



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_fp\_base = 56.6

PowerEdge R260 (Intel Xeon 6315P)

SPECspeed®2017\_fp\_peak = 56.6

CPU2017 License: 6573

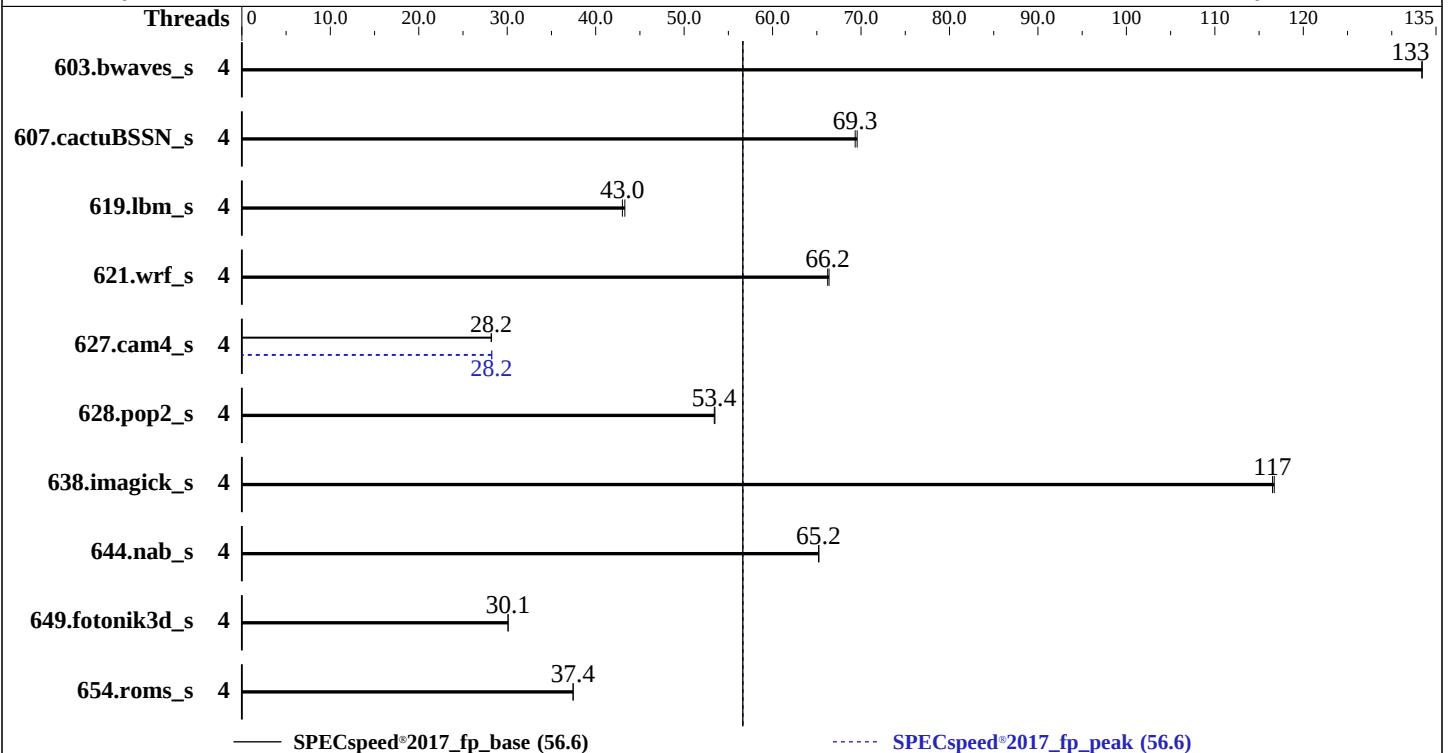
Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2025

Hardware Availability: Mar-2025

Software Availability: Jun-2024



## Hardware

CPU Name: Intel Xeon 6315P  
Max MHz: 4700  
Nominal: 2800  
Enabled: 4 cores, 1 chip  
Orderable: 1 chip  
Cache L1: 32 KB I + 48 KB D on chip per core  
L2: 2 MB I+D on chip per core  
L3: 12 MB I+D on chip per chip  
Other: None  
Memory: 64 GB (2 x 32 GB 2Rx8 PC5-5600B-E, running at 4400)  
Storage: 30 GB on tmpfs  
Other: CPU Cooling: Air

