



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

CPU2017 License: 6573

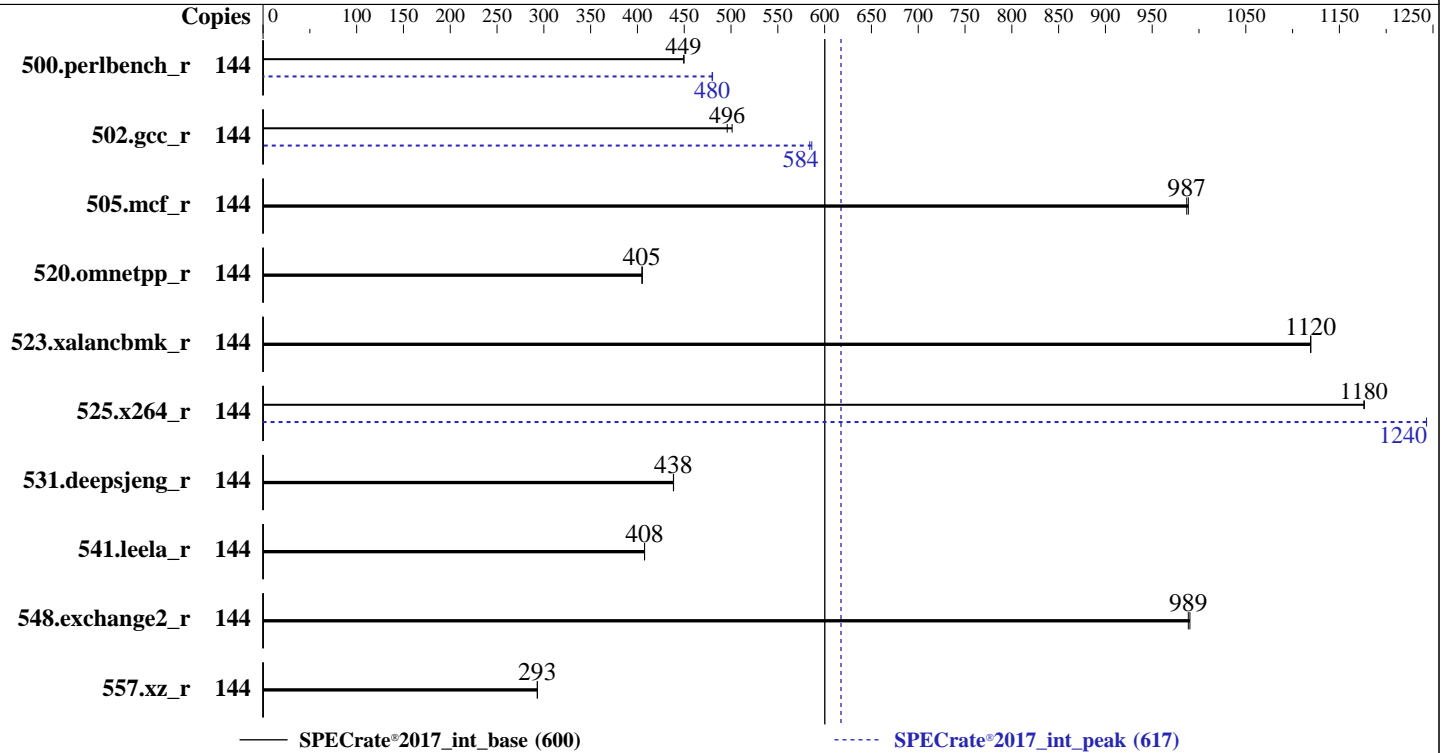
Test Date: Jan-2023

Test Sponsor: Dell Inc.

Hardware Availability: Feb-2023

Tested by: Dell Inc.

Software Availability: Jun-2022



### Hardware

CPU Name: Intel Xeon Platinum 8452Y  
 Max MHz: 3200  
 Nominal: 2000  
 Enabled: 72 cores, 2 chips, 2 threads/core  
 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: 67.5 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-4800B-R)  
 Storage: 125 GB on tmpfs  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP4  
 5.14.21-150400.22-default  
 Compiler: C/C++: Version 2022.1 of Intel oneAPI DPC++/C++  
 Compiler for Linux;  
 Fortran: Version 2022.1 of Intel Fortran Compiler  
 for Linux;  
 Parallel: No  
 Firmware: Version 1.0.1 released Dec-2022  
 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.



