



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

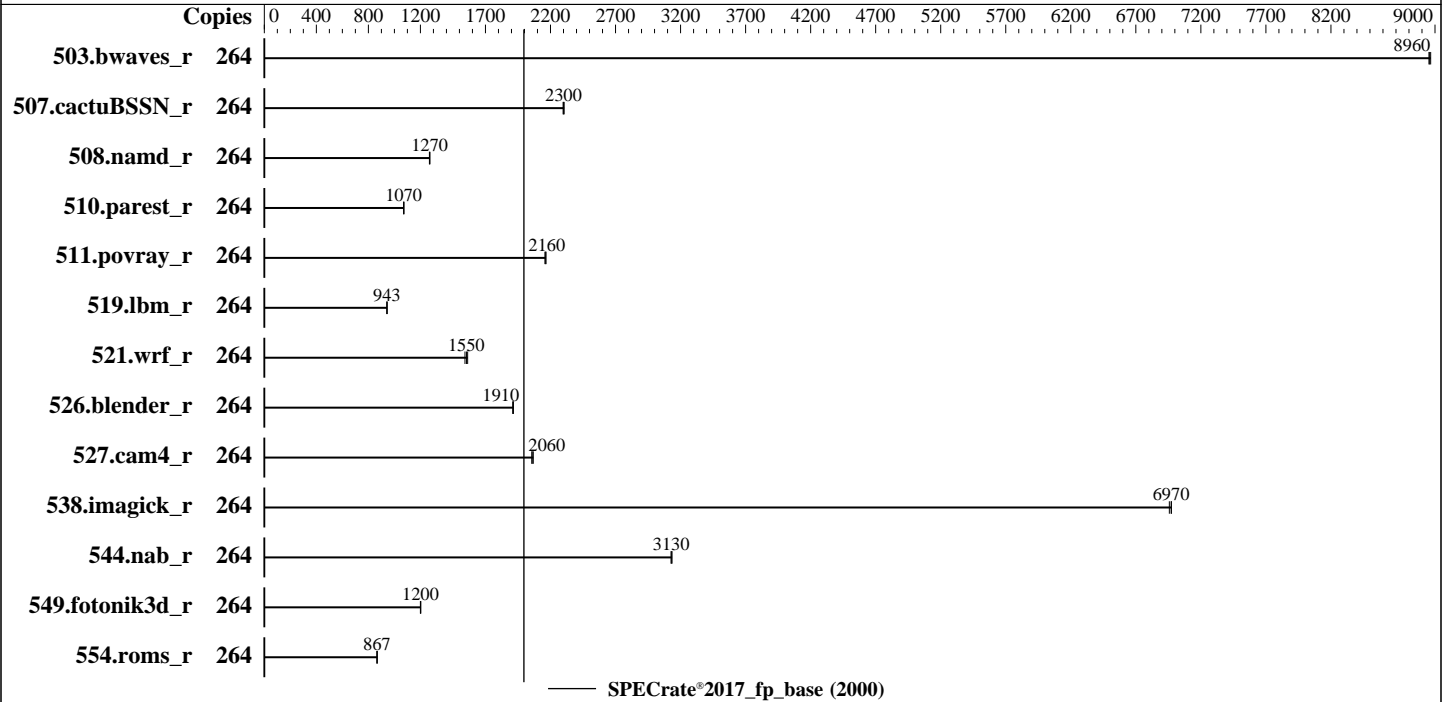
SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024



Hardware

CPU Name: Intel Xeon 6960P
Max MHz: 3900
Nominal: 2700
Enabled: 132 cores, 2 chips, 2 threads/core
Orderable: 1, 2 chips
Cache L1: 64 KB I + 48 KB D on chip per core
L2: 2 MB I+D on chip per core
L3: 432 MB I+D on chip per chip
Other: None
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-8800B-R)
Storage: 1 x 1.6TB NVMe SSD
Other: CPU Cooling: DLC

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: No
Firmware: Version 1.2 released Jan-2025
File System: btrfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of
additional power usage.



