



SPEC CPU®2017 Floating Point Rate Result

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Dell Inc.

SPECrate®2017_fp_base = 669

PowerEdge XR8720t (Intel Xeon 6766P-B)

SPECrate®2017_fp_peak = 694

CPU2017 License: 6573

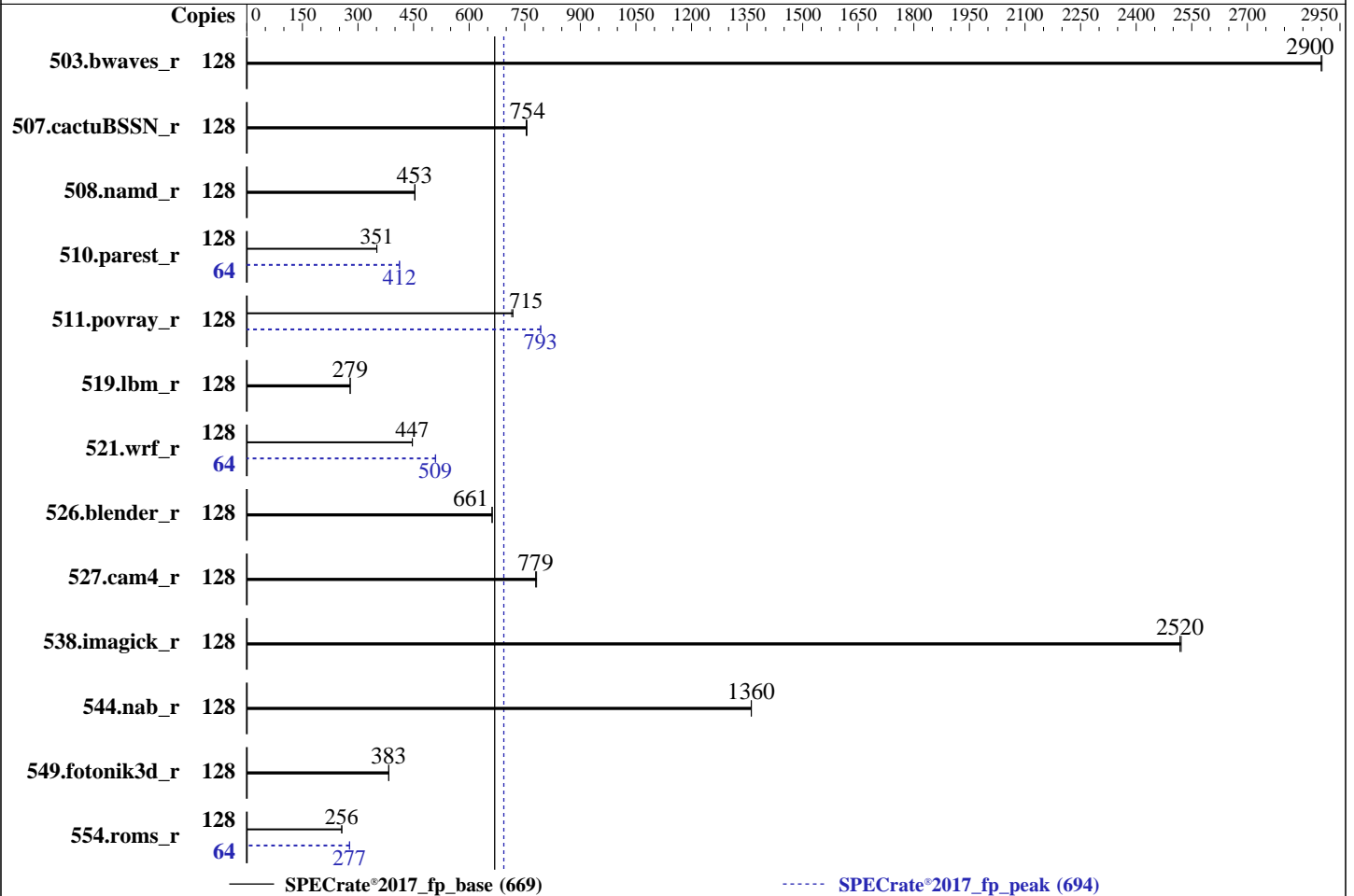
Test Date: Mar-2026

Test Sponsor: Dell Inc.

