SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R760 (Intel Xeon Platinum 8568Y+)

$SPECspeed®2017\_int\_base = 14.6$

$SPECspeed®2017\_int\_peak = 14.9$

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

Test Date: Nov-2023
Hardware Availability: Feb-2024
Software Availability: Dec-2023

Threads		Result
600.perlbench_s	96	9.72 / 10.6
602.gcc_s	96	12.6 / 13.2
605.mcf_s	96	24.2
620.omnetpp_s	96	12.3
623.xalancbmk_s	96	13.9
625.x264_s	96	23.2 / 24.3
631.deepsjeng_s	96	7.39
641.leela_s	96	6.07
648.exchange2_s	96	26.7
657.xz_s	96	31.5

——— SPECspeed®2017_int_base (14.6)   ┄┄┄ SPECspeed®2017_int_peak (14.9)

Hardware

CPU Name: Intel Xeon Platinum 8568Y+
 Max MHz: 4000
 Nominal: 2300
Enabled: 96 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 300 MB I+D on chip per chip
 Other: None
Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R)
Storage: 70 GB on tmpfs
Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP5
 5.14.21-150500.53-default
Compiler: C/C++: Version 2023.2.3 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2023.2.3 of Intel Fortran Compiler for Linux;
Parallel: Yes
Firmware: Version 1.9.12 released Nov-2023
File System: tmpfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 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.

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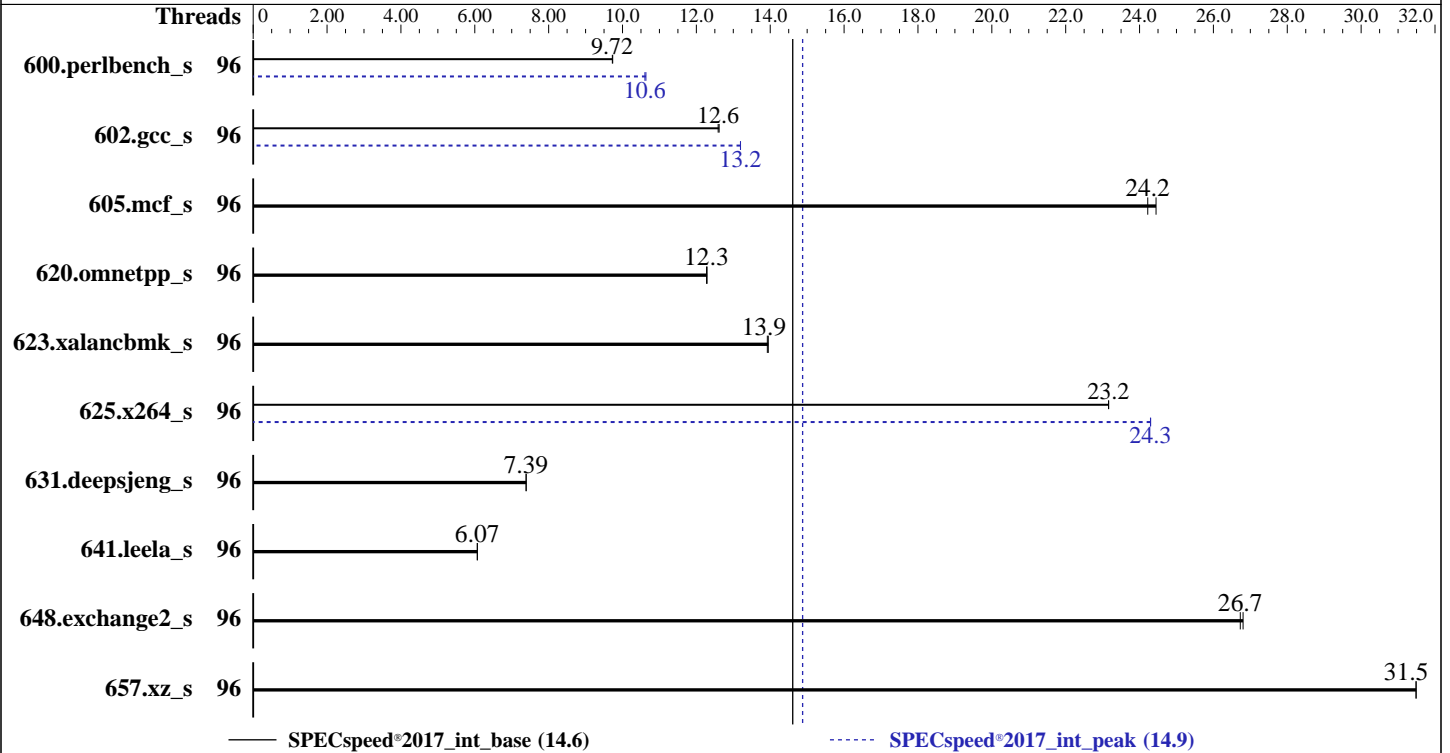**CPU2017 License:** 6573　　　　　　　　　　　　　　　　　**Test Date:** Nov-2023
Test Sponsor: Dell Inc.　　　　　　　　　　　　　　　**Hardware Availability:** Feb-2024
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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	96	**183**	**9.72**	182	9.73			96	167	10.6	**167**	**10.6**		
602.gcc_s	96	**316**	**12.6**	316	12.6			96	302	13.2	**302**	**13.2**		
605.mcf_s	96	**195**	**24.2**	193	24.4			96	**195**	**24.2**	193	24.4		
620.omnetpp_s	96	133	12.3	**133**	**12.3**			96	133	12.3	**133**	**12.3**		
623.xalancbmk_s	96	102	13.9	**102**	**13.9**			96	102	13.9	**102**	**13.9**		
625.x264_s	96	**76.2**	**23.2**	76.2	23.2			96	**72.6**	**24.3**	72.6	24.3		
631.deepsjeng_s	96	**194**	**7.39**	194	7.39			96	**194**	**7.39**	194	7.39		
641.leela_s	96	281	6.07	**281**	**6.07**			96	281	6.07	**281**	**6.07**		
648.exchange2_s	96	**110**	**26.7**	110	26.8			96	**110**	**26.7**	110	26.8		
657.xz_s	96	196	31.5	**196**	**31.5**			96	196	31.5	**196**	**31.5**		

