SPEC CPU®2017 Floating Point Speed Result

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Dell Inc.

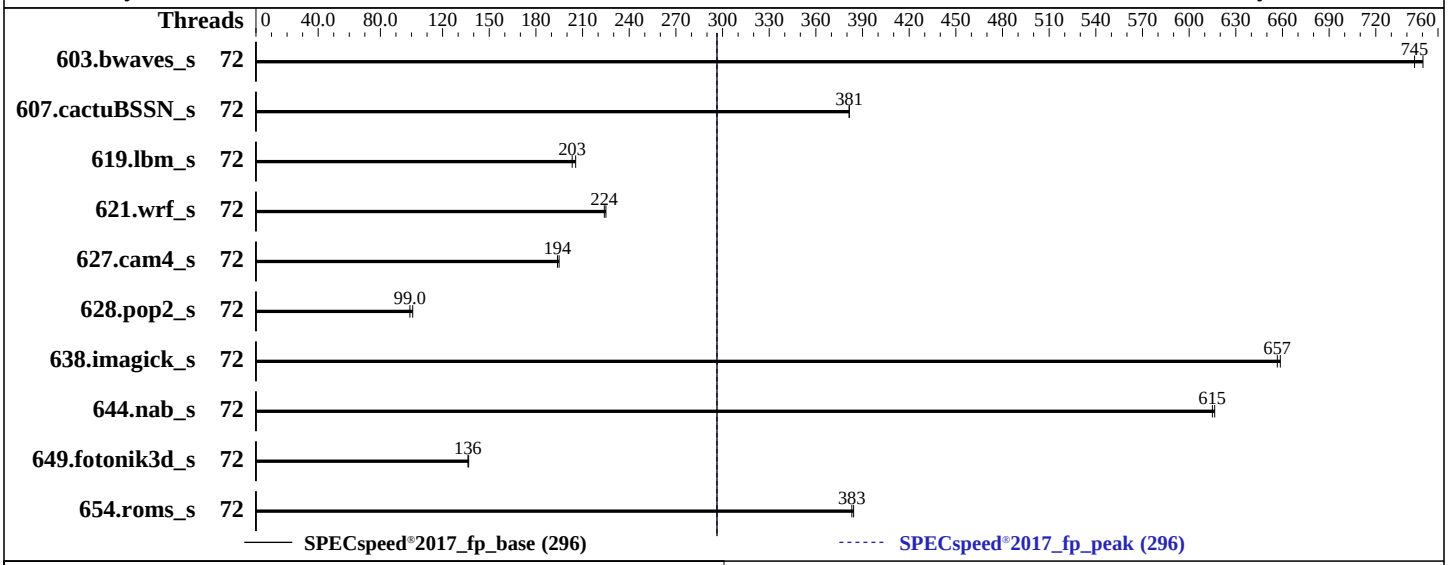
PowerEdge XR8720t (Intel Xeon 6776P-B)

SPECspeed®2017_fp_base = 296

SPECspeed®2017_fp_peak = 296

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

Test Date: Mar-2026
Hardware Availability: Mar-2026
Software Availability: Jun-2025



Hardware

CPU Name:	Intel Xeon 6776P-B
Max MHz:	3500
Nominal:	2300
Enabled:	72 cores, 1 chip
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:	288 MB I+D on chip per chip
Other:	None
Memory:	512 GB (8 x 64 GB 2Rx4 PC5-6400B-R)
Storage:	60 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:	Yes
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 set to prefer performance at the cost of additional power usage.

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	72	78.6	750	**79.2**	**745**			72	78.6	750	**79.2**	**745**		
607.cactuBSSN_s	72	**43.7**	**381**	43.7	381			72	**43.7**	**381**	43.7	381		
619.lbm_s	72	**25.8**	**203**	25.5	206			72	**25.8**	**203**	25.5	206		
621.wrf_s	72	58.8	225	**59.0**	**224**			72	58.8	225	**59.0**	**224**		
627.cam4_s	72	45.5	195	**45.7**	**194**			72	45.5	195	**45.7**	**194**		
628.pop2_s	72	**120**	**99.0**	118	101			72	**120**	**99.0**	118	101		
638.imagick_s	72	21.9	659	**22.0**	**657**			72	21.9	659	**22.0**	**657**		
644.nab_s	72	**28.4**	**615**	28.3	616			72	**28.4**	**615**	28.3	616		
649.fotonik3d_s	72	**66.9**	**136**	66.7	137			72	**66.9**	**136**	66.7	137		
654.roms_s	72	**41.1**	**383**	41.0	384			72	**41.1**	**383**	41.0	384		

