



# SPEC CPU®2017 Floating Point Rate Result

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## Supermicro

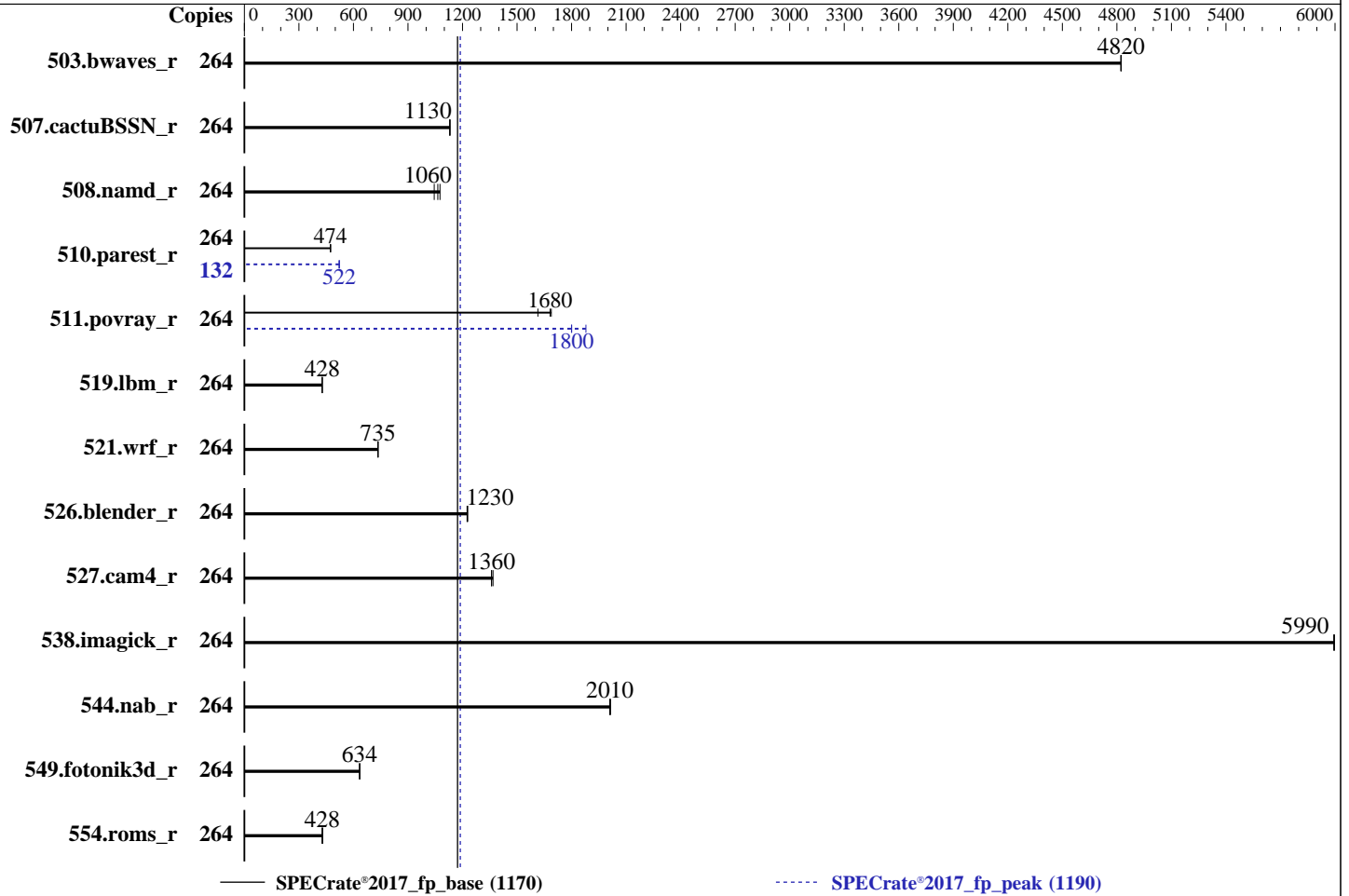
SuperServer SYS-112HA-TN  
(X14SBH-AP , Intel Xeon 6980E+)

