  --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --define
  DL-BIOS-SNC=2 --iterations 2 --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define DL-BIOS-LogProc=1 --define
  DL-BIOS-adddcD=1 --define DL-VERS=5.3.3 --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-ic2024.1


--------------------------------------------------------------
6. /proc/cpuinfo
    model name      : INTEL(R) XEON(R) PLATINUM 8562Y+
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 207
    stepping        : 2
    microcode       : 0x21000240
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
    cpu cores       : 32
    siblings        : 64
    1 physical ids (chips)
    64 processors (hardware threads)
    physical id 0: core ids 0-31
    physical id 0: apicids 0-63
  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 2.37.4:
  Architecture:              x86_64
  CPU op-mode(s):            32-bit, 64-bit
  Address sizes:             46 bits physical, 57 bits virtual
  Byte Order:                Little Endian
  CPU(s):                    64
  On-line CPU(s) list:       0-63
  Vendor ID:                 GenuineIntel
  Model name:                INTEL(R) XEON(R) PLATINUM 8562Y+
  CPU family:                6
  Model:                     207
  Thread(s) per core:        2
  Core(s) per socket:        32
  Socket(s):                 1
  Stepping:                  2
  BogoMIPS:                  5600.00
  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 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 invpcid_single
                             cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced fsgsbase tsc_adjust bmi1 hle
                             avx2 smep bmi2 erms invpcid rtm 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
```

(Continued on next page)

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Platform Notes (Continued)

```
                             cqm_mbm_local avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hfi
                             avx512vbmi umip pku ospke waitpkg avx512_vbmi2 gfni vaes vpclmulqdq
                             avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid bus_lock_detect
                             cldemote movdiri movdir64b enqcmd fsrm md_clear serialize tsxldtrk pconfig
                             arch_lbr avx512_fp16 amx_tile flush_l1d arch_capabilities
  L1d cache:                 1.5 MiB (32 instances)
  L1i cache:                 1 MiB (32 instances)
  L2 cache:                  64 MiB (32 instances)
  L3 cache:                  60 MiB (1 instance)
  NUMA node(s):              2
  NUMA node0 CPU(s):         0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,31,32,34,36,38,40,42,44,46,48,50,5
                             2,54,56,58,60,63
  NUMA node1 CPU(s):         1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,30,33,35,37,39,41,43,45,47,49,51,5
                             3,55,57,59,61,62
  Vulnerability Itlb multihit:    Not affected
  Vulnerability L1tf:             Not affected
  Vulnerability Mds:              Not affected
  Vulnerability Meltdown:         Not affected
  Vulnerability Mmio stale data:  Not affected
  Vulnerability Retbleed:         Not affected
  Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
  Vulnerability Spectre v1:       Mitigation; usercopy/swapgs barriers and __user pointer sanitization
  Vulnerability Spectre v2:       Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSB-eIBRS SW
                                  sequence
  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       48K     1.5M   12 Data           1     64      1             64
    L1i       32K       1M    8 Instruction    1     64      1             64
    L2         2M      64M   16 Unified        2   2048      1             64
    L3        60M      60M   15 Unified        3  65536      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: 0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,31-32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,63
  node 0 size: 257457 MB
  node 0 free: 256603 MB
  node 1 cpus: 1,3,5,7,9,11,13,15,17,19,21,23,25,27,29-30,33,35,37,39,41,43,45,47,49,51,53,55,57,59,61-62
  node 1 size: 258019 MB
  node 1 free: 247231 MB
  node distances:
  node   0   1
    0:  10  12
    1:  12  10

--------------------------------------------------------------
9. /proc/meminfo
  MemTotal:       527848228 kB

--------------------------------------------------------------
10. who -r
  run-level 3 Sep 5 10:23

--------------------------------------------------------------
11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)
  Default Target  Status
```

(Continued on next page)

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Platform Notes (Continued)

```
  multi-user      degraded


  ----------------------------------------------------------
  12. Failed units, from systemctl list-units --state=failed
     UNIT            LOAD   ACTIVE SUB   DESCRIPTION
   * smartd.service loaded failed failed Self Monitoring and Reporting Technology (SMART) Daemon


  ----------------------------------------------------------
  13. Services, from systemctl list-unit-files
     STATE           UNIT FILES
     enabled         YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager firewalld getty@
                     irqbalance issue-generator kbdsettings klog lvm2-monitor nscd postfix purge-kernels
                     rollback rsyslog smartd sshd systemd-pstore tuned wicked wickedd-auto4 wickedd-dhcp4
                     wickedd-dhcp6 wickedd-nanny
     enabled-runtime systemd-remount-fs
     disabled        autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
                     chronyd console-getty cups cups-browsed debug-shell ebtables exchange-bmc-os-info gpm
                     grub2-once haveged haveged-switch-root ipmi ipmievd issue-add-ssh-keys kexec-load lunmask
                     man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd serial-getty@
                     smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures
                     systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2
                     vncserver@
     indirect        wickedd


  ----------------------------------------------------------
  14. Linux kernel boot-time arguments, from /proc/cmdline
     BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
     root=UUID=880fec0e-5712-4f34-a5b7-d0acf7e8ed40
     linux
     splash=silent
     mitigations=auto
     quiet
     security=apparmor