SPECspeed®2017_fp_base = 296

SPECspeed®2017_fp_peak = 296

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

Platform Notes

```
BIOS Settings:
      Logical Processor : Disabled
       Sub NUMA Cluster : Enabled
           LLC Prefetch : Enabled
```

(Continued on next page)

Platform Notes (Continued)

```
         System Profile : Custom
   CPU Power Management : Maximum Performance
    Memory Patrol Scrub : Disabled
 Latency Optimized Mode : Enabled

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-ic2025.2/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on P404206-XR8720t Mon Mar  2 11:06:24 2026

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

------------------------------------------------------------
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------------------------------------------------------------
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 2. w
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 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 P404206-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
   11:06:24 up  2:27,  2 users,  load average: 5.91, 5.50, 3.25
  USER     TTY        LOGIN@   IDLE   JCPU   PCPU WHAT
  root     tty1      09:17   14:54   0.04s  0.04s -bash
  root               09:17    2:27m  0.00s  0.07s /usr/lib/systemd/systemd --user

------------------------------------------------------------
3. Username
  From environment variable $USER:  root

------------------------------------------------------------
4. ulimit -a
  real-time non-blocking time  (microseconds, -R) unlimited
  core file size              (blocks, -c) unlimited
```

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Platform Notes (Continued)

```
   data seg size               (kbytes, -d) unlimited
   scheduling priority                 (-e) 0
   file size                   (blocks, -f) unlimited
   pending signals                     (-i) 2059727
   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) 2059727
   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_speed.sh
 /bin/bash /home/DellFiles/bin/cpu-run-main.sh speed
 /bin/bash /home/DellFiles/bin/cpu-run-main.sh speed
 /bin/bash /home/DellFiles/bin/Intel/cpu-run-speccpu.sh speed_all --define DL-VERS=7.0_T06 --output_format
   html,pdf,txt
 /bin/bash /home/DellFiles/bin/Intel/cpu-run-speccpu.sh speed_all --define DL-VERS=7.0_T06 --output_format
   html,pdf,txt
 runcpu --nobuild --action validate --define default-platform-flags -c
   ic2025.2-linux64-graniterapids-speed-20250605.cfg --define cores=72 --tune base,peak -o all --define
   drop_caches --iterations 2 --define DL-VERS=7.0_T06 --output_format html,pdf,txt fpspeed
 runcpu --nobuild --action validate --define default-platform-flags --configfile
   ic2025.2-linux64-graniterapids-speed-20250605.cfg --define cores=72 --tune base,peak --output_format all
   --define drop_caches --iterations 2 --define DL-VERS=7.0_T06 --output_format html,pdf,txt --nopower
   --runmode speed --tune base:peak --size refspeed fpspeed --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.002/templogs/preenv.fpspeed.002.0.log --lognum 002.0 --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) 6776P-B
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 174
    stepping        : 1
    microcode       : 0x1000303
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
    cpu cores       : 72
    siblings        : 72
    1 physical ids (chips)
    72 processors (hardware threads)
    physical id 0: core ids 0-35,64-99
    physical id 0: apicids
    0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,12
    8,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180
```

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Platform Notes (Continued)

```
    ,182,184,186,188,190,192,194,196,198
  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):                               72
  On-line CPU(s) list:                  0-71
  Vendor ID:                            GenuineIntel
  BIOS Vendor ID:                       Intel
  Model name:                           INTEL(R) XEON(R) 6776P-B
  BIOS Model name:                      INTEL(R) XEON(R) 6776P-B  CPU @ 2.3GHz
  BIOS CPU family:                      179
  CPU family:                           6
  Model:                                174
  Thread(s) per core:                   1
  Core(s) per socket:                   72
  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 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 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 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_l1d arch_capabilities
  Virtualization:                       VT-x
  L1d cache:                            3.4 MiB (72 instances)
  L1i cache:                            4.5 MiB (72 instances)
  L2 cache:                             144 MiB (72 instances)
  L3 cache:                             288 MiB (1 instance)
  NUMA node(s):                         2
  NUMA node0 CPU(s):                    0-35
  NUMA node1 CPU(s):                    36-71
  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
```