SPECrate®2017\_fp\_base = 1170

SPECrate®2017\_fp\_peak = 1190

CPU2017 License: 001176  
Test Sponsor: Supermicro  
Tested by: Supermicro

Test Date: May-2026  
Hardware Availability: Jun-2026  
Software Availability: Apr-2026



### Hardware

CPU Name: Intel Xeon 6980E+  
Max MHz: 3200  
Nominal: 2100  
Enabled: 264 cores, 1 chip  
Orderable: 1 chip  
Cache L1: 64 KB I + 32 KB D on chip per core  
L2: 264 MB I+D on chip per chip, 4 MB shared / 4 cores  
L3: 528 MB I+D on chip per chip  
Other: None  
Memory: 1152 GB (12 x 96 GB 2Rx4 PC5-8000B-R)  
Storage: 1 x 480 GB NVMe SSD  
Other: CPU Cooling: Air

### Software

OS: Red Hat Enterprise Linux 9.7  
Kernel 5.14.0-611.5.1.el9\_7.x86\_64  
Compiler: C/C++: Version 2026.0 of Intel oneAPI DPC++/C++ Compiler for Linux;  
Fortran: Version 2026.0 of Intel Fortran Compiler for Linux;  
Parallel: No  
Firmware: Version 1.5b released May-2026  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other: jemalloc memory allocator V5.0.1  
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	264	<b>549</b>	<b>4820</b>	549	4820	549	4820	264	<b>549</b>	<b>4820</b>	549	4820	549	4820
507.cactuBSSN_r	264	<b>296</b>	<b>1130</b>	295	1130	296	1130	264	<b>296</b>	<b>1130</b>	295	1130	296	1130
508.namd_r	264	233	1080	<b>236</b>	<b>1060</b>	240	1040	264	233	1080	<b>236</b>	<b>1060</b>	240	1040
510.parest_r	264	1456	474	1459	473	<b>1458</b>	<b>474</b>	132	661	522	662	522	<b>661</b>	<b>522</b>
511.povray_r	264	382	1610	365	1690	<b>367</b>	<b>1680</b>	264	328	1880	343	1800	<b>342</b>	<b>1800</b>
519.lbm_r	264	<b>650</b>	<b>428</b>	650	428	650	428	264	<b>650</b>	<b>428</b>	650	428	650	428
521.wrf_r	264	<b>804</b>	<b>735</b>	805	735	804	735	264	<b>804</b>	<b>735</b>	805	735	804	735
526.blender_r	264	328	1230	327	1230	<b>328</b>	<b>1230</b>	264	328	1230	327	1230	<b>328</b>	<b>1230</b>
527.cam4_r	264	340	1360	<b>340</b>	<b>1360</b>	338	1370	264	340	1360	<b>340</b>	<b>1360</b>	338	1370
538.imagick_r	264	109	6000	110	5990	<b>110</b>	<b>5990</b>	264	109	6000	110	5990	<b>110</b>	<b>5990</b>
544.nab_r	264	221	2010	221	2010	<b>221</b>	<b>2010</b>	264	221	2010	221	2010	<b>221</b>	<b>2010</b>
549.fotonik3d_r	264	1623	634	<b>1623</b>	<b>634</b>	1621	635	264	1623	634	<b>1623</b>	<b>634</b>	1621	635
554.roms_r	264	980	428	975	430	<b>980</b>	<b>428</b>	264	980	428	975	430	<b>980</b>	<b>428</b>

SPECrate®2017\_fp\_base = **1170**

SPECrate®2017\_fp\_peak = **1190**

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

## Submit Notes

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

## Operating System Notes

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

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/home/cpu2017/lib/intel64"  
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  
runcpu command invoked through numactl i.e.:  
numactl --interleave=all runcpu <etc>

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

(Continued on next page)



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### General Notes (Continued)

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.  
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>

### Platform Notes

BIOS settings:  
Workload Profile = HPC  
KTI Prefetch = Enable  
Stale AtoS = Disable  
LLC Dead Line Alloc = Disable

Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on 135-179-165.engtw Mon May 25 21:35:18 2026