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

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

Test Date: Jan-2023  
Hardware Availability: Feb-2023  
Software Availability: Jun-2022

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	144	510	450	<b><u>510</u></b>	<b><u>449</u></b>			144	<b><u>478</u></b>	<b><u>480</u></b>	477	480		
502.gcc_r	144	407	501	<b><u>411</u></b>	<b><u>496</u></b>			144	<b><u>349</u></b>	<b><u>584</u></b>	348	586		
505.mcf_r	144	235	989	<b><u>236</u></b>	<b><u>987</u></b>			144	235	989	<b><u>236</u></b>	<b><u>987</u></b>		
520.omnetpp_r	144	466	405	<b><u>467</u></b>	<b><u>405</u></b>			144	466	405	<b><u>467</u></b>	<b><u>405</u></b>		
523.xalancbmk_r	144	<b><u>136</u></b>	<b><u>1120</u></b>	136	1120			144	<b><u>136</u></b>	<b><u>1120</u></b>	136	1120		
525.x264_r	144	214	1180	<b><u>214</u></b>	<b><u>1180</u></b>			144	203	1240	<b><u>203</u></b>	<b><u>1240</u></b>		
531.deepsjeng_r	144	376	439	<b><u>376</u></b>	<b><u>438</u></b>			144	376	439	<b><u>376</u></b>	<b><u>438</u></b>		
541.leela_r	144	585	408	<b><u>585</u></b>	<b><u>408</u></b>			144	585	408	<b><u>585</u></b>	<b><u>408</u></b>		
548.exchange2_r	144	381	990	<b><u>382</u></b>	<b><u>989</u></b>			144	381	990	<b><u>382</u></b>	<b><u>989</u></b>		
557.xz_r	144	531	293	<b><u>531</u></b>	<b><u>293</u></b>			144	531	293	<b><u>531</u></b>	<b><u>293</u></b>		

SPECrate®2017\_int\_base = 600

SPECrate®2017\_int\_peak = 617

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

## Compiler Notes

SPEC has ruled that the compiler used for this result was performing a compilation that specifically improves the performance of the 523.xalancbmk\_r / 623.xalancbmk\_s benchmarks using a priori knowledge of the SPEC code and dataset to perform a transformation that has narrow applicability.

In order to encourage optimizations that have wide applicability (see rule 1.4 [https://www.spec.org/cpu2017/Docs/runrules.html#rule\\_1.4](https://www.spec.org/cpu2017/Docs/runrules.html#rule_1.4)), SPEC will no longer publish results using this optimization.

This result is left in the SPEC results database for historical reference.

## 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-ic2022.1/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2022.1/lib/ia32:/mnt/ramdisk/cpu2017-1.1.9-ic2022.1/je5.0.1-32"
MALLOCONF = "retain:true"
```



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2023

Hardware Availability: Feb-2023

Software Availability: Jun-2022

## 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>

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"

## Platform Notes

BIOS settings:

```

      ADDDC Setting : Disabled
      DIMM Self Healing on
      Uncorrectable Memory Error : Disabled
      Virtualization Technology : Disabled
      Sub NUMA Cluster : 4-way Clustering
      DCU Streamer Prefetcher : Disabled
      LLC Prefetch : Disabled
      Dead Line LLC Alloc : Disabled
      Optimizer Mode : Enabled

      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-ic2022.1/bin/sysinfo  
 Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
 running on localhost Thu Jan 12 22:32:21 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`

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

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

Test Date: Jan-2023  
Hardware Availability: Feb-2023  
Software Availability: Jun-2022

## Platform Notes (Continued)

```

7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)
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 5.14.21-150400.22-default #1 SMP PREEMPT_DYNAMIC Wed May 11 06:57:18 UTC 2022 (49db222)
x86_64 x86_64 x86_64 GNU/Linux

```

```

-----
2. w
22:32:21 up 1:01, 1 user, load average: 0.67, 0.20, 0.07
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
root     tty1    -             22:31    1:01   1.20s  0.00s /bin/bash ./dell-norun-specrate.sh
--iterations 2 --output_format csv,html,pdf,txt --define Dell-BIOS-inc=Dell-BIOS_Xeon-4.inc

```

```

-----
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) 4124469
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) 4124469
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_rate.sh
/bin/bash ./dell-norun-main.sh rate
/bin/bash ./dell-norun-main.sh rate

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2023

Hardware Availability: Feb-2023

Software Availability: Jun-2022

## Platform Notes (Continued)

```

/bin/bash ./dell-norun-specrate.sh --iterations 2 --output_format csv,html,pdf,txt --define
Dell-BIOS-inc=Dell-BIOS_Xeon-4.inc
/bin/bash ./dell-norun-specrate.sh --iterations 2 --output_format csv,html,pdf,txt --define
Dell-BIOS-inc=Dell-BIOS_Xeon-4.inc
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=144 -c
ic2022.1-lin-core-avx512-rate-20220316.cfg --define smt-on --define cores=72 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak -o all --iterations 2
--output_format csv,html,pdf,txt --define Dell-BIOS-inc=Dell-BIOS_Xeon-4.inc intrate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=144 --configfile
ic2022.1-lin-core-avx512-rate-20220316.cfg --define smt-on --define cores=72 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --iterations 2
--output_format csv,html,pdf,txt --define Dell-BIOS-inc=Dell-BIOS_Xeon-4.inc --nopower --runmode rate
--tune base:peak --size refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.001/temlogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2017-1.1.9-ic2022.1

```

