



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Dell Inc.

SPECspeed®2017\_int\_base = 13.1

### PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

CPU2017 License: 6573

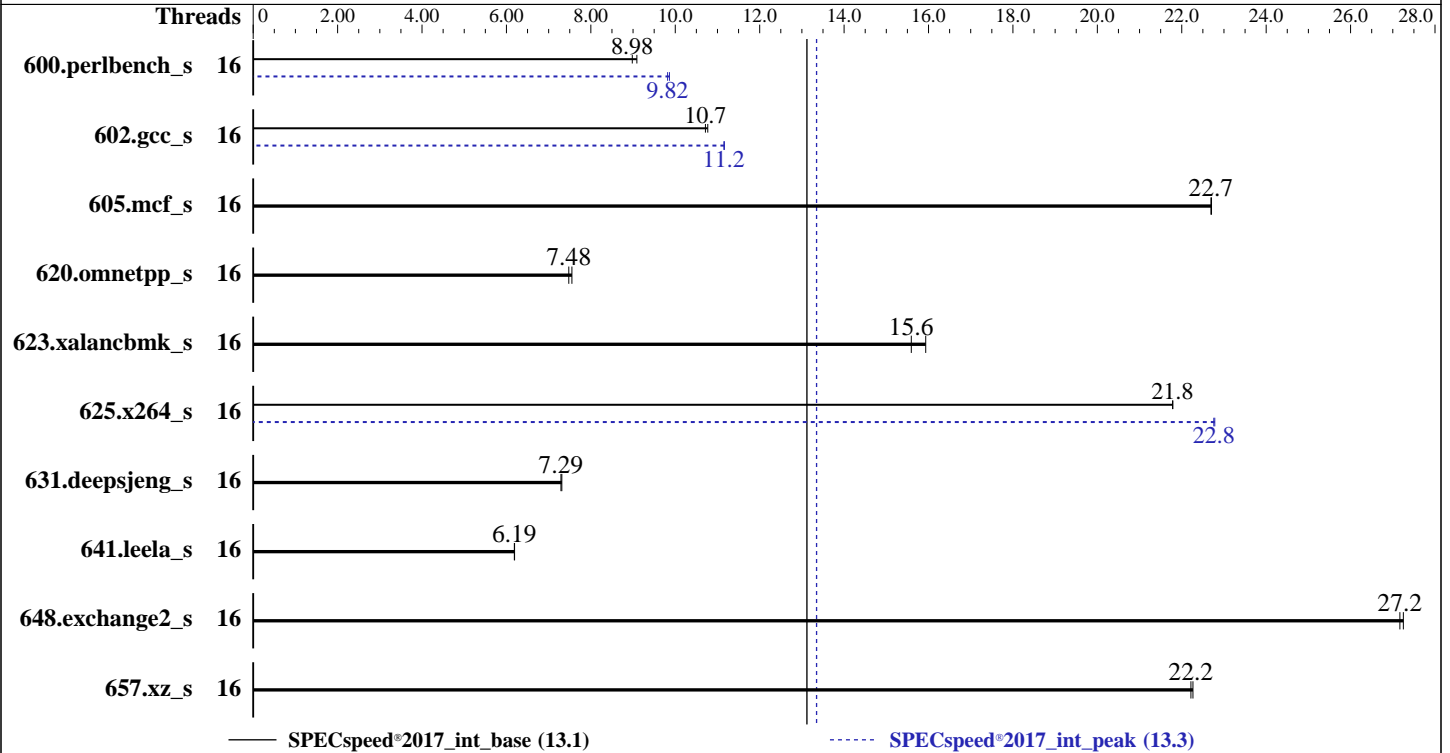
Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2024

Hardware Availability: Nov-2023

Software Availability: Dec-2023



### Hardware

CPU Name: Intel Xeon Silver 4509Y  
 Max MHz: 4100  
 Nominal: 2600  
 Enabled: 16 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: 22.5 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R, running at 4400)  
 Storage: 125 GB on tmpfs  
 Other: Cooling: Air