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	264	296	8960	296	8950	295	8970							
507.cactuBSSN_r	264	145	2300	146	2300	145	2300							
508.namd_r	264	197	1270	197	1270	198	1270							
510.parest_r	264	644	1070	644	1070	644	1070							
511.povray_r	264	286	2160	285	2170	285	2160							
519.lbm_r	264	295	943	295	943	295	943							
521.wrf_r	264	381	1550	383	1540	378	1560							
526.blender_r	264	210	1910	210	1910	210	1910							
527.cam4_r	264	223	2070	224	2060	225	2060							
538.imagick_r	264	94.4	6960	94.2	6970	94.2	6970							
544.nab_r	264	142	3130	142	3130	142	3130							
549.fotonik3d_r	264	855	1200	856	1200	857	1200							
554.roms_r	264	484	867	484	866	484	867							

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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:/home/cpu2017/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
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)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

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:

Power Performance Tuning = BIOS Controls EPB
ENERGY_PERF_BIAS_CFG mode = Extreme Performance
KTI Prefetch = Enable
DCU Streamer Prefetcher = Disable
LLC Dead Line Alloc = Disable
Stale AtoS = Disable

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on 181-170 Sun Mar 2 15:41:06 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. 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 181-170 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09) x86_64
x86_64 x86_64 GNU/Linux

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

Platform Notes (Continued)

```

2. w
   15:41:06 up 1 min,  1 user,  load average: 0.86, 0.34, 0.12
USER      TTY      FROM          LOGIN@      IDLE        JCPU   PCPU   WHAT
root      tty2     -             15:40       2.00s      0.88s  0.01s -bash

```

```

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) 6188553
   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) 6188553
   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
   -bash
   runcpu --nobuild --action validate --define default-platform-flags --define numcopies=264 -c
     ic2024.1-lin-core-avx512-rate-20240308.cfg --define smt-on --define cores=132 --define physicalfirst
     --define invoke_with_interleave --define drop_caches --tune base -o all fprate
   runcpu --nobuild --action validate --define default-platform-flags --define numcopies=264 --configfile
     ic2024.1-lin-core-avx512-rate-20240308.cfg --define smt-on --define cores=132 --define physicalfirst
     --define invoke_with_interleave --define drop_caches --tune base --output_format all --nopower --runmode
     rate --tune base --size refrate fprate --nopreenv --note-preenv --logfile
     $SPEC/tmp/CPU2017.009/tempslogs/preenv.fprate.009.0.log --lognum 009.0 --from_runcpu 2
   specperl $SPEC/bin/sysinfo
   $SPEC = /home/cpu2017

```

```

6. /proc/cpuinfo
   model name      : Intel(R) Xeon(R) 6960P
   vendor_id       : GenuineIntel
   cpu family      : 6
   model           : 173
   stepping        : 1
   microcode       : 0x1000380
   bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
   cpu cores       : 66
   siblings        : 132
   2 physical ids (chips)
   264 processors (hardware threads)
   physical id 0: core ids 0-21,64-85,128-149

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

Platform Notes (Continued)

physical id 1: core ids 0-21,64-85,128-149
physical id 0: apicids 0-43,128-171,256-299
physical id 1: apicids 512-555,640-683,768-811
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:          52 bits physical, 57 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) 6960P
BIOS Model name:       Intel(R) Xeon(R) 6960P  CPU @ 2.6GHz
BIOS CPU family:        179
CPU family:             6
Model:                  173
Thread(s) per core:    2
Core(s) per socket:    66
Socket(s):              2
Stepping:               1
BogoMIPS:               5200.00
Flags:                  fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat
                        pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx
                        pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good
                        nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni
                        pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
                        xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt
                        tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm
                        3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin cdp_l2
                        ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept
                        vpid ept_ad fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid
                        rtm cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt
                        clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec
                        xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
                        split_lock_detect user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida
                        arat pln pts hfi vnmi avx512vbmi umip pku ospke waitpkg avx512_vbmi2
                        gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq
                        la57 rdpid bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm
                        md_clear serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16
                        amx_tile amx_int8 flush_l1d arch_capabilities

Virtualization:        VT-x
L1d cache:             6.2 MiB (132 instances)
L1i cache:             8.3 MiB (132 instances)
L2 cache:              264 MiB (132 instances)
L3 cache:              864 MiB (2 instances)
NUMA node(s):         6
NUMA node0 CPU(s):    0-21,132-153
NUMA node1 CPU(s):    22-43,154-175
NUMA node2 CPU(s):    44-65,176-197
NUMA node3 CPU(s):    66-87,198-219
NUMA node4 CPU(s):    88-109,220-241
NUMA node5 CPU(s):    110-131,242-263
Vulnerability Gather data sampling: Not affected

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

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 Reg file data sampling: Not affected
 Vulnerability Retbleed: Not affected
 Vulnerability Spec rstack overflow: Not affected
 Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
 Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
 Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PRSB-eIBRS Not affected; BHI BHI_DIS_S
 Vulnerability Srbds: Not affected
 Vulnerability Tsx async abort: Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	6.2M	12	Data	1	64	1	64
L1i	64K	8.3M	16	Instruction	1	64	1	64
L2	2M	264M	16	Unified	2	2048	1	64
L3	432M	864M	16	Unified	3	442368	1	64

8. numactl --hardware

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