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Platform Notes (Continued)

```
  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;
                                       PBRSB-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     3.4M   12 Data            1     64        1             64
     L1i       64K     4.5M   16 Instruction     1     64        1             64
     L2         2M     144M   16 Unified         2   2048        1             64
     L3       288M     288M   16 Unified         3 294912        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: 0-35
  node 0 size: 257168 MB
  node 0 free: 243232 MB
  node 1 cpus: 36-71
  node 1 size: 257985 MB
  node 1 free: 256609 MB
  node distances:
  node     0    1
     0:   10   12
     1:   12   10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       527517240 kB

------------------------------------------------------------
10. who -r
  run-level 3 Mar 2 08:39

------------------------------------------------------------
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 nvmefc-boot-connections qemu-guest-agent rhsmcertd rsyslog rtkit-daemon
                   selinux-autorelabel-mark smartd sshd sssd switcheroo-control systemd-confext
                   systemd-network-generator systemd-pstore systemd-sysext tuned tuned-ppd udisks2 upower
                   vgauthd vmtoolsd
  enabled-runtime  systemd-remount-fs
  disabled         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 iscsiuio kpatch kvm_stat
```

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Platform Notes (Continued)

```
                ledmon low-memory-monitor lvm-devices-import man-db-restart-cache-update microcode
                netavark-dhcp-proxy netavark-firewalld-reload nftables nis-domainname nvmf-autoconnect
                podman podman-auto-update podman-clean-transient podman-kube@ podman-restart psacct
                ras-mc-ctl rasdaemon rhsm rhsm-facts rpmdb-migrate rpmdb-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 pcscd 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=94aa4dd4-b04d-42c5-9ac2-da9c96f84f4e
  rd.lvm.lv=rhel/root
  rd.lvm.lv=rhel/swap
  rhgb
  quiet

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 67:
    Unable to determine current policy
    boost state support:
      Supported: yes
      Active: yes

------------------------------------------------------------
15. tuned-adm active
  No current active profile.

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

------------------------------------------------------------
```

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Platform Notes (Continued)

```
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   60G  5.8G   55G  10% /mnt/ramdisk

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:         Dell Inc.
    Product:        PowerEdge XR8720t
    Product Family: PowerEdge
    Serial:         P404206

------------------------------------------------------------
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:
    8x 00CE063200CE M321R8GA0PB2-CCPKC 64 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
   BIOS Revision:     1.1
```

Compiler Version Notes

```
==============================================================================================================
C               | 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base, peak)
--------------------------------------------------------------------------------------------------------------
```

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Compiler Version Notes (Continued)

```
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, Fortran | 607.cactuBSSN_s(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.
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.
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------------------------------------------------

==============================================================================================================
Fortran         | 603.bwaves_s(base, peak) 649.fotonik3d_s(base, peak) 654.roms_s(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------------------------------------------------

==============================================================================================================
Fortran, C      | 621.wrf_s(base, peak) 627.cam4_s(base, peak) 628.pop2_s(base, peak)
--------------------------------------------------------------------------------------------------------------
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2025.2.0 Build 20250605
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
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.
------------------------------------------------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
icx

Fortran benchmarks:
ifx

Benchmarks using both Fortran and C:
ifx icx

Benchmarks using Fortran, C, and C++:
icpx icx ifx

Base Portability Flags

603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64

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Base Portability Flags (Continued)

619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
-assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -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 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

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

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 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using Fortran, 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 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-mprefer-vector-width=512 -nostandard-realloc-lhs -align array32byte
-auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Peak Compiler Invocation

C benchmarks:
icx

(Continued on next page)

Peak Compiler Invocation (Continued)

Fortran benchmarks:
ifx

Benchmarks using both Fortran and C:
ifx icx

Benchmarks using Fortran, C, and C++:
icpx icx ifx

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

619.lbm_s: basepeak = yes

638.imagick_s: basepeak = yes

644.nab_s: basepeak = yes

Fortran benchmarks:

603.bwaves_s: basepeak = yes

649.fotonik3d_s: basepeak = yes

654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf_s: basepeak = yes

627.cam4_s: basepeak = yes

628.pop2_s: basepeak = yes

(Continued on next page)

Peak Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:

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

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