### 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 2.0.0 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.



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

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

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

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	16	<b>198</b>	<b>8.98</b>	195	9.09			16	180	9.86	<b>181</b>	<b>9.82</b>		
602.gcc_s	16	370	10.8	<b>372</b>	<b>10.7</b>			16	357	11.2	<b>357</b>	<b>11.2</b>		
605.mcf_s	16	<b>208</b>	<b>22.7</b>	208	22.7			16	<b>208</b>	<b>22.7</b>	208	22.7		
620.omnetpp_s	16	<b>218</b>	<b>7.48</b>	216	7.55			16	<b>218</b>	<b>7.48</b>	216	7.55		
623.xalancbmk_s	16	88.9	15.9	<b>90.9</b>	<b>15.6</b>			16	88.9	15.9	<b>90.9</b>	<b>15.6</b>		
625.x264_s	16	81.0	21.8	<b>81.0</b>	<b>21.8</b>			16	<b>77.5</b>	<b>22.8</b>	77.4	22.8		
631.deepsjeng_s	16	<b>197</b>	<b>7.29</b>	196	7.31			16	<b>197</b>	<b>7.29</b>	196	7.31		
641.leela_s	16	<b>276</b>	<b>6.19</b>	275	6.19			16	<b>276</b>	<b>6.19</b>	275	6.19		
648.exchange2_s	16	<b>108</b>	<b>27.2</b>	108	27.3			16	<b>108</b>	<b>27.2</b>	108	27.3		
657.xz_s	16	278	22.3	<b>278</b>	<b>22.2</b>			16	278	22.3	<b>278</b>	<b>22.2</b>		

SPECspeed®2017\_int\_base = **13.1**

SPECspeed®2017\_int\_peak = **13.3**

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"
MALLOCONF = "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 125 GB ramdisk created with the cmd: "mount -t tmpfs -o size=125G tmpfs /mnt/ramdisk"



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2024

Hardware Availability: Nov-2023

Software Availability: Dec-2023

## 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
      Sub NUMA Cluster : 2-way Clustering

      System Profile : Custom
      CPU Power Management : Maximum Performance
      CLE : 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 Wed Jan 24 13:24:07 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. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. sysctl
16. /sys/kernel/mm/transparent\_hugepage
17. /sys/kernel/mm/transparent\_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. 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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

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

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

## Platform Notes (Continued)

```
13:24:07 up 3:49, 1 user, load average: 3.81, 10.75, 13.96
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
root     tty1      -             09:35   3:49m 0.91s  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=v4.8.6 --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) 4124520
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) 4124520
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

### 5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize 34
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=v4.8.6 --output_format html,pdf,txt
/bin/bash ./dell-run-speccpu.sh speed --define DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define DL-BIOS-adddcD=1
--define DL-VERS=v4.8.6 --output_format html,pdf,txt
runcpu --nobuild --action validate --define default-platform-flags -c
ic2023.2.3-lin-sapphirerapids-speed-20231121.cfg --define cores=16 --tune base,peak -o all --define
intspeedaffinity --define drop_caches --define DL-BIOS-SNC=2 --iterations 2 --define
DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define DL-BIOS-adddcD=1 --define DL-VERS=v4.8.6 --output_format
html,pdf,txt intspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
ic2023.2.3-lin-sapphirerapids-speed-20231121.cfg --define cores=16 --tune base,peak --output_format all
--define intspeeraffinity --define drop_caches --define DL-BIOS-SNC=2 --iterations 2 --define
DL-BIOSinc=Dell-BIOS_Xeon-5.inc --define DL-BIOS-adddcD=1 --define DL-VERS=v4.8.6 --output_format
html,pdf,txt --nopower --runmode speed --tune base:peak --size refspeer 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) SILVER 4509Y
vendor_id       : GenuineIntel
cpu family      : 6
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Dell Inc.

SPECspeed®2017\_int\_base = 13.1

## PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

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

**Test Date:** Jan-2024  
**Hardware Availability:** Nov-2023  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

```
model          : 143
stepping       : 8
microcode      : 0x2b000571
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores      : 8
siblings       : 8
2 physical ids (chips)
16 processors (hardware threads)
physical id 0: core ids 0-7
physical id 1: core ids 0-7
physical id 0: apicids 0,2,4,6,8,10,12,14
physical id 1: apicids 64,66,68,70,72,74,76,78
```

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):                16
On-line CPU(s) list:  0-15
Vendor ID:             GenuineIntel
Model name:            INTEL(R) XEON(R) SILVER 4509Y
CPU family:            6
Model:                 143
Thread(s) per core:   1
Core(s) per socket:   8
Socket(s):             2
Stepping:              8
CPU max MHz:           4100.0000
CPU min MHz:           800.0000
BogoMIPS:              5200.00
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 split_lock_detect 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_vpocntdq 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:             768 KiB (16 instances)
L1i cache:             512 KiB (16 instances)
L2 cache:              32 MiB (16 instances)
L3 cache:              45 MiB (2 instances)
NUMA node(s):         4
NUMA node0 CPU(s):    0,4,8,12
NUMA node1 CPU(s):    2,6,10,14
NUMA node2 CPU(s):    1,5,9,11
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

CPU2017 License: 6573

Test Date: Jan-2024

Test Sponsor: Dell Inc.

Hardware Availability: Nov-2023

Tested by: Dell Inc.

Software Availability: Dec-2023

## Platform Notes (Continued)

