



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Dell Inc.

SPECrate®2017\_fp\_base = 94.4

## PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

CPU2017 License: 6573

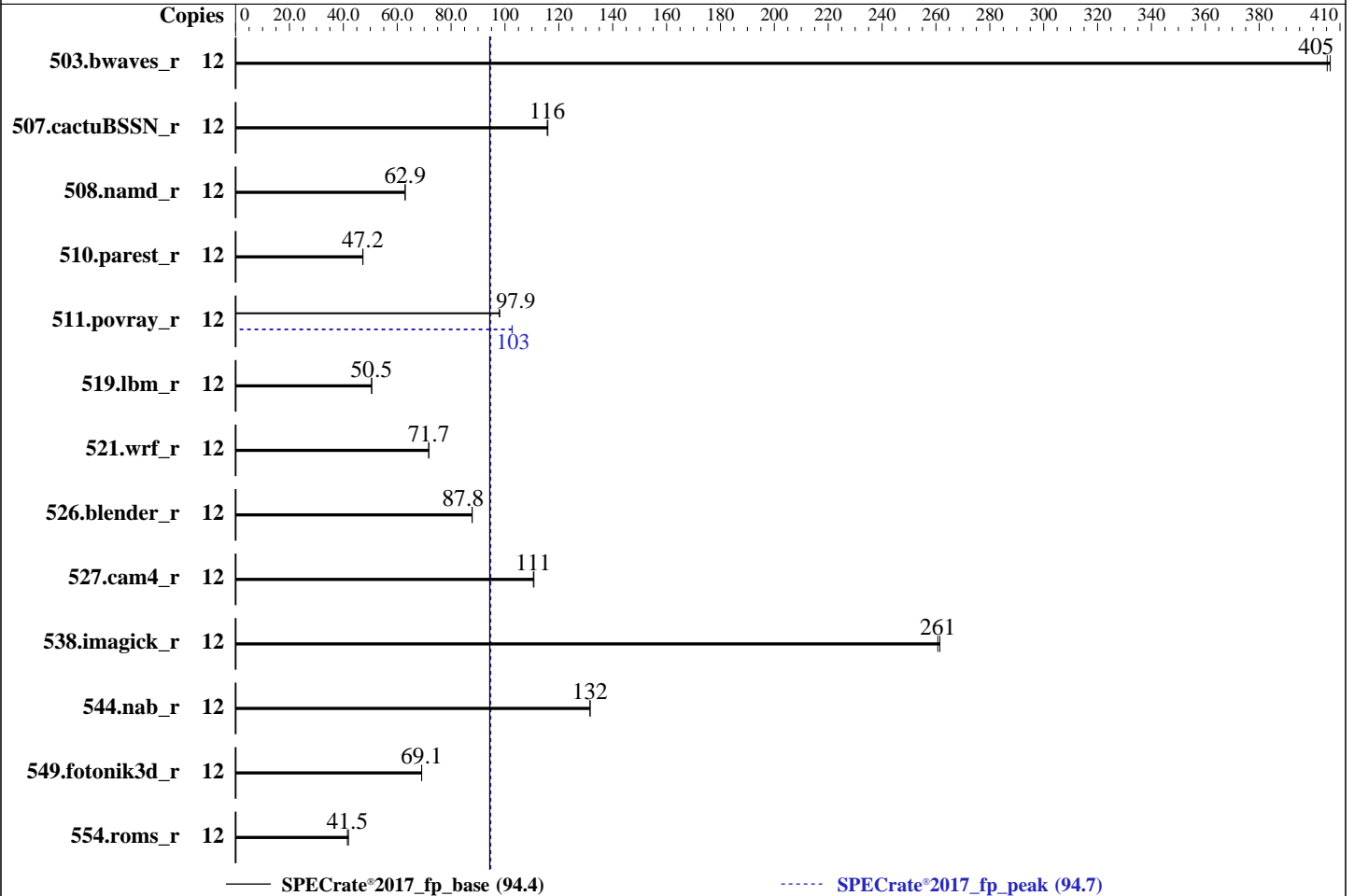
Test Date: Nov-2023

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2023

Tested by: Dell Inc.