Hardware Availability: Mar-2026

Tested by: Dell Inc.

Software Availability: Jun-2025



Hardware

CPU Name: Intel Xeon 6766P-B
 Max MHz: 3500
 Nominal: 2300
 Enabled: 64 cores, 1 chip, 2 threads/core
 Orderable: 1 chip
 Cache L1: 64 KB I + 48 KB D on chip per core
 L2: 2 MB I+D on chip per core
 L3: 256 MB I+D on chip per chip
 Other: None
 Memory: 256 GB (8 x 32 GB 2Rx8 PC5-6400B-R)
 Storage: 90 GB on tmpfs
 Other: CPU Cooling: Air

Software

OS: Red Hat Enterprise Linux 10.0 (Coughlan)
 6.12.0-55.9.1.el10_0.x86_64
 Compiler: C/C++: Version 2025.2 of Intel oneAPI DPC++/C++ Compiler for Linux;
 Fortran: Version 2025.2 of Intel Fortran Compiler for Linux;
 Parallel: No
 Firmware: Version 1.1.3 released Feb-2026
 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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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	128	442	2900	<u>443</u>	<u>2900</u>			128	442	2900	<u>443</u>	<u>2900</u>		
507.cactuBSSN_r	128	214	756	<u>215</u>	<u>754</u>			128	214	756	<u>215</u>	<u>754</u>		
508.namd_r	128	268	454	<u>268</u>	<u>453</u>			128	268	454	<u>268</u>	<u>453</u>		
510.parest_r	128	<u>955</u>	<u>351</u>	954	351			64	<u>407</u>	<u>412</u>	406	412		
511.povray_r	128	416	718	<u>418</u>	<u>715</u>			128	377	793	<u>377</u>	<u>793</u>		
519.lbm_r	128	<u>484</u>	<u>279</u>	484	279			128	<u>484</u>	<u>279</u>	484	279		
521.wrf_r	128	<u>642</u>	<u>447</u>	642	447			64	<u>282</u>	<u>509</u>	281	510		
526.blender_r	128	294	662	<u>295</u>	<u>661</u>			128	294	662	<u>295</u>	<u>661</u>		
527.cam4_r	128	<u>287</u>	<u>779</u>	286	782			128	<u>287</u>	<u>779</u>	286	782		
538.imagick_r	128	<u>126</u>	<u>2520</u>	126	2520			128	<u>126</u>	<u>2520</u>	126	2520		
544.nab_r	128	158	1360	<u>158</u>	<u>1360</u>			128	158	1360	<u>158</u>	<u>1360</u>		
549.fotonik3d_r	128	1302	383	<u>1303</u>	<u>383</u>			128	1302	383	<u>1303</u>	<u>383</u>		
554.roms_r	128	794	256	<u>794</u>	<u>256</u>			64	366	278	<u>367</u>	<u>277</u>		

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

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Environment Variables Notes

Environment variables set by runcpu before the start of the run:

```
LD_LIBRARY_PATH =
    "/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2025.2/je5.0.1-64"
MALLOCCONF = "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

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General Notes (Continued)

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>
Benchmark run from a 90 GB ramdisk created with the cmd: "mount -t tmpfs -o size=90G tmpfs /mnt/ramdisk"

Platform Notes

BIOS Settings:

Sub NUMA Cluster : Enabled
AMP Prefetch : Enabled

System Profile : Custom
CPU Power Management : Maximum Performance

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-ic2025.2/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on SLXR872-XR8720t Fri Mar 20 22:52:15 2026

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

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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 257 (257-9.el10_0.1-g8cd5633)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
16. sysctl
17. /sys/kernel/mm/transparent_hugepage
18. /sys/kernel/mm/transparent_hugepage/khugepaged
19. OS release
20. Disk information
21. /sys/devices/virtual/dmi/id
22. dmidecode
23. BIOS

```
1. uname -a
Linux SLXR872-XR8720t 6.12.0-55.9.1.el10_0.x86_64 #1 SMP PREEMPT_DYNAMIC Tue Mar 25 09:14:09 EDT 2025
x86_64 GNU/Linux
```