```

-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) Platinum 8452Y
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping       : 8
microcode      : 0x2b000161
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores     : 36
siblings       : 72
2 physical ids (chips)
144 processors (hardware threads)
physical id 0: core ids 0-35
physical id 1: core ids 0-35
physical id 0: apicids 0-71
physical id 1: apicids 128-199

```

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 2.37.2:
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):            144
On-line CPU(s) list: 0-143
Vendor ID:         GenuineIntel
Model name:        Intel(R) Xeon(R) Platinum 8452Y
CPU family:        6
Model:             143
Thread(s) per core: 2
Core(s) per socket: 36
Socket(s):         2
Stepping:          8
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

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

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

**Test Date:** Jan-2023  
**Hardware Availability:** Feb-2023  
**Software Availability:** Jun-2022

### Platform Notes (Continued)

```
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 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_lld arch_capabilities
```

```
L1d cache: 3.4 MiB (72 instances)
L1i cache: 2.3 MiB (72 instances)
L2 cache: 144 MiB (72 instances)
L3 cache: 135 MiB (2 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0,4,8,12,16,20,24,28,32,72,76,80,84,88,92,96,100,104
NUMA node1 CPU(s): 36,40,44,48,52,56,60,64,68,108,112,116,120,124,128,132,136,140
NUMA node2 CPU(s): 2,6,10,14,18,22,26,30,34,74,78,82,86,90,94,98,102,106
NUMA node3 CPU(s): 38,42,46,50,54,58,62,66,70,110,114,118,122,126,130,134,138,142
NUMA node4 CPU(s): 1,5,9,13,17,21,25,29,33,73,77,81,85,89,93,97,101,105
NUMA node5 CPU(s): 37,41,45,49,53,57,61,65,69,109,113,117,121,125,129,133,137,141
NUMA node6 CPU(s): 3,7,11,15,19,23,27,31,35,75,79,83,87,91,95,99,103,107
NUMA node7 CPU(s): 39,43,47,51,55,59,63,67,71,111,115,119,123,127,131,135,139,143
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: 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
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	3.4M	12	Data	1	64	1	64
L1i	32K	2.3M	8	Instruction	1	64	1	64
L2	2M	144M	16	Unified	2	2048	1	64
L3	67.5M	135M	15	Unified	3	73728	1	64

8. numactl --hardware

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

```
available: 8 nodes (0-7)
node 0 cpus: 0,4,8,12,16,20,24,28,32,72,76,80,84,88,92,96,100,104
node 0 size: 128399 MB
node 0 free: 127638 MB
node 1 cpus: 36,40,44,48,52,56,60,64,68,108,112,116,120,124,128,132,136,140
node 1 size: 129019 MB
node 1 free: 128827 MB
node 2 cpus: 2,6,10,14,18,22,26,30,34,74,78,82,86,90,94,98,102,106
node 2 size: 129019 MB
node 2 free: 128765 MB
node 3 cpus: 38,42,46,50,54,58,62,66,70,110,114,118,122,126,130,134,138,142
node 3 size: 129019 MB
node 3 free: 128846 MB
node 4 cpus: 1,5,9,13,17,21,25,29,33,73,77,81,85,89,93,97,101,105
node 4 size: 129019 MB
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

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

Test Date: Jan-2023  
Hardware Availability: Feb-2023  
Software Availability: Jun-2022

## Platform Notes (Continued)

```

node 4 free: 121287 MB
node 5 cpus: 37,41,45,49,53,57,61,65,69,109,113,117,121,125,129,133,137,141
node 5 size: 129019 MB
node 5 free: 128755 MB
node 6 cpus: 3,7,11,15,19,23,27,31,35,75,79,83,87,91,95,99,103,107
node 6 size: 128984 MB
node 6 free: 128696 MB
node 7 cpus: 39,43,47,51,55,59,63,67,71,111,115,119,123,127,131,135,139,143
node 7 size: 128658 MB
node 7 free: 128101 MB
node distances:
node  0  1  2  3  4  5  6  7
0:  10 12 12 12 21 21 21 21
1:  12 10 12 12 21 21 21 21
2:  12 12 10 12 21 21 21 21
3:  12 12 12 10 21 21 21 21
4:  21 21 21 21 10 12 12 12
5:  21 21 21 21 12 10 12 12
6:  21 21 21 21 12 12 10 12
7:  21 21 21 21 12 12 12 10

```

```

9. /proc/meminfo
MemTotal:      1055886784 kB

```

```

10. who -r
run-level 3 Jan 12 21:31

```

```

11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)
Default Target Status
multi-user      running

```