SPECspeed®2017_int_base =	**14.6**
SPECspeed®2017_int_peak =	**14.9**

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:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH =
    "/mnt/ramdisk/cpu2017-1.1.9-ic2023.2.3/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2023.2.3/lib/ia32:/mnt
    /ramdisk/cpu2017-1.1.9-ic2023.2.3/je5.0.1-64"
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 Redhat Enterprise Linux 8.0
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 RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases

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 70 GB ramdisk created with the cmd: "mount -t tmpfs -o size=70G tmpfs /mnt/ramdisk"
```

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Platform Notes

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

              Logical Processor : Disabled
    Virtualization Technology : Disabled
      DCU Streamer Prefetcher : 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-ic2023.2.3/bin/sysinfo
  Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
  running on localhost Fri Nov 24 03:15:32 2023

  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. Services, from systemctl list-unit-files
  13. Linux kernel boot-time arguments, from /proc/cmdline
  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 localhost 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
     03:15:32 up 15 min,  1 user,  load average: 0.08, 0.03, 0.01
```

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Platform Notes (Continued)

```
   USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
   root     tty1     -                03:14   60.00s  0.83s  0.00s /bin/bash ./dell-run-speccpu.sh speed
  --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define DL-BIOS-adddcD=1 --define DL-VERS=v4.8.4 --output_format
  html,pdf,txt --define DL-LQC=1

  ------------------------------------------------------------
  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) 4124333
    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) 4124333
    virtual memory          (kbytes, -v) unlimited
    file locks                      (-x) unlimited

  ------------------------------------------------------------
  5. sysinfo process ancestry
   /usr/lib/systemd/systemd --switched-root --system --deserialize 29
   login -- root
   -bash
   /bin/bash ./DELL_speed.sh
   /bin/bash ./dell-run-main.sh speed
   /bin/bash ./dell-run-main.sh speed
   /bin/bash ./dell-run-speccpu.sh speed --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define DL-BIOS-adddcD=1
     --define DL-VERS=v4.8.4 --output_format html,pdf,txt --define DL-LQC=1
   /bin/bash ./dell-run-speccpu.sh speed --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define DL-BIOS-adddcD=1
     --define DL-VERS=v4.8.4 --output_format html,pdf,txt --define DL-LQC=1
   runcpu --nobuild --action validate --define default-platform-flags -c
     ic2023.2.3-lin-sapphirerapids-speed-20231121.cfg --define cores=96 --tune base,peak -o all --define
     intspeedaffinity --define drop_caches --iterations 2 --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define
     DL-BIOS-adddcD=1 --define DL-VERS=v4.8.4 --output_format html,pdf,txt --define DL-LQC=1 intspeed
   runcpu --nobuild --action validate --define default-platform-flags --configfile
     ic2023.2.3-lin-sapphirerapids-speed-20231121.cfg --define cores=96 --tune base,peak --output_format all
     --define intspeedaffinity --define drop_caches --iterations 2 --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc
     --define DL-BIOS-adddcD=1 --define DL-VERS=v4.8.4 --output_format html,pdf,txt --define DL-LQC=1 --nopower
     --runmode speed --tune base:peak --size refspeed intspeed --nopreenv --note-preenv --logfile
     $SPEC/tmp/CPU2017.001/templogs/preenv.intspeed.001.0.log --lognum 001.0 --from_runcpu 2
   specperl $SPEC/bin/sysinfo
   $SPEC = /mnt/ramdisk/cpu2017-1.1.9-ic2023.2.3

  ------------------------------------------------------------
  6. /proc/cpuinfo
      model name      : INTEL(R) XEON(R) PLATINUM 8568Y+
      vendor_id       : GenuineIntel
      cpu family      : 6
      model           : 207
      stepping        : 2
```