## Software

OS: SUSE Linux Enterprise Server 15 SP6  
6.4.0-150600.21-default  
Compiler: C/C++: Version 2024.1 of Intel oneAPI DPC++/C++  
Compiler for Linux;  
Fortran: Version 2024.1 of Intel Fortran Compiler  
for Linux;  
Parallel: Yes  
Firmware: Version 2.0.0 released Dec-2024  
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.



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## Results Table

| Benchmark       | Base    |                   |                    |                   |                    |         |       | Peak    |                   |                    |                   |                    |         |       |
|-----------------|---------|-------------------|--------------------|-------------------|--------------------|---------|-------|---------|-------------------|--------------------|-------------------|--------------------|---------|-------|
|                 | Threads | Seconds           | Ratio              | Seconds           | Ratio              | Seconds | Ratio | Threads | Seconds           | Ratio              | Seconds           | Ratio              | Seconds | Ratio |
| 603.bwaves_s    | 4       | 442               | 133                | <b><u>442</u></b> | <b><u>133</u></b>  |         |       | 4       | 442               | 133                | <b><u>442</u></b> | <b><u>133</u></b>  |         |       |
| 607.cactuBSSN_s | 4       | <b><u>240</u></b> | <b><u>69.3</u></b> | 240               | 69.6               |         |       | 4       | <b><u>240</u></b> | <b><u>69.3</u></b> | 240               | 69.6               |         |       |
| 619.lbm_s       | 4       | <b><u>122</u></b> | <b><u>43.0</u></b> | 121               | 43.3               |         |       | 4       | <b><u>122</u></b> | <b><u>43.0</u></b> | 121               | 43.3               |         |       |
| 621.wrf_s       | 4       | 199               | 66.4               | <b><u>200</u></b> | <b><u>66.2</u></b> |         |       | 4       | 199               | 66.4               | <b><u>200</u></b> | <b><u>66.2</u></b> |         |       |
| 627.cam4_s      | 4       | 314               | 28.2               | <b><u>315</u></b> | <b><u>28.2</u></b> |         |       | 4       | <b><u>314</u></b> | <b><u>28.2</u></b> | 314               | 28.3               |         |       |
| 628.pop2_s      | 4       | <b><u>222</u></b> | <b><u>53.4</u></b> | 222               | 53.5               |         |       | 4       | <b><u>222</u></b> | <b><u>53.4</u></b> | 222               | 53.5               |         |       |
| 638.imagick_s   | 4       | <b><u>124</u></b> | <b><u>117</u></b>  | 124               | 117                |         |       | 4       | <b><u>124</u></b> | <b><u>117</u></b>  | 124               | 117                |         |       |
| 644.nab_s       | 4       | 268               | 65.2               | <b><u>268</u></b> | <b><u>65.2</u></b> |         |       | 4       | 268               | 65.2               | <b><u>268</u></b> | <b><u>65.2</u></b> |         |       |
| 649.fotonik3d_s | 4       | <b><u>303</u></b> | <b><u>30.1</u></b> | 303               | 30.1               |         |       | 4       | <b><u>303</u></b> | <b><u>30.1</u></b> | 303               | 30.1               |         |       |
| 654.roms_s      | 4       | 420               | 37.5               | <b><u>420</u></b> | <b><u>37.4</u></b> |         |       | 4       | 420               | 37.5               | <b><u>420</u></b> | <b><u>37.4</u></b> |         |       |

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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-ic2024.1/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2024.1/je5.0.1-64"

MALLOC\_CONF = "retain:true"

OMP\_STACKSIZE = "192M"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM

memory using Redhat Enterprise Linux 8.0

Transparent Huge Pages enabled by default

Prior to runcpu invocation

Filesystem page cache synced and cleared with:

sync; echo 3> /proc/sys/vm/drop\_caches

jemalloc, a general purpose malloc implementation

built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)

is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1)

is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2)

is mitigated in the system as tested and documented.