Software Availability: Jul-2023



### Hardware

CPU Name: Intel Xeon E-2486  
 Max MHz: 5600  
 Nominal: 3500  
 Enabled: 6 cores, 1 chip, 2 threads/core  
 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: 18 MB I+D on chip per chip  
 Other: None  
 Memory: 64 GB (2 x 32 GB 2Rx8 PC5-4800B-E, running at 4400)  
 Storage: 125 GB on tmpfs  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP5  
 5.14.21-150500.53-default  
 Compiler: C/C++: Version 2023.2 of Intel oneAPI DPC++/C++  
 Compiler for Linux;  
 Fortran: Version 2023.2 of Intel Fortran Compiler  
 for Linux;  
 Parallel: No  
 Firmware: Version 1.0.3 released Nov-2023  
 File System: tmpfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: jemalloc memory allocator V5.0.1  
 Power Management: BIOS and OS set to prefer performance  
 at the cost of additional power usage.



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

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

Test Date: Nov-2023  
Hardware Availability: Dec-2023  
Software Availability: Jul-2023

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	12	<b><u>297</u></b>	<b><u>405</u></b>	296	406			12	<b><u>297</u></b>	<b><u>405</u></b>	296	406		
507.cactuBSSN_r	12	131	116	<b><u>131</u></b>	<b><u>116</u></b>			12	131	116	<b><u>131</u></b>	<b><u>116</u></b>		
508.namd_r	12	181	63.0	<b><u>181</u></b>	<b><u>62.9</u></b>			12	181	63.0	<b><u>181</u></b>	<b><u>62.9</u></b>		
510.parest_r	12	<b><u>665</u></b>	<b><u>47.2</u></b>	664	47.3			12	<b><u>665</u></b>	<b><u>47.2</u></b>	664	47.3		
511.povray_r	12	<b><u>286</u></b>	<b><u>97.9</u></b>	286	98.0			12	273	103	<b><u>273</u></b>	<b><u>103</u></b>		
519.lbm_r	12	250	50.5	<b><u>251</u></b>	<b><u>50.5</u></b>			12	250	50.5	<b><u>251</u></b>	<b><u>50.5</u></b>		
521.wrf_r	12	375	71.7	<b><u>375</u></b>	<b><u>71.7</u></b>			12	375	71.7	<b><u>375</u></b>	<b><u>71.7</u></b>		
526.blender_r	12	208	87.8	<b><u>208</u></b>	<b><u>87.8</u></b>			12	208	87.8	<b><u>208</u></b>	<b><u>87.8</u></b>		
527.cam4_r	12	190	111	<b><u>190</u></b>	<b><u>111</u></b>			12	190	111	<b><u>190</u></b>	<b><u>111</u></b>		
538.imagick_r	12	<b><u>114</u></b>	<b><u>261</u></b>	114	261			12	<b><u>114</u></b>	<b><u>261</u></b>	114	261		
544.nab_r	12	153	132	<b><u>154</u></b>	<b><u>132</u></b>			12	153	132	<b><u>154</u></b>	<b><u>132</u></b>		
549.fotonik3d_r	12	677	69.1	<b><u>677</u></b>	<b><u>69.1</u></b>			12	677	69.1	<b><u>677</u></b>	<b><u>69.1</u></b>		
554.roms_r	12	455	41.9	<b><u>459</u></b>	<b><u>41.5</u></b>			12	455	41.9	<b><u>459</u></b>	<b><u>41.5</u></b>		

SPECrate®2017\_fp\_base = 94.4

SPECrate®2017\_fp\_peak = 94.7

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

## Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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-ic2023.x/lib/intel64:/mnt/ramdisk/cpu2017-1.1.9-ic2023.x/je5.0.1-64"
MALLOC_CONF = "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  
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>

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2023

Hardware Availability: Dec-2023

Software Availability: Jul-2023

## General Notes (Continued)

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.  
 Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.  
 Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

Benchmark run from a 125 GB ramdisk created with the cmd: "mount -t tmpfs -o size=125G tmpfs /mnt/ramdisk"

## Platform Notes

BIOS settings:

DIMM Self Healing on  
Uncorrectable Memory Error : Disabled

Virtualization Technology : Disabled  
LLC Prefetch : Disabled  
Dead Line LLC Alloc : 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-ic2023.x/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost Sat Nov 11 02:41:16 2023

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

-----  
Table of contents  
-----

1. uname -a
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. sysctl
16. /sys/kernel/mm/transparent\_hugepage
17. /sys/kernel/mm/transparent\_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

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

Test Date: Nov-2023  
Hardware Availability: Dec-2023  
Software Availability: Jul-2023

## Platform Notes (Continued)

1. `uname -a`  
Linux localhost 5.14.21-150500.53-default #1 SMP PREEMPT\_DYNAMIC Wed May 10 07:56:26 UTC 2023 (b630043/lp)  
x86\_64 x86\_64 x86\_64 GNU/Linux

2. `w`  
02:41:16 up 8:03, 4 users, load average: 8.95, 11.33, 11.77  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - 18:47 2:59m 1.01s 0.05s /bin/bash ./dell-run-speccpu.sh rate  
--define DL-BIOSinc=Dell-BIOS\_Xeon-4E.inc --define DL-BIOS-LogProc=1 --define DL-VERS=v4.8.1  
--output\_format html,pdf,txt

3. Username  
From environment variable \$USER: root

4. `ulimit -a`  
core file size (blocks, -c) unlimited  
data seg size (kbytes, -d) unlimited  
scheduling priority (-e) 0  
file size (blocks, -f) unlimited  
pending signals (-i) 256448  
max locked memory (kbytes, -l) 64  
max memory size (kbytes, -m) unlimited  
open files (-n) 1024  
pipe size (512 bytes, -p) 8  
POSIX message queues (bytes, -q) 819200  
real-time priority (-r) 0  
stack size (kbytes, -s) unlimited  
cpu time (seconds, -t) unlimited  
max user processes (-u) 256448  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited

5. `sysinfo process ancestry`  
/usr/lib/systemd/systemd --switched-root --system --deserialize 30  
login -- root  
-bash  
/bin/bash ./DELL\_rate.sh  
/bin/bash ./dell-run-main.sh rate  
/bin/bash ./dell-run-main.sh rate  
/bin/bash ./dell-run-speccpu.sh rate --define DL-BIOSinc=Dell-BIOS\_Xeon-4E.inc --define DL-BIOS-LogProc=1  
--define DL-VERS=v4.8.1 --output\_format html,pdf,txt  
/bin/bash ./dell-run-speccpu.sh rate --define DL-BIOSinc=Dell-BIOS\_Xeon-4E.inc --define DL-BIOS-LogProc=1  
--define DL-VERS=v4.8.1 --output\_format html,pdf,txt  
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=12 -c  
ic2023.2-lin-core-avx2-rate-20230622.cfg --define smt-on --define cores=6 --define physicallogical  
--define no-numa --tune base,peak -o all --define drop\_caches --define DL-LQC=1 --iterations 2 --define  
DL-BIOSinc=Dell-BIOS\_Xeon-4E.inc --define DL-BIOS-LogProc=1 --define DL-VERS=v4.8.1 --output\_format  
html,pdf,txt fprate  
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=12 --configfile  
ic2023.2-lin-core-avx2-rate-20230622.cfg --define smt-on --define cores=6 --define physicallogical  
--define no-numa --tune base,peak --output\_format all --define drop\_caches --define DL-LQC=1 --iterations  
2 --define DL-BIOSinc=Dell-BIOS\_Xeon-4E.inc --define DL-BIOS-LogProc=1 --define DL-VERS=v4.8.1  
--output\_format html,pdf,txt --nopower --runmode rate --tune base:peak --size refrate fprate --nopreenv

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

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

Test Date: Nov-2023  
Hardware Availability: Dec-2023  
Software Availability: Jul-2023

## Platform Notes (Continued)

```
--note-preenv --logfile $SPEC/tmp/CPU2017.002/templogs/preenv.fprate.002.0.log --lognum 002.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2017-1.1.9-ic2023.x
```