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Platform Notes (Continued)

```
      microcode      : 0x210001b0
      bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
      cpu cores      : 48
      siblings       : 48
      2 physical ids (chips)
      96 processors (hardware threads)
      physical id 0: core ids 0-47
      physical id 1: core ids 0-47
      physical id 0: apicids
      0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72
      ,74,76,78,80,82,84,86,88,90,92,94
      physical id 1: apicids
      128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,1
      80,182,184,186,188,190,192,194,196,198,200,202,204,206,208,210,212,214,216,218,220,222
   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):                  96
     On-line CPU(s) list:     0-95
     Vendor ID:               GenuineIntel
     Model name:              INTEL(R) XEON(R) PLATINUM 8568Y+
     CPU family:              6
     Model:                   207
     Thread(s) per core:      1
     Core(s) per socket:      48
     Socket(s):               2
     Stepping:                2
     BogoMIPS:                4600.00
     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
                              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:               4.5 MiB (96 instances)
     L1i cache:               3 MiB (96 instances)
     L2 cache:                192 MiB (96 instances)
     L3 cache:                600 MiB (2 instances)
     NUMA node(s):            2
     NUMA node0 CPU(s):       0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,5
                              2,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94
     NUMA node1 CPU(s):       1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,5
```

(Continued on next page)

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Platform Notes (Continued)

```
                              3,55,57,59,61,63,65,67,69,71,73,75,77,79,81,83,85,87,89,91,93,95
  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     4.5M   12 Data            1     64       1             64
    L1i      32K       3M    8 Instruction     1     64       1             64
    L2        2M     192M   16 Unified         2   2048       1             64
    L3      300M     600M   20 Unified         3 245760       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
  node 0 size: 515429 MB
  node 0 free: 514447 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
  node 1 size: 515676 MB
  node 1 free: 504414 MB
  node distances:
  node   0   1
    0:  10  21
    1:  21  10


-------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1055853320 kB


-------------------------------------------------------------
10. who -r
  run-level 3 Nov 24 03:00


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


-------------------------------------------------------------
12. Services, from systemctl list-unit-files
   STATE           UNIT FILES
   enabled         apparmor auditd cron firewalld getty@ irqbalance issue-generator kbdsettings kdump
                   kdump-early nvmefc-boot-connections postfix purge-kernels rollback sshd systemd-pstore
                   wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
   enabled-runtime systemd-remount-fs
```

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Platform Notes (Continued)

```
  disabled           boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell ebtables
                     grub2-once haveged haveged-switch-root issue-add-ssh-keys kexec-load lunmask nfs
                     nfs-blkmap nvmf-autoconnect rpcbind rpmconfigcheck rsyncd serial-getty@
                     systemd-boot-check-no-failures systemd-network-generator systemd-sysext
                     systemd-time-wait-sync systemd-timesyncd
  indirect           wickedd

   ----------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
    BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
    root=UUID=b8c6d51c-250a-4d03-852b-82b1db828fe3
    splash=silent
    mitigations=auto
    quiet
    security=apparmor
    crashkernel=386M,high
    crashkernel=72M,low

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

   ----------------------------------------------------------------
17. OS release
    From /etc/*-release /etc/*-version
```