Benchmark run from a 30 GB ramdisk created with the cmd: "mount -t tmpfs -o size=30G tmpfs /mnt/ramdisk"



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## Platform Notes

### BIOS Settings:

Virtualization Technology : Disabled  
LLC Prefetch : Enabled  
x2APIC Mode : Disabled

System Profile : Custom  
CPU Power Management : Maximum Performance  
C1E : Disabled  
C-States : Autonomous

PCI ASPM L1 Link Power Management : Disabled

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-ic2024.1/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on 1234567-R260 Thu Jan 23 13:08:37 2025

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 254 (254.10+suse.84.ge8d77af424)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
16. tuned-adm active
17. sysctl
18. /sys/kernel/mm/transparent\_hugepage
19. /sys/kernel/mm/transparent\_hugepage/khugepaged
20. OS release
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS

```
1. uname -a
Linux 1234567-R260 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09/lp)
x86_64 x86_64 x86_64 GNU/Linux
```

```
2. w
13:08:37 up 2:40, 1 user, load average: 1.76, 2.76, 2.24
USER      TTY      FROM          LOGIN@      IDLE        JCPU      PCPU WHAT
root      tty1      -             10:29       2:38m      0.82s     0.00s /bin/bash
/home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=6.1 --output_format html,pdf,txt
```

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## Platform Notes (Continued)

### 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) 254831
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) 254831
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

### 5. sysinfo process ancestry

```
/usr/lib/systemd/systemd --switched-root --system --deserialize=42
login -- root
-bash
/bin/bash /home/DellFiles/bin/DELL_speed.sh
/bin/bash /home/DellFiles/bin/dell-run-main.sh speed
/bin/bash /home/DellFiles/bin/dell-run-main.sh speed
/bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=6.1 --output_format
html, pdf, txt
/bin/bash /home/DellFiles/bin/Intel/dell-run-speccpu.sh speed --define DL-VERS=6.1 --output_format
html, pdf, txt
runcpu --nobuild --action validate --define default-platform-flags -c
ic2024.1-lin-core-avx2-speed-20240308.cfg --define cores=4 --tune base,peak -o all --define drop_caches
--iterations 2 --define DL-VERS=6.1 --output_format html, pdf, txt fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
ic2024.1-lin-core-avx2-speed-20240308.cfg --define cores=4 --tune base,peak --output_format all --define
drop_caches --iterations 2 --define DL-VERS=6.1 --output_format html, pdf, txt --nopower --runmode speed
--tune base:peak --size refspeak fpspeed --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.002/temlogs/preenv.fpspeed.002.0.log --lognum 002.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2017-1.1.9-ic2024.1
```