```
available: 6 nodes (0-5)
node 0 cpus: 0-21,132-153
node 0 size: 257470 MB
node 0 free: 256711 MB
node 1 cpus: 22-43,154-175
node 1 size: 258036 MB
node 1 free: 257290 MB
node 2 cpus: 44-65,176-197
node 2 size: 258036 MB
node 2 free: 257238 MB
node 3 cpus: 66-87,198-219
node 3 size: 258036 MB
node 3 free: 257360 MB
node 4 cpus: 88-109,220-241
node 4 size: 258036 MB
node 4 free: 256823 MB
node 5 cpus: 110-131,242-263
node 5 size: 257551 MB
node 5 free: 256687 MB
node distances:
node  0  1  2  3  4  5
0:  10 12 12 21 21 21
1:  12 10 12 21 21 21
2:  12 12 10 21 21 21
3:  21 21 21 10 12 12
4:  21 21 21 12 10 12
5:  21 21 21 12 12 10
```

9. /proc/meminfo

MemTotal: 1584299616 kB

10. who -r

run-level 3 Mar 2 15:40 last=5

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

Platform Notes (Continued)

11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
Default Target Status
graphical degraded

12. Failed units, from systemctl list-units --state=failed
UNIT LOAD ACTIVE SUB DESCRIPTION
* udisks2.service loaded failed failed Disk Manager

13. Services, from systemctl list-unit-files
STATE UNIT FILES
enabled YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth cron
display-manager firewalld getty@ irqbalance issue-generator kbdsettings kdump kdump-early
kdump-notify klog lvm2-monitor nscd nvme-fc-boot-connections nvmmf-autoconnect postfix
purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked wickedd-auto4
wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
disabled accounts-daemon autofs autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl
ca-certificates chrony-wait chronyd console-getty cups cups-browsed debug-shell ebttables
exchange-bmc-os-info fsidd gpm grub2-once haveged ipmi ipmievd issue-add-ssh-keys
kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nmb ostree-remount rpcbind
rpmconfigcheck rsyncd rtkit-daemon serial-getty@ smartd-generate_opts smb snmpd snmptrapd
speech-dispatcherd systemd-boot-check-no-failures systemd-confext
systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2
update-system-flatpaks upower vncserver@
indirect systemd-userdbd wickedd

14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=d1a687ce-0a78-499c-9181-4e82ae083016
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=365M,high
crashkernel=72M,low

15. cpupower frequency-info
analyzing CPU 118:
Unable to determine current policy
boost state support:
Supported: yes
Active: yes

16. sysctl
kernel.numa_balancing 1
kernel.randomize_va_space 2
vm.compaction_proactiveness 20
vm.dirty_background_bytes 0
vm.dirty_background_ratio 10
vm.dirty_bytes 0
vm.dirty_expire_centisecs 3000
vm.dirty_ratio 20
vm.dirty_writeback_centisecs 500

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

Platform Notes (Continued)

```

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

```

```

-----
17. /sys/kernel/mm/transparent_hugepage
defrag          always 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 SUSE Linux Enterprise Server 15 SP6

```

```

-----
20. Disk information
SPEC is set to: /home/cpu2017
Filesystem  Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p3 btrfs 1.5T 158G 1.3T 11% /home

```

```

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

```

```

-----
22. 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:
  24x Micron Technology MTC40F2046S1HC88XD1 WCCCC 64 GB 2 rank 8800

```

```

-----
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

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

Platform Notes (Continued)

BIOS Version: 1.2
BIOS Date: 01/24/2025
BIOS Revision: 5.35

Compiler Version Notes

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

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

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

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

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

Intel(R) oneAPI DPC++/C++ 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
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
=====

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

Intel(R) oneAPI DPC++/C++ 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
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
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.
=====

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

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.
=====

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

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
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
=====



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

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 -xCORE-AVX512 -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 2017-2025 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6960P)

SPECrate®2017_fp_base = 2000

SPECrate®2017_fp_peak = Not Run

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

Test Date: Feb-2025
Hardware Availability: Feb-2025
Software Availability: Jun-2024

Base Optimization Flags (Continued)

C++ benchmarks:

```
-w -std=c++14 -m64 -Wl,-z,muldefs -xCORE-AVX512 -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-AVX512 -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-AVX512 -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-AVX512 -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 -xCORE-AVX512 -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
```

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

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-SPR-revG.html>
<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html>

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

<http://www.spec.org/cpu2017/flags/Supermicro-Platform-Settings-V1.2-SPR-revG.xml>
<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

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.

Tested with SPEC CPU®2017 v1.1.9 on 2025-03-02 18:41:06-0500.
Report generated on 2025-02-25 19:06:29 by CPU2017 PDF formatter v6716.
Originally published on 2025-02-25.