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Platform Notes (Continued)

```
   os-release SUSE Linux Enterprise Server 15 SP5


   ----------------------------------------------------------
   18. Disk information
   SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-ic2023.2.3
     Filesystem     Type   Size  Used Avail Use% Mounted on
     tmpfs          tmpfs   70G  5.1G   65G   8% /mnt/ramdisk


   ----------------------------------------------------------
   19. /sys/devices/virtual/dmi/id
       Vendor:          Dell Inc.
       Product:         PowerEdge R760
       Product Family:  PowerEdge
       Serial:          SLR7602


   ----------------------------------------------------------
   20. 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:
       16x 00CE042300CE M321R8GA0PB0-CWMCH 64 GB 2 rank 5600


   ----------------------------------------------------------
   21. BIOS
   (This section combines info from /sys/devices and dmidecode.)
       BIOS Vendor:      Dell Inc.
       BIOS Version:     1.9.12
       BIOS Date:        11/10/2023
       BIOS Revision:    1.9
```

Compiler Version Notes

```
==============================================================================================================
C      | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak)
       | 657.xz_s(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
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--------------------------------------------------------------------------------------------------------------


==============================================================================================================
C++    | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak)
       | 641.leela_s(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
--------------------------------------------------------------------------------------------------------------


==============================================================================================================
Fortran | 648.exchange2_s(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.3 Build x
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.
--------------------------------------------------------------------------------------------------------------
```

SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R760 (Intel Xeon Platinum 8568Y+)

SPECspeed®2017_int_base = 14.6

SPECspeed®2017_int_peak = 14.9

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

Test Date: Nov-2023
Hardware Availability: Feb-2024
Software Availability: Dec-2023

Base Compiler Invocation

C benchmarks:
`icx`

C++ benchmarks:
`icpx`

Fortran benchmarks:
`ifx`

Base Portability Flags

600.perlbench_s: `-DSPEC_LP64 -DSPEC_LINUX_X64`
602.gcc_s: `-DSPEC_LP64`
605.mcf_s: `-DSPEC_LP64`
620.omnetpp_s: `-DSPEC_LP64`
623.xalancbmk_s: `-DSPEC_LP64 -DSPEC_LINUX`
625.x264_s: `-DSPEC_LP64`
631.deepsjeng_s: `-DSPEC_LP64`
641.leela_s: `-DSPEC_LP64`
648.exchange2_s: `-DSPEC_LP64`
657.xz_s: `-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 -fiopenmp`
`-DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

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/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

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`
`-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

SPEC CPU®2017 Integer Speed Result

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PowerEdge R760 (Intel Xeon Platinum 8568Y+)

SPECspeed®2017_int_base = 14.6

SPECspeed®2017_int_peak = 14.9

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

Test Date: Nov-2023
Hardware Availability: Feb-2024
Software Availability: Dec-2023

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:

600.perlbench_s: `-w -m64 -std=c11 -Wl,-z,muldefs`
`-fprofile-generate`(pass 1)
`-fprofile-use=default.profdata`(pass 2) `-xCORE-AVX2`(pass 1)
`-flto -Ofast`(pass 1) `-xCORE-AVX512 -O3 -ffast-math`
`-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
`-fiopenmp -DSPEC_OPENMP -fno-strict-overflow`
`-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

602.gcc_s: `-w -m64 -std=c11 -Wl,-z,muldefs`
`-fprofile-generate`(pass 1)
`-fprofile-use=default.profdata`(pass 2) `-xCORE-AVX2`(pass 1)
`-flto -Ofast`(pass 1) `-xCORE-AVX512 -O3 -ffast-math`
`-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4`
`-fiopenmp -DSPEC_OPENMP -L/usr/local/jemalloc64-5.0.1/lib`
`-ljemalloc`

605.mcf_s: `basepeak = yes`

625.x264_s: `-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -O3`
`-ffast-math -flto -mfpmath=sse -funroll-loops`
`-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP`
`-fno-alias -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc`

657.xz_s: `basepeak = yes`

(Continued on next page)

Standard Performance Evaluation Corporation (info@spec.org)
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Dell Inc.

PowerEdge R760 (Intel Xeon Platinum 8568Y+)

SPECspeed®2017_int_base = 14.6

SPECspeed®2017_int_peak = 14.9

CPU2017 License: 6573		**Test Date:**	Nov-2023
Test Sponsor:	Dell Inc.	**Hardware Availability:**	Feb-2024
Tested by:	Dell Inc.	**Software Availability:**	Dec-2023

Peak Optimization Flags (Continued)

C++ benchmarks:

620.omnetpp_s: `basepeak = yes`

623.xalancbmk_s: `basepeak = yes`

631.deepsjeng_s: `basepeak = yes`

641.leela_s: `basepeak = yes`

Fortran benchmarks:

648.exchange2_s: `basepeak = yes`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.html`
`http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.6.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.xml`
`http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.6.xml`

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

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