```
2. w
22:52:15 up 1 min, 1 user, load average: 0.61, 0.23, 0.08
USER      TTY      LOGIN@  IDLE   JCPU   PCPU   WHAT
root          22:52   1:37   0.00s  0.08s /usr/lib/systemd/systemd --user
```

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Platform Notes (Continued)

3. Username

From environment variable \$USER: root

4. ulimit -a

```
real-time non-blocking time (microseconds, -R) unlimited
core file size (blocks, -c) unlimited
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited
pending signals (-i) 1027458
max locked memory (kbytes, -l) 8192
max memory size (kbytes, -m) unlimited
open files (-n) 1024
pipe size (512 bytes, -p) 8
POSIX message queues (bytes, -q) 819200
real-time priority (-r) 0
stack size (kbytes, -s) unlimited
cpu time (seconds, -t) unlimited
max user processes (-u) 1027458
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited
```

5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize=47 rhgb
/usr/sbin/crond -n
/usr/sbin/CROND -n
/bin/bash /home/DellFiles/bin/dell-crontab-run.sh dell-batch.sh
/bin/bash /home/DellFiles/bin/dell-crontab-run.sh dell-batch.sh
/bin/bash /home/DellFiles/bin/dell-batch.sh
/bin/bash /home/DellFiles/bin/dell-batch.sh
/bin/bash /home/DellFiles/bin/CPU_rate.sh fp
/bin/bash /home/DellFiles/bin/cpu-run-main.sh rate fp
/bin/bash /home/DellFiles/bin/cpu-run-main.sh rate fp
/bin/bash /home/DellFiles/bin/Intel/cpu-run-speccpu.sh rate_fp --define DL-VERS=7.0_T07 --output_format html,pdf,txt
/bin/bash /home/DellFiles/bin/Intel/cpu-run-speccpu.sh rate_fp --define DL-VERS=7.0_T07 --output_format html,pdf,txt
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 -c ic2025.2-linux64-graniterapids-rate-20250605.cfg --define smt-on --define cores=64 --define physicalfirst --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --iterations 2 --define DL-VERS=7.0_T07 --output_format html,pdf,txt fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=128 --configfile ic2025.2-linux64-graniterapids-rate-20250605.cfg --define smt-on --define cores=64 --define physicalfirst --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --iterations 2 --define DL-VERS=7.0_T07 --output_format html,pdf,txt --nopower --runmode rate --tune base:peak --size refrate fprate --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.001/templogs/preenv.fprate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2017-1.1.9-ic2025.2
```

6. /proc/cpuinfo

```
model name      : INTEL(R) XEON(R) 6766P-B
vendor_id       : GenuineIntel
cpu family      : 6
model           : 174
stepping        : 1
```

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Platform Notes (Continued)

microcode : 0x1000303
bugs : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores : 64
siblings : 128
1 physical ids (chips)
128 processors (hardware threads)
physical id 0: core ids 0-31,64-95
physical id 0: apicids 0-63,128-191

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 2.40.2:

```
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Address sizes: 52 bits physical, 57 bits virtual
Byte Order: Little Endian
CPU(s): 128
On-line CPU(s) list: 0-127
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel
Model name: INTEL(R) XEON(R) 6766P-B
BIOS Model name: INTEL(R) XEON(R) 6766P-B CPU @ 2.3GHz
BIOS CPU family: 179
CPU family: 6
Model: 174
Thread(s) per core: 2
Core(s) per socket: 64
Socket(s): 1
Stepping: 1
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 vmx smx est tm2 sse3 sdbg fma cx16
xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt
tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm
3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin cdp_l2
ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept
vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid cqm
rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb
intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1
xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
split_lock_detect user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida
arat pln pts hfi vnmi avx512vbmi umip pku ospke waitpkg avx512_vbmi2
gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpopcntdq la57
rdpid bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear
serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile
amx_int8 flush_lld arch_capabilities
Virtualization: VT-x
L1d cache: 3 MiB (64 instances)
L1i cache: 4 MiB (64 instances)
L2 cache: 128 MiB (64 instances)
L3 cache: 256 MiB (1 instance)
NUMA node(s): 2
NUMA node0 CPU(s): 0-31,64-95
NUMA node1 CPU(s): 32-63,96-127
```

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Platform Notes (Continued)