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 252 (252-55.e19)
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 135-179-165.engtw 5.14.0-611.5.1.e19\_7.x86\_64 #1 SMP PREEMPT\_DYNAMIC Fri Oct 17 14:16:35 EDT 2025  
x86\_64 x86\_64 x86\_64 GNU/Linux  
-----

2. w  
21:35:18 up 5:53, 1 user, load average: 171.19, 241.45, 254.93

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### Platform Notes (Continued)

USER	TTY	LOGIN@	IDLE	JCPU	PCPU	WHAT
root	tty1	15:41	5:52m	1.08s	0.01s	-bash

#### 3. Username

From environment variable \$USER: root

#### 4. ulimit -a

```

real-time non-blocking time (microseconds, -R) unlimited
core file size (blocks, -c) 0
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0
file size (blocks, -f) unlimited
pending signals (-i) 4640021
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) 4640021
virtual memory (kbytes, -v) unlimited
file locks (-x) unlimited

```

#### 5. sysinfo process ancestry

```

/usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31
login -- root
-bash
-bash
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=264 -c
ic2026.0-lin-clearwaterforest-rate-20260429.cfg --define smt-on --define peakfpcopies=132 --define
physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak -o all
fprate
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=264 --configfile
ic2026.0-lin-clearwaterforest-rate-20260429.cfg --define smt-on --define peakfpcopies=132 --define
physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak
--output_format all --nopower --runmode rate --tune base:peak --size refrate fprate --nopreenv
--note-preenv --logfile $SPEC/tmp/CPU2017.002/templogs/preenv.fprate.002.0.log --lognum 002.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017

```

#### 6. /proc/cpuinfo

```

model name      : Intel(R) Xeon(R) 6980E+
vendor_id      : GenuineIntel
cpu family     : 6
model          : 221
stepping       : 1
microcode      : 0x1000120
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi spectre_v2_user
cpu cores      : 264
siblings       : 264
1 physical ids (chips)
264 processors (hardware threads)
physical id 0: core ids 0-87,128-215,256-343

```

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### Platform Notes (Continued)

physical id 0: apicids

0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286,288,290,292,294,296,298,300,302,304,306,308,310,312,314,316,318,320,322,324,326,328,330,332,334,336,338,340,342,344,346,348,350,352,354,356,358,360,362,364,366,368,370,372,374,376,378,380,382,384,386,388,390,392,394,396,398,400,402,404,406,408,410,412,414,416,418,420,422,424,426,428,430,512,514,516,518,520,522,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,564,566,568,570,572,574,576,578,580,582,584,586,588,590,592,594,596,598,600,602,604,606,608,610,612,614,616,618,620,622,624,626,628,630,632,634,636,638,640,642,644,646,648,650,652,654,656,658,660,662,664,666,668,670,672,674,676,678,680,682,684,686

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:          52 bits physical, 48 bits virtual
Byte Order:             Little Endian
CPU(s):                 264
On-line CPU(s) list:   0-263
Vendor ID:              GenuineIntel
BIOS Vendor ID:        Intel(R) Corporation
Model name:             Intel(R) Xeon(R) 6980E+
BIOS Model name:       Intel(R) Xeon(R) 6980E+
CPU family:             6
Model:                  221
Thread(s) per core:    1
Core(s) per socket:    264
Socket(s):              1
Stepping:               1
BogoMIPS:               4200.00
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
                        pdpeltb rdtscp lm constant_tsc art arch_perfmon 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 rdseed adx smap clflushopt clwb
                        intel_pt sha_ni xsaveopt xsavec xgetbv1 xsaves cqm_llc
                        cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect
                        user_shstk avx_vnni lam wbnoinvd dtherm ida arat pln pts vnmi umip
                        pku ospke waitpkg gfni vaes vpclmulqdq tme rdpid bus_lock_detect
                        cldemote movdiri movdir64b enqcmd fsrm md_clear serialize pconfig
                        arch_lbr ibt flush_lld arch_capabilities
Virtualization:         VT-x
L1d cache:              8.3 MiB (264 instances)
L1i cache:              16.5 MiB (264 instances)
L2 cache:               264 MiB (66 instances)
L3 cache:               528 MiB (1 instance)
NUMA node(s):          3
NUMA node0 CPU(s):     0-87
NUMA node1 CPU(s):     88-175

```

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### Platform Notes (Continued)