### 6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) E E-2486
vendor_id      : GenuineIntel
cpu family     : 6
model          : 183
stepping       : 1
microcode      : 0x11f
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores      : 6
siblings       : 12
1 physical ids (chips)
12 processors (hardware threads)
physical id 0: core ids 0-5
physical id 0: apicids 0-11
```

Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for virtualized systems. Use the above data carefully.

### 7. lscpu

From lscpu from util-linux 2.37.4:

```
Architecture:      x86_64
CPU op-mode(s):    32-bit, 64-bit
Address sizes:     42 bits physical, 48 bits virtual
Byte Order:        Little Endian
CPU(s):            12
On-line CPU(s) list: 0-11
Vendor ID:         GenuineIntel
Model name:        Intel(R) Xeon(R) E E-2486
CPU family:        6
Model:             183
Thread(s) per core: 2
Core(s) per socket: 6
Socket(s):         1
Stepping:          1
BogoMIPS:          6988.80
Flags:             fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
                  clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp
                  lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology
                  nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor
                  ds_cpl smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic
                  movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm
                  3dnowprefetch cpuid_fault invpcid_single ssbd ibrs ibpb stibp
                  ibrs_enhanced fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid rdseed
                  adx smap clflushopt clwb intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves
                  split_lock_detect avx_vnni dtherm ida arat pln pts hfi umip pku ospke
                  waitpkg gfni vaes vpclmulqdq tme rdpid movdiri movdir64b fsrm md_clear
                  serialize_pconfig arch_lbr flush_l1d arch_capabilities

L1d cache:         288 KiB (6 instances)
L1i cache:         192 KiB (6 instances)
L2 cache:          12 MiB (6 instances)
L3 cache:          18 MiB (1 instance)
NUMA node(s):     1
NUMA node0 CPU(s): 0-11
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

CPU2017 License: 6573

Test Date: Nov-2023

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2023

Tested by: Dell Inc.

Software Availability: Jul-2023

## Platform Notes (Continued)

Vulnerability Itlb multihit: Not affected  
 Vulnerability Lltf: Not affected  
 Vulnerability Mds: Not affected  
 Vulnerability Meltdown: Not affected  
 Vulnerability Mmio stale data: Not affected  
 Vulnerability Retbleed: Not affected  
 Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp  
 Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and \_\_user pointer sanitization  
 Vulnerability Spectre v2: Mitigation; Enhanced IBRS, IBPB conditional, RSB filling, PBRSE-eIBRS SW sequence  
 Vulnerability Srbds: Not affected  
 Vulnerability Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	288K	12	Data	1	64	1	64
L1i	32K	192K	8	Instruction	1	64	1	64
L2	2M	12M	16	Unified	2	2048	1	64
L3	18M	18M	9	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: 0-11
node 0 size: 64143 MB
node 0 free: 37403 MB
node distances:
node 0
0: 10
```

9. /proc/meminfo

MemTotal: 65683084 kB

10. who -r

run-level 3 Nov 10 23:41 last=5

11. Systemd service manager version: systemd 249 (249.16+suse.171.gdad0071f15)

```
Default Target Status
multi-user running
```

12. Services, from systemctl list-unit-files

```
STATE UNIT FILES
enabled ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd
bluetooth cron display-manager getty@ irqbalance issue-generator kbdsettings klog
lvm2-monitor nscd nvme-fc-boot-connections postfix purge-kernels rollback rsyslog smartd
sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
wpa_supplicant
enabled-runtime systemd-remount-fs
disabled NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon autofsd
autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates
chrony-wait chronyd console-getty cups cups-browsed debug-shell dmraid-activation dnsmasq
eatables exchange-bmc-os-info firewallld gpm grub2-once haveged haveged-switch-root
hwloc-dump-hwdata ipmi ipmievd irqbindall issue-add-ssh-keys kexec-load ksm kvm_stat
lunmask man-db-create multipathd nfs nfs-blkmap nmb nvme-fc-autoconnect openvpn@
ostree-remount rpcbind rpmconfigcheck rsyncd rtkit-daemon serial-getty@ set_kthread_prio
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

CPU2017 License: 6573

Test Date: Nov-2023

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2023

Tested by: Dell Inc.