```

12. Services, from systemctl list-unit-files
STATE UNIT FILES
enabled apparmor auditd cron firewalld getty@ haveged irqbalance issue-generator kbdsettings kdump
kdump-early lvm2-monitor postfix purge-kernels rollback sshd wicked wickedd-auto4
wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
disabled blk-availability boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell
ebtables grub2-once haveged-switch-root issue-add-ssh-keys kexec-load lunmask nfs
nfs-blkmap rpcbind rpmconfigcheck rsyncd serial-getty@ systemd-boot-check-no-failures
systemd-network-generator systemd-sysexec systemd-time-wait-sync systemd-timesyncd
indirect wickedd

```

```

13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
root=UUID=4068cb7a-41a3-4eea-ab49-bc6f15bea24c
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=314M,high
crashkernel=72M,low

```

```

14. sysctl

```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2023

Hardware Availability: Feb-2023

Software Availability: Jun-2022

## Platform Notes (Continued)

```

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+advise [advise] never
enabled        [always] advise 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
os-release SUSE Linux Enterprise Server 15 SP4

```

```

-----
18. Disk information
SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-ic2022.1
Filesystem  Type  Size  Used Avail Use% Mounted on
tmpfs      tmpfs 125G  3.7G 122G   3% /mnt/ramdisk

```

```

-----
19. /sys/devices/virtual/dmi/id
Vendor:      Dell Inc.
Product:     PowerEdge MX760c
Product Family: PowerEdge
Serial:      SL6M701

```

```

-----
20. dmidecode
Additional information from dmidecode 3.2 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

```

(Continued on next page)





# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

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

**Test Date:** Jan-2023  
**Hardware Availability:** Feb-2023  
**Software Availability:** Jun-2022

## Platform Notes (Continued)

"DMTF SMBIOS" standard.

Memory:

12x 002C00B3002C MTC40F2046S1RC48BA1 64 GB 2 rank 4800  
1x 002C0632002C MTC40F2046S1RC48BA1 64 GB 2 rank 4800  
3x 002C069D002C MTC40F2046S1RC48BA1 64 GB 2 rank 4800

### 21. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor: Dell Inc.  
BIOS Version: 1.0.1  
BIOS Date: 12/27/2022  
BIOS Revision: 1.0

## Compiler Version Notes

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 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 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

C | 502.gcc\_r(peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on IA-32, Version 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 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 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

C++ | 520.omnetpp\_r(base, peak) 523.xalancbmk\_r(base, peak) 531.deepsjeng\_r(base, peak)  
| 541.leela\_r(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

Fortran | 548.exchange2\_r(base, peak)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2022.1.0 Build 20220316

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2023

Hardware Availability: Feb-2023

Software Availability: Jun-2022

## Compiler Version Notes (Continued)

Copyright (C) 1985-2022 Intel Corporation. All rights reserved.

## 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 -xCORE-AVX512 -O3 -ffast-math  
 -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
 -L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64\_lin  
 -lqkmalloc

C++ benchmarks:

-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto  
 -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
 -L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64\_lin  
 -lqkmalloc

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2023

Hardware Availability: Feb-2023

Software Availability: Jun-2022

## Base Optimization Flags (Continued)

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin
-lqkmalloc
```

## 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.profddata(pass 2) -xCORE-AVX512
-Ofast -ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fno-strict-overflow
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

CPU2017 License: 6573

Test Date: Jan-2023

Test Sponsor: Dell Inc.

Hardware Availability: Feb-2023

Tested by: Dell Inc.

Software Availability: Jun-2022

## Peak Optimization Flags (Continued)

500.perlbench\_r (continued):

```
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin  
-lqkmallo
```

502.gcc\_r: -m32

```
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/ia32_lin  
-std=gnu89 -Wl,-z,muldefs -fprofile-generate(pass 1)  
-fprofile-use=default.profddata(pass 2) -xCORE-AVX512  
-Ofast -ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -L/usr/local/jemalloc32-5.0.1/lib  
-ljemallo
```

505.mcf\_r: basepeak = yes

525.x264\_r: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast

```
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fno-alias  
-L/usr/local/intel/compiler/2022.1.0/linux/compiler/lib/intel64_lin  
-lqkmallo
```

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-ic2022-official-linux64-revB.html>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.3.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64-revB.xml>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.3.xml>



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_int\_base = 600

PowerEdge MX760c (Intel Xeon Platinum 8452Y)

SPECrate®2017\_int\_peak = 617

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2023

Hardware Availability: Feb-2023

Software Availability: Jun-2022

SPEC CPU and SPECrate 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 2023-01-12 22:32:20-0500.

Report generated on 2024-01-29 17:21:18 by CPU2017 PDF formatter v6716.

Originally published on 2023-02-01.