```

NUMA node3 CPU(s):          3,7,13,15
Vulnerability Itlb multihit: Not affected
Vulnerability Lltf:         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/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2:   Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBR SB-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	768K	12	Data	1	64	1	64
L1i	32K	512K	8	Instruction	1	64	1	64
L2	2M	32M	16	Unified	2	2048	1	64
L3	22.5M	45M	15	Unified	3	24576	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

```

available: 4 nodes (0-3)
node 0 cpus: 0,4,8,12
node 0 size: 257427 MB
node 0 free: 256966 MB
node 1 cpus: 2,6,10,14
node 1 size: 258012 MB
node 1 free: 257616 MB
node 2 cpus: 1,5,9,11
node 2 size: 258046 MB
node 2 free: 249259 MB
node 3 cpus: 3,7,13,15
node 3 size: 257673 MB
node 3 free: 257173 MB
node distances:
node  0  1  2  3
0:  10  12  21  21
1:  12  10  21  21
2:  21  21  10  12
3:  21  21  12  10

```

9. /proc/meminfo

MemTotal: 1055907484 kB

10. who -r

run-level 3 Jan 24 09:35

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

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

CPU2017 License: 6573

Test Date: Jan-2024

Test Sponsor: Dell Inc.

Hardware Availability: Nov-2023

Tested by: Dell Inc.

Software Availability: Dec-2023

## Platform Notes (Continued)

```

enabled          YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager firewallld getty@
                 irqbalance issue-generator kbdsettings kdump kdump-early klog lvm2-monitor nscd
                 nvme-fc-boot-connections postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore
                 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 ebttables exchange-bmc-os-info gpm
                 grub2-once haveged haveged-switch-root instsvcdrv ipmi ipmievd issue-add-ssh-keys
                 kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nvme-autoconnect 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 vncserver@

indirect        wickedd

```

### 13. Linux kernel boot-time arguments, from /proc/cmdline

```

BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
root=UUID=a2071361-7500-4d59-ac2e-a3222a0598a9
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=366M,high
crashkernel=72M,low

```

### 14. cpupower frequency-info

```

analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 4.10 GHz.
                  The governor "powersave" may decide which speed to use
                  within this range.

boost state support:
  Supported: yes
  Active: yes

```

### 15. 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

```

### 16. /sys/kernel/mm/transparent\_hugepage

```

defrag          always defer defer+madvice [madvice] never

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2024

Hardware Availability: Nov-2023

Software Availability: Dec-2023

## Platform Notes (Continued)

enabled [always] madvise never  
hpage\_pmd\_size 2097152  
shmem\_enabled always within\_size advise [never] deny force

-----  
17. /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

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

-----  
19. 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 125G 4.1G 121G 4% /mnt/ramdisk

-----  
20. /sys/devices/virtual/dmi/id  
Vendor: Dell Inc.  
Product: PowerEdge R760xd2  
Product Family: PowerEdge  
Serial: 1234567

-----  
21. 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 00CE069D00CE M321R8GA0PB0-CWMXH 64 GB 2 rank 5600, configured at 4400

-----  
22. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: Dell Inc.  
BIOS Version: 2.0.0  
BIOS Date: 11/23/2023  
BIOS Revision: 2.0

## 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  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
-----

(Continued on next page)





# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

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

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

## Compiler Version Notes (Continued)

=====  
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.  
=====

## 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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2024

Hardware Availability: Nov-2023

Software Availability: Dec-2023

## Base Optimization Flags (Continued)

C benchmarks (continued):

-DSPEC\_OPENMP -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:

-w -std=c++14 -m64 -Wl,-z,muldefs -xsaphirerapids -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 -xsaphirerapids -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

## 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.profddata(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

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2024

Hardware Availability: Nov-2023

Software Availability: Dec-2023

## Peak Optimization Flags (Continued)

```
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

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>



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 13.1

PowerEdge R760xd2 (Intel Xeon Silver 4509Y)

SPECspeed®2017\_int\_peak = 13.3

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2024

Hardware Availability: Nov-2023

Software Availability: Dec-2023

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2024-01-24 08:24:06-0500.  
Report generated on 2024-02-28 19:22:31 by CPU2017 PDF formatter v6716.  
Originally published on 2024-02-27.