Software Availability: Jul-2023

## Platform Notes (Continued)

```

smartd_generate_opts smb snmpd snmptrapd speech-dispatcherd systemd-boot-check-no-failures
systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2
update-system-flatpaks upower vncserver@ wpa_supplicant@
indirect pcsd saned@ wickedd

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150500.53-default
root=UUID=7cce9826-f9c8-4e3e-aeld-30b9670708ae
splash=silent
mitigations=auto
quiet
security=apparmor

```

```

-----
14. cpupower frequency-info
analyzing CPU 0:
Unable to determine current policy
boost state support:
Supported: yes
Active: yes

```

```

-----
15. 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

```

```

-----
16. /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

```

```

-----
17. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs  60000
defrag                  1
max_ptes_none          511
max_ptes_shared        256
max_ptes_swap          64
pages_to_scan          4096
scan_sleep_millisecs  10000

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

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

Test Date: Nov-2023  
Hardware Availability: Dec-2023  
Software Availability: Jul-2023

## Platform Notes (Continued)

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

-----  
19. Disk information  
SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-ic2023.x  
Filesystem Type Size Used Avail Use% Mounted on  
tmpfs tmpfs 125G 5.4G 120G 5% /mnt/ramdisk  
-----

-----  
20. /sys/devices/virtual/dmi/id  
Vendor: Dell Inc.  
Product: PowerEdge T360  
Product Family: PowerEdge  
Serial: 1234567  
-----

-----  
21. dmidecode  
Additional information from dmidecode 3.4 follows. WARNING: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.  
Memory:  
2x 00CE00001201 M324R4GA3BB0-CQKOD 32 GB 2 rank 4800, configured at 4400  
-----

-----  
22. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: Dell Inc.  
BIOS Version: 1.0.3  
BIOS Date: 11/09/2023  
BIOS Revision: 1.0  
-----

## 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 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 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 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
-----

=====  
C++, C | 511.povray\_r(base, peak) 526.blender\_r(base, peak)  
-----

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.0 Build 20230622

(Continued on next page)





# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

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

Test Date: Nov-2023  
Hardware Availability: Dec-2023  
Software Availability: Jul-2023

## Compiler Version Notes (Continued)

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

=====  
C++, C, Fortran | 507.cactuBSSN\_r(base, peak)

-----  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
-----

=====  
Fortran | 503.bwaves\_r(base, peak) 549.fotonik3d\_r(base, peak) 554.roms\_r(base, peak)

-----  
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
-----

=====  
Fortran, C | 521.wrf\_r(base, peak) 527.cam4\_r(base, peak)

-----  
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2023.2.0 Build 20230622  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
-----

## 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



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2023

Hardware Availability: Dec-2023

Software Availability: Jul-2023

## 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 -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-Wno-implicit-int -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

```

### C++ benchmarks:

```

-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

```

### Fortran benchmarks:

```

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

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2023

Hardware Availability: Dec-2023

Software Availability: Jul-2023

## Base Optimization Flags (Continued)

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 -Wno-implicit-int -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

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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2023

Hardware Availability: Dec-2023

Software Availability: Jul-2023

## Peak Optimization Flags (Continued)

C++ benchmarks:

508.namd\_r: basepeak = yes

510.parest\_r: basepeak = yes

Fortran benchmarks:

503.bwaves\_r: basepeak = yes

549.fotonik3d\_r: basepeak = yes

554.roms\_r: basepeak = yes

Benchmarks using both Fortran and C:

521.wrf\_r: basepeak = yes

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 -flto
-Ofast -ffast-math -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -Wno-implicit-int -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-ic2023p2-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.6.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-Xeon-v1.6.xml>



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017\_fp\_base = 94.4

PowerEdge T360 (Intel Xeon E-2486)

SPECrate®2017\_fp\_peak = 94.7

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Nov-2023

Hardware Availability: Dec-2023

Software Availability: Jul-2023

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

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

Tested with SPEC CPU®2017 v1.1.9 on 2023-11-10 13:41:16-0500.

Report generated on 2024-02-16 11:31:48 by CPU2017 PDF formatter v6716.

Originally published on 2023-12-14.