Vulnerability Gather data sampling: Not affected
 Vulnerability Itlb multihit: Not affected
 Vulnerability L1tf: Not affected
 Vulnerability Mds: Not affected
 Vulnerability Meltdown: Not affected
 Vulnerability Mmio stale data: Not affected
 Vulnerability Reg file data sampling: Not affected
 Vulnerability Retbleed: Not affected
 Vulnerability Spec rstack overflow: Not affected
 Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
 Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
 Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PBRSE-eIBRS Not affected; BHI BHI_DIS_S
 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	3M	12	Data	1	64	1	64
L1i	64K	4M	16	Instruction	1	64	1	64
L2	2M	128M	16	Unified	2	2048	1	64
L3	256M	256M	16	Unified	3	262144	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: 0-31,64-95
 node 0 size: 128088 MB
 node 0 free: 114549 MB
 node 1 cpus: 32-63,96-127
 node 1 size: 129001 MB
 node 1 free: 127772 MB
 node distances:
 node 0 1
 0: 10 12
 1: 12 10

9. /proc/meminfo

MemTotal: 263260056 kB

10. who -r

run-level 3 Mar 20 22:50

11. Systemd service manager version: systemd 257 (257-9.el10_0.1-g8cd5633)

Default Target	Status
multi-user	running

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon atd audit-rules auditd avahi-daemon bluetooth chronyd crond cups dbus-broker fips-crypto-policy-overlay firewalld gdm getty@ insights-client-boot irqbalance iscsi-onboot iscsi-starter kdump libstoragemgmt lvm2-monitor mcelog mdmonitor multipathd nvme-fc-boot-connections qemu-guest-agent rhsmcertd rsyslog rtkit-daemon selinux-autorelabel-mark smartd sshd sssd switcheroo-control systemd-confext

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Platform Notes (Continued)

```

enabled-runtime  systemd-network-generator systemd-pstore systemd-sysextd tuned tuned-ppd udisks2 upower
disabled        vgauthd vmtoolsd
                systemd-remount-fs
                arp-ethers blk-availability brltty canberra-system-bootup canberra-system-shutdown
                canberra-system-shutdown-reboot chrony-wait chronyd-restricted console-getty cups-browsed
                dbus-daemon debug-shell dnf-system-upgrade dnsmasq gnome-remote-desktop
                gnome-remote-desktop-configuration hypervfcopyd iscsi-init iscsid iscsiio kpatch kvm_stat
                ledmon low-memory-monitor lvm-devices-import man-db-restart-cache-update microcode
                netavark-dhcp-proxy netavark-firewalld-reload nftables nis-domainname nvmmf-autoconnect
                podman podman-auto-update podman-clean-transient podman-kube@ podman-restart psacct
                ras-mc-ctl rasdaemon rhsm rhsm-facts rpmdm-migrate rpmdm-rebuild
                selinux-check-proper-disable serial-getty@ speech-dispatcherd ssh-host-keys-migration
                sshd-keygen@ systemd-boot-check-no-failures systemd-boot-update
                systemd-PCRlock-file-system systemd-PCRlock-firmware-code systemd-PCRlock-firmware-config
                systemd-PCRlock-machine-id systemd-PCRlock-make-policy
                systemd-PCRlock-secureboot-authority systemd-PCRlock-secureboot-policy
                systemd-udev-load-credentials wpa_supplicant wsdd yggdrasil yggdrasil@
indirect        iscsi pcsd spice-vdagentd sshd@ sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh
                sssd-sudo systemd-sysupdate systemd-sysupdate-reboot systemd-userdbd

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd0,gpt2)/vmlinuz-6.12.0-55.9.1.el10_0.x86_64
root=/dev/mapper/rhel-root
ro
crashkernel=2G-64G:256M,64G-:512M
resume=UUID=eefe8659-8b69-47a2-9f71-b55ccafcac00
rd.lvm.lv=rhel/root
rd.lvm.lv=rhel/swap
rhgb
quiet

```

```

-----
14. cpupower frequency-info
analyzing CPU 59:
Unable to determine current policy
boost state support:
Supported: yes
Active: yes

```

```

-----
15. tuned-adm active
Current active profile: balanced

```

```

-----
16. 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

```

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Platform Notes (Continued)

```
vm.nr_overcommit_hugepages      0
vm.swappiness                    60
vm.watermark_boost_factor       15000
vm.watermark_scale_factor       10
vm.zone_reclaim_mode            0
```