```

NUMA node2 CPU(s):                176-263
Vulnerability Gather data sampling: Not affected
Vulnerability Indirect target selection: Not affected
Vulnerability Itlb multihit:       Not affected
Vulnerability L1tf:                 Not affected
Vulnerability Mds:                  Not affected
Vulnerability Meltdown:             Not affected
Vulnerability Mmio stale data:      Not affected
Vulnerability Reg file data sampling: Not affected
Vulnerability Retbleed:              Not affected
Vulnerability Spec rstack overflow: Not affected
Vulnerability Spec store bypass:    Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1:           Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:           Mitigation; Enhanced / Automatic IBRS; IBPB conditional; PBRSE-eIBRS Not affected; BHI BHI_DIS_S
Vulnerability Srbds:                Not affected
Vulnerability Tsa:                  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	32K	8.3M	8	Data	1	64	1	64
L1i	64K	16.5M	8	Instruction	1	128	1	64
L2	4M	264M	16	Unified	2	4096	1	64
L3	528M	528M	16	Unified	3	540672	1	64

8. numactl --hardware

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

```

available: 3 nodes (0-2)
node 0 cpus: 0-87
node 0 size: 386041 MB
node 0 free: 346219 MB
node 1 cpus: 88-175
node 1 size: 387003 MB
node 1 free: 351594 MB
node 2 cpus: 176-263
node 2 size: 387023 MB
node 2 free: 351613 MB
node distances:
node    0    1    2
 0:   10   15   17
 1:   15   10   15
 2:   17   15   10

```

9. /proc/meminfo

MemTotal: 1187911072 kB

10. who -r

run-level 3 May 25 15:41

11. Systemd service manager version: systemd 252 (252-55.e19)

```

Default Target Status
multi-user      running

```

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### Platform Notes (Continued)

12. Services, from `systemctl list-unit-files`

```

STATE          UNIT FILES
enabled        ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online
                accounts-daemon atd auditd avahi-daemon bluetooth chronyd crond cups dbus-broker firewalld
                gdm getty@ insights-client-boot irqbalance iscsi-onboot iscsi-starter kdump libstoragemgmt
                low-memory-monitor lvm2-monitor mcelog mdmonitor microcode multipathd nis-domainname
                nvme-fc-boot-connections ostree-remount qemu-guest-agent rhsmcertd rsyslog rtkit-daemon
                selinux-autorelabel-mark smartd sshd sssd switcheroo-control systemd-boot-update
                systemd-network-generator systemd-pstore tuned 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 cni-dhcp console-getty
                cpupower cups-browsed dbus-daemon debug-shell dnf-system-upgrade dnsmasq iprdump iprint
                iprupdate iscsi-init iscsid iscsiuiio kpatch kvm_stat ledmon lvm-devices-import
                man-db-restart-cache-update netavark-dhcp-proxy netavark-firewalld-reload nftables
                nvme-autoconnect ostree-readonly-sysroot-migration ostree-state-overlay@ podman
                podman-auto-update podman-clean-transient podman-kube@ podman-restart psacct ras-mc-ctl
                rasdaemon rdisc rhcd rhsm rhsm-facts rpmbuild rebuild selinux-check-proper-disable
                serial-getty@ speech-dispatcherd sshd-keygen@ systemd-boot-check-no-failures
                systemd-sysextd tuned-ppd wpa_supplicant
indirect       iscsi spice-vdagentd sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo
                systemd-sysupdate systemd-sysupdate-reboot

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-611.5.1.el9_7.x86_64
root=/dev/mapper/rhel_135--180--133-root
ro
resume=/dev/mapper/rhel_135--180--133-swap
rd.lvm.lv=rhel_135-180-133/root
rd.lvm.lv=rhel_135-180-133/swap
rhgb
quiet
crashkernel=1G-2G:192M,2G-64G:256M,64G-:512M

```

```

-----
14. cpupower frequency-info
analyzing CPU 21:
Unable to determine current policy
boost state support:
Supported: yes
Active: yes

```

```

-----
15. tuned-adm active
Current active profile: throughput-performance