  ----------------------------------------------------------
  15. cpupower frequency-info
     analyzing CPU 0:
       Unable to determine current policy
       boost state support:
         Supported: yes
         Active: yes


  ----------------------------------------------------------
  16. tuned-adm active
     Current active profile: throughput-performance


  ----------------------------------------------------------
  17. 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
```

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Platform Notes (Continued)

```
  vm.nr_hugepages                     0
  vm.nr_hugepages_mempolicy           0
  vm.nr_overcommit_hugepages          0
  vm.swappiness                      10
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                0


----------------------------------------------------------
18. /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


----------------------------------------------------------
19. /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


----------------------------------------------------------
20. OS release
  From /etc/*-release /etc/*-version
  os-release SUSE Linux Enterprise Server 15 SP5


----------------------------------------------------------
21. Disk information
SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-ic2024.1
  Filesystem      Type   Size  Used Avail Use% Mounted on
  tmpfs           tmpfs   60G  5.0G   56G   9% /mnt/ramdisk


----------------------------------------------------------
22. /sys/devices/virtual/dmi/id
   Vendor:         Dell Inc.
   Product:        PowerEdge R760
   Product Family: PowerEdge
   Serial:         SLR7604


----------------------------------------------------------
23. dmidecode
  Additional information from dmidecode 3.4 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:
    2x 002C0632002C MTC40F2046S1RC56BG1 64 GB 2 rank 5600
    2x 00CE042300CE M321R8GA0PB0-CWMCH 64 GB 2 rank 5600
    4x 00CE063200CE M321R8GA0PB0-CWMKH 64 GB 2 rank 5600


----------------------------------------------------------
24. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:      Dell Inc.
   BIOS Version:     2.3.4
```

(Continued on next page)

Dell Inc.

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Test Date: Sep-2024
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Software Availability: Mar-2024

Platform Notes (Continued)

```
    BIOS Date:        07/10/2024
    BIOS Revision:    2.3
```

Compiler Version Notes

```
==============================================================================================
C        | 502.gcc_r(peak)
----------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2024.1.0 Build 20240308
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
----------------------------------------------------------------------------------------------


==============================================================================================
C        | 500.perlbench_r(base, peak) 502.gcc_r(base) 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 2024.1.0 Build 20240308
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----------------------------------------------------------------------------------------------


==============================================================================================
C        | 502.gcc_r(peak)
----------------------------------------------------------------------------------------------
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----------------------------------------------------------------------------------------------


==============================================================================================
C        | 500.perlbench_r(base, peak) 502.gcc_r(base) 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 2024.1.0 Build 20240308
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----------------------------------------------------------------------------------------------


==============================================================================================
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 2024.1.0 Build 20240308
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----------------------------------------------------------------------------------------------


==============================================================================================
Fortran  | 548.exchange2_r(base, peak)
----------------------------------------------------------------------------------------------
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----------------------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:

icx

(Continued on next page)

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R760 (Intel Xeon Platinum 8562Y+)

SPECrate®2017_int_base = 349

SPECrate®2017_int_peak = 361

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

Test Date: Sep-2024
Hardware Availability: Feb-2024
Software Availability: Mar-2024

Base Compiler Invocation (Continued)

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 -xsapphirerapids -O3 -ffast-math`
`-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
`-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc`

C++ benchmarks:
`-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math`
`-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
`-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc`

Fortran benchmarks:
`-w -m64 -Wl,-z,muldefs -xsapphirerapids -O3 -ffast-math -flto`
`-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
`-nostandard-realloc-lhs -align array32byte -auto`
`-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc`

SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R760 (Intel Xeon Platinum 8562Y+)

$SPECrate^{®}2017\_int\_base = 349$

$SPECrate^{®}2017\_int\_peak = 361$

Peak Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Peak Portability Flags

500.perlbench_r: `-DSPEC_LP64 -DSPEC_LINUX_X64`
502.gcc_r: `-D_FILE_OFFSET_BITS=64`
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`

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`
`-L/opt/intel/oneapi/compiler/2024.1/lib -lqkmalloc`

502.gcc_r: `-m32 -L/opt/intel/oneapi/compiler/2024.1/lib32 -std=gnu89`
`-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`
`-L/usr/local/jemalloc32-5.0.1/lib -ljemalloc`

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Standard Performance Evaluation Corporation (info@spec.org)　　　https://www.spec.org/

Dell Inc.

PowerEdge R760 (Intel Xeon Platinum 8562Y+)

SPECrate®2017_int_base = 349

SPECrate®2017_int_peak = 361

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

Test Date: Sep-2024
Hardware Availability: Feb-2024
Software Availability: Mar-2024

Peak Optimization Flags (Continued)

505.mcf_r: `basepeak = yes`

525.x264_r: `-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fno-alias -L/opt/intel/oneapi/compiler/2024.1/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-ic2024-official-linux64.html
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.9.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.9.xml

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

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Report generated on 2024-09-25 09:17:27 by CPU2017 PDF formatter v6716.
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