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

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

```
-----
19. OS release
From /etc/*-release /etc/*-version
os-release      Red Hat Enterprise Linux 10.0 (Coughlan)
redhat-release  Red Hat Enterprise Linux release 10.0 (Coughlan)
system-release  Red Hat Enterprise Linux release 10.0 (Coughlan)
-----
```

```
-----
20. Disk information
SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-ic2025.2
Filesystem      Type  Size  Used Avail Use% Mounted on
tmpfs           tmpfs 90G   5.8G   85G   7% /mnt/ramdisk
-----
```

```
-----
21. /sys/devices/virtual/dmi/id
Vendor:         Dell Inc.
Product:        PowerEdge XR8720t
Product Family: PowerEdge
Serial:         SLXR872
-----
```

```
-----
22. dmidecode
Additional information from dmidecode 3.6 follows.  WARNING: Use caution when you interpret this section.
The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately
determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the
"DMTF SMBIOS" standard.
Memory:
  7x 002C0632002C MTC20F2085S1RC64BD2 MWFF 32 GB 2 rank 6400
  1x 002C069D002C MTC20F2085S1RC64BD1 USFF 32 GB 2 rank 6400
-----
```

```
-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:      Dell Inc.
BIOS Version:     1.1.3
BIOS Date:        02/03/2026
-----
```

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Platform Notes (Continued)

BIOS Revision: 1.1

Compiler Version Notes

=====
C | 519.lbm_r(base, peak) 538.imagick_r(base, peak) 544.nab_r(base, peak)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.

=====
C++ | 508.namd_r(base, peak) 510.parest_r(base, peak)
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.

=====
C++, C | 511.povray_r(base, peak) 526.blender_r(base, peak)
=====

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=====
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
=====

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=====
Fortran | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base, peak)
=====

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=====
Fortran, C | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
=====

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SPEC CPU®2017 Floating Point Rate Result

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Dell Inc.

SPECrate®2017_fp_base = 669

PowerEdge XR8720t (Intel Xeon 6766P-B)

SPECrate®2017_fp_peak = 694

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2026

Hardware Availability: Mar-2026

Software Availability: Jun-2025

Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Base Portability Flags

```
503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
526.blender_r: -DSPEC_LP64 -DSPEC_LINUX -funsigned-char
527.cam4_r: -DSPEC_LP64 -DSPEC_CASE_FLAG
538.imagick_r: -DSPEC_LP64
544.nab_r: -DSPEC_LP64
549.fotonik3d_r: -DSPEC_LP64
554.roms_r: -DSPEC_LP64
```

Base Optimization Flags

C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xgraniterapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xgraniterapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xgraniterapids -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xgraniterapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using both C and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xgraniterapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib
```

Benchmarks using Fortran, C, and C++:

```
-w -m64 -std=c++14 -std=c11 -Wl,-z,muldefs -xgraniterapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

Peak Compiler Invocation

C benchmarks:

```
icx
```

C++ benchmarks:

```
icpx
```

Fortran benchmarks:

```
ifx
```

Benchmarks using both Fortran and C:

```
ifx icx
```

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Test Date: Mar-2026

Hardware Availability: Mar-2026

Software Availability: Jun-2025

Peak Compiler Invocation (Continued)

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

519.lbm_r: basepeak = yes

538.imagick_r: basepeak = yes

544.nab_r: basepeak = yes

C++ benchmarks:

508.namd_r: basepeak = yes

510.parest_r: -w -std=c++14 -m64 -Wl,-z,muldefs -xgraniterapids -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:

503.bwaves_r: basepeak = yes

549.fotonik3d_r: basepeak = yes

554.roms_r: -w -m64 -Wl,-z,muldefs -xgraniterapids -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

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Test Date: Mar-2026

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Software Availability: Jun-2025

Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
521.wrf_r: -w -m64 -std=c11 -Wl,-z,muldefs -xgraniterapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int
-mprefer-vector-width=512 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

527.cam4_r: basepeak = yes

Benchmarks using both C and C++:

```
511.povray_r: -w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs
-fprofile-generate(pass 1)
-fprofile-use=default.profddata(pass 2) -xCORE-AVX2(pass 1)
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -Wno-implicit-int
-mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: basepeak = yes

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.19.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2025-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.19.xml>

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