```

```

-----
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                  40
vm.dirty_writeback_centisecs    500
vm.dirtytime_expire_seconds    43200
vm.extfrag_threshold            500

```

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### Platform Notes (Continued)

```

vm.min_unmapped_ratio      1
vm.nr_hugepages             0
vm.nr_hugepages_mempolicy  0
vm.nr_overcommit_hugepages 0
vm.swappiness               10
vm.watermark_boost_factor   15000
vm.watermark_scale_factor   10
vm.zone_reclaim_mode        0

```

```

-----
17. /sys/kernel/mm/transparent_hugepage
defrag      always defer defer+madvice [madvice] never
enabled     [always] madvice 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 9.7 (Plow)
redhat-release  Red Hat Enterprise Linux release 9.7 (Plow)
system-release  Red Hat Enterprise Linux release 9.7 (Plow)

```

```

-----
20. Disk information
SPEC is set to: /home/cpu2017
Filesystem                                Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel_135--180--133-home xfs   372G  134G  238G  37% /home

```

```

-----
21. /sys/devices/virtual/dmi/id
Vendor:      Supermicro
Product:     Super Server
Product Family: Family
Serial:      0123456789

```

```

-----
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:
  12x SK Hynix HMCGM4AMBRB970N 96 GB 2 rank 8000

```

```

-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:      American Megatrends International, LLC.

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

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## Supermicro

SuperServer SYS-112HA-TN  
(X14SBH-AP, Intel Xeon 6980E+)

SPECrate®2017\_fp\_base = 1170

SPECrate®2017\_fp\_peak = 1190

**CPU2017 License:** 001176  
**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

### Platform Notes (Continued)

BIOS Version: 1.5b  
BIOS Date: 05/04/2026  
BIOS Revision: 5.35

### 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 2026.0.0 Build 20260331  
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-----

=====  
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 2026.0.0 Build 20260331  
Copyright (C) 1985-2026 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 2026.0.0 Build 20260331  
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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2026.0.0 Build 20260331  
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-----

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

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Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2026.0.0 Build 20260331  
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Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2026.0.0 Build 20260331  
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-----

=====  
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 2026.0.0 Build 20260331  
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-----

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

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**Test Date:** May-2026  
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## Base Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Base Portability Flags

503.bwaves\_r: -DSPEC\_LP64  
507.cactuBSSN\_r: -DSPEC\_LP64  
508.namd\_r: -DSPEC\_LP64  
510.parest\_r: -DSPEC\_LP64  
511.povray\_r: -DSPEC\_LP64  
519.lbm\_r: -DSPEC\_LP64  
521.wrf\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG -convert big\_endian  
526.blender\_r: -DSPEC\_LP64 -DSPEC\_LINUX -funsigned-char  
527.cam4\_r: -DSPEC\_LP64 -DSPEC\_CASE\_FLAG  
538.imagick\_r: -DSPEC\_LP64  
544.nab\_r: -DSPEC\_LP64  
549.fotonik3d\_r: -DSPEC\_LP64  
554.roms\_r: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-w -std=c11 -m64 -Wl,-z,muldefs -xclearwaterforest -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

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**Software Availability:** Apr-2026

## Base Optimization Flags (Continued)

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xclearwaterforest -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 -xclearwaterforest -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 -xclearwaterforest -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 -xclearwaterforest
-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
```

Benchmarks using Fortran, C, and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xclearwaterforest
-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

(Continued on next page)



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**Test Sponsor:** Supermicro  
**Tested by:** Supermicro

**Test Date:** May-2026  
**Hardware Availability:** Jun-2026  
**Software Availability:** Apr-2026

## Peak Compiler Invocation (Continued)

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

519.lbm\_r: basepeak = yes

538.imagick\_r: basepeak = yes

544.nab\_r: basepeak = yes

C++ benchmarks:

508.namd\_r: basepeak = yes

510.parest\_r: -w -std=c++14 -m64 -Wl,-z,muldefs -xclearwaterforest  
-Ofast -ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib

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

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## Peak Optimization Flags (Continued)

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.profdata(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-ic2026-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-CWF-revC.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2026-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-CWF-revC.xml>

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