### 6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6315P
vendor_id       : GenuineIntel
cpu family      : 6
model           : 183
stepping        : 1
microcode       : 0x12c
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi
cpu cores       : 4
siblings        : 4
1 physical ids (chips)
4 processors (hardware threads)
physical id 0: core ids 0-3
physical id 0: apicids 0,2,4,6
```

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## Platform Notes (Continued)

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 2.39.3:

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Architecture:                         | x86_64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| CPU op-mode(s):                       | 32-bit, 64-bit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Address sizes:                        | 42 bits physical, 48 bits virtual                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Byte Order:                           | Little Endian                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CPU(s):                               | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| On-line CPU(s) list:                  | 0-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Vendor ID:                            | GenuineIntel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| BIOS Vendor ID:                       | Intel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Model name:                           | Intel(R) Xeon(R) 6315P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| BIOS Model name:                      | Intel(R) Xeon(R) 6315P CPU @ 2.8GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| BIOS CPU family:                      | 179                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| CPU family:                           | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Model:                                | 183                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Thread(s) per core:                   | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Core(s) per socket:                   | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Socket(s):                            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Stepping:                             | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| BogoMIPS:                             | 5606.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Flags:                                | fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat<br>pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx<br>pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good<br>nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni<br>pclmulqdq dtes64 monitor ds_cpl smx est tm2 ssse3 sdbg fma cx16 xtpr<br>pdcmm sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave<br>avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault ssbd ibrs ibpb<br>stibp ibrs_enhanced fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms<br>invpcid rdseed adx smap clflushopt clwb intel_pt sha_ni xsaveopt<br>xsavec xgetbv1 xsaves split_lock_detect user_shstk avx_vnni dtherm<br>ida arat pln pts hfi umip pku ospke waitpkg gfni vaes vpclmulqdq tme<br>rdrpid movdiri movdir64b fsrm md_clear serialize pconfig arch_lbr ibt<br>flush_l1d arch_capabilities |
| L1d cache:                            | 192 KiB (4 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| L1i cache:                            | 128 KiB (4 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| L2 cache:                             | 8 MiB (4 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| L3 cache:                             | 12 MiB (1 instance)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| NUMA node(s):                         | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| NUMA node0 CPU(s):                    | 0-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 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/swaps barriers and __user pointer sanitization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Vulnerability Spectre v2:             | Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling;<br>PBRSE-eIBRS SW sequence; BHI BHI_DIS_S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Vulnerability Srbds:                  | Not affected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Vulnerability Tsx async abort:        | Not affected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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## Platform Notes (Continued)

From lscpu --cache:

| NAME | ONE-SIZE | ALL-SIZE | WAYS | TYPE        | LEVEL | SETS  | PHY-LINE | COHERENCY-SIZE |
|------|----------|----------|------|-------------|-------|-------|----------|----------------|
| L1d  | 48K      | 192K     | 12   | Data        | 1     | 64    | 1        | 64             |
| L1i  | 32K      | 128K     | 8    | Instruction | 1     | 64    | 1        | 64             |
| L2   | 2M       | 8M       | 16   | Unified     | 2     | 2048  | 1        | 64             |
| L3   | 12M      | 12M      | 6    | Unified     | 3     | 32768 | 1        | 64             |

8. numactl --hardware

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

available: 1 nodes (0)

node 0 cpus: 0-3

node 0 size: 63738 MB

node 0 free: 46342 MB

node distances:

node 0

0: 10

9. /proc/meminfo

MemTotal: 65268172 kB

10. who -r

run-level 3 Jan 23 10:28

11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)

Default Target Status

multi-user degraded

12. Failed units, from systemctl list-units --state=failed

| UNIT | LOAD | ACTIVE | SUB | DESCRIPTION |
|------|------|--------|-----|-------------|
|------|------|--------|-----|-------------|

|                                      |        |        |        |                             |
|--------------------------------------|--------|--------|--------|-----------------------------|
| * NetworkManager-wait-online.service | loaded | failed | failed | Network Manager Wait Online |
|--------------------------------------|--------|--------|--------|-----------------------------|

13. Services, from systemctl list-unit-files

| STATE | UNIT FILES |
|-------|------------|
|-------|------------|

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enabled         | ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online<br>YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth cron<br>display-manager getty@ irqbalance issue-generator kbdsettings kdump kdump-early<br>kdump-notify klog lvm2-monitor nscd nvme-fc-boot-connections nvmmf-autoconnect postfix<br>purge-kernels rollback rsyslog smartd sshd systemd-pstore wpa_supplicant                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| enabled-runtime | systemd-remount-fs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| disabled        | accounts-daemon autofs autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl<br>ca-certificates chrony-wait chronyd console-getty cups cups-browsed debug-shell<br>dmraid-activation dnsmasq ebttables exchange-bmc-os-info firewallld fsidd gpm grub2-once<br>haveged hwloc-dump-hwdata ipmi ipmievdl issue-add-ssh-keys kexec-load ksm kvm_stat lunmask<br>man-db-create multipathd nfs nfs-blkmap nmb openvpn@ ostree-remount rpcbind rpmconfigcheck<br>rsyncd rtkit-daemon serial-getty@ smartd-generate_opts smb snmpd snmptrapd<br>speech-dispatcherd svnservice systemd-boot-check-no-failures systemd-confext<br>systemd-network-generator systemd-sysextd systemd-time-wait-sync systemd-timesyncd tuned<br>udisks2 update-system-flatpaks upower vncserver@ wickedd wickedd-auto4 wickedd-dhcp4<br>wickedd-dhcp6 wickedd-nanny wpa_supplicant@ xinetd |
| indirect        | pcscd saned@ systemd-userdbd tftpd wickedd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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

BOOT\_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default

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# SPEC CPU®2017 Floating Point Speed Result

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Dell Inc.

SPECspeed®2017\_fp\_base = 56.6

PowerEdge R260 (Intel Xeon 6315P)

SPECspeed®2017\_fp\_peak = 56.6

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Jan-2025

Hardware Availability: Mar-2025

Software Availability: Jun-2024

## Platform Notes (Continued)

```
root=UUID=84a9d109-684c-4e82-b77d-7f239ce586fa
splash=silent
resume=/dev/disk/by-uuid/78e8c834-3320-4dcf-8795-da99ba0828bd
mitigations=auto
quiet
security=apparmor
crashkernel=328M,high
crashkernel=72M,low
```

```
-----
15. cpupower frequency-info
   analyzing CPU 1:
     Unable to determine current policy
     boost state support:
       Supported: yes
       Active: yes
```

```
-----
16. tuned-adm active
   No current active profile.
```

```
-----
17. sysctl
   kernel.numa_balancing          0
   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
```

```
-----
18. /sys/kernel/mm/transparent_hugepage
   defrag          always defer defer+madvice [madvice] never
   enabled         [always] madvice never
   hpage_pmd_size  2097152
   shmem_enabled   always within_size advise [never] deny force
```

```
-----
19. /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
```

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## Platform Notes (Continued)

### 20. OS release

From /etc/\*-release /etc/\*-version  
os-release SUSE Linux Enterprise Server 15 SP6

### 21. Disk information

SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-ic2024.1  
Filesystem Type Size Used Avail Use% Mounted on  
tmpfs tmpfs 30G 11G 20G 37% /mnt/ramdisk

### 22. /sys/devices/virtual/dmi/id

Vendor: Dell Inc.  
Product: PowerEdge R260  
Product Family: PowerEdge  
Serial: 1234567

### 23. 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:

2x 002C00001501 MTC20C2085S1EC56BD1 32 GB 2 rank 5600, configured at 4400

### 24. BIOS

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

BIOS Vendor: Dell Inc.  
BIOS Version: 2.0.0  
BIOS Date: 12/20/2024  
BIOS Revision: 2.0

## Compiler Version Notes

C | 619.lbm\_s(base, peak) 638.imagick\_s(base, peak) 644.nab\_s(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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C++, C, Fortran | 607.cactuBSSN\_s(base, peak)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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Fortran | 603.bwaves\_s(base, peak) 649.fotonik3d\_s(base, peak) 654.roms\_s(base, peak)

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Test Date: Jan-2025

Hardware Availability: Mar-2025

Software Availability: Jun-2024

## Compiler Version Notes (Continued)

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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=====  
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 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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## 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

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



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## Base Optimization Flags

C benchmarks:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp  
-DSPEC_OPENMP -Wno-implicit-int -L/usr/local/jemalloc64-5.0.1/lib  
-ljemalloc
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX2 -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 -xCORE-AVX2 -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp  
-DSPEC_OPENMP -Wno-implicit-int -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 -xCORE-AVX2 -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int  
-nostandard-realloc-lhs -align array32byte -auto  
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

## Peak 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



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Software Availability: Jun-2024

## 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: -w -m64 -std=c11 -Wl, -z,muldefs -xCORE-AVX2 -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC\_OPENMP  
-Wno-implicit-int -nostandard-realloc-lhs  
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib  
-ljemalloc

628.pop2\_s: basepeak = yes

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-v1.18t.html>



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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-v1.18t.xml>

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Tested with SPEC CPU®2017 v1.1.9 on 2025-01-23 00:08:37-0500.

Report generated on 2025-12-16 21:35:55 by CPU2017 PDF formatter v6716.

Originally published on 2025-12-16.