



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

CPU2017 License: 001176

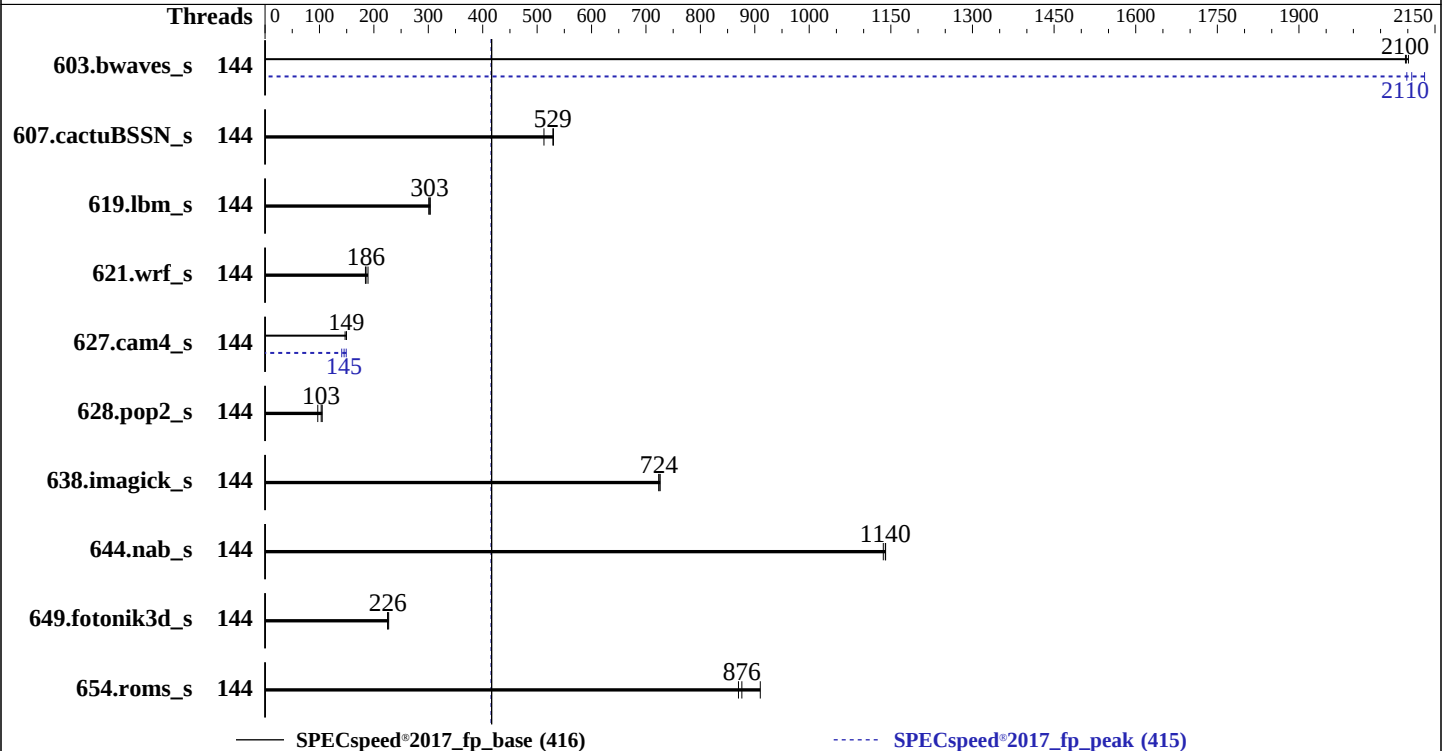
Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Dec-2025

Hardware Availability: Dec-2024

Software Availability: Oct-2025



Hardware

CPU Name: Intel Xeon 6960P
Max MHz: 3900
Nominal: 2700
Enabled: 144 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: 2304 GB (24 x 96 GB 2Rx4 PC5-6400B-R)
Storage: 1 x 4.0TB NVMe SSD
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP7
6.4.0-150700.51-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 1.4 Released Jul-2025
File System: ext4
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.



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

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

Test Date: Dec-2025
Hardware Availability: Dec-2024
Software Availability: Oct-2025

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	144	28.1	2100	<u>28.1</u>	<u>2100</u>	28.2	2100	144	<u>28.0</u>	<u>2110</u>	27.7	2130	28.1	2100
607.cactuBSSN_s	144	<u>31.5</u>	<u>529</u>	32.5	513	31.5	530	144	<u>31.5</u>	<u>529</u>	32.5	513	31.5	530
619.lbm_s	144	<u>17.3</u>	<u>303</u>	17.4	301	17.2	304	144	<u>17.3</u>	<u>303</u>	17.4	301	17.2	304
621.wrf_s	144	<u>71.2</u>	<u>186</u>	69.9	189	71.7	184	144	<u>71.2</u>	<u>186</u>	69.9	189	71.7	184
627.cam4_s	144	60.3	147	59.2	150	<u>59.3</u>	<u>149</u>	144	59.4	149	<u>61.0</u>	<u>145</u>	62.9	141
628.pop2_s	144	123	96.9	113	105	<u>115</u>	<u>103</u>	144	123	96.9	113	105	<u>115</u>	<u>103</u>
638.imagick_s	144	19.9	724	<u>19.9</u>	<u>724</u>	19.9	726	144	19.9	724	<u>19.9</u>	<u>724</u>	19.9	726
644.nab_s	144	<u>15.3</u>	<u>1140</u>	15.3	1140	15.4	1140	144	<u>15.3</u>	<u>1140</u>	15.3	1140	15.4	1140
649.fotonik3d_s	144	40.5	225	40.1	227	<u>40.4</u>	<u>226</u>	144	40.5	225	40.1	227	<u>40.4</u>	<u>226</u>
654.roms_s	144	18.1	870	17.3	910	<u>18.0</u>	<u>876</u>	144	18.1	870	17.3	910	<u>18.0</u>	<u>876</u>

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

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,1,0"
LD_LIBRARY_PATH = "/root/cpu2017-1.1.9/lib/intel64:/root/cpu2017-1.1.9/je5.0.1-64"
MALLOCONF = "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
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.
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.
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) 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>



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

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

Test Date: Dec-2025
Hardware Availability: Dec-2024
Software Availability: Oct-2025

Platform Notes

BIOS Settings:

Power Technology = Custom
Power Performance Tuning = BIOS Controls EPB
ENERGY_PERF_BIAS_CFG mode = Performance
SNC = Enable

Sysinfo program /root/cpu2017-1.1.9/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on 153-181 Fri Dec 5 03:34:19 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 (254.24+suse.148.g83b9060b6e)
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

1. uname -a
Linux 153-181 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64
x86_64 x86_64 GNU/Linux

2. w
03:34:19 up 17:02, 2 users, load average: 6.40, 6.73, 3.98
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - Thu10 16:58m 1.00s 0.01s -bash
root tty2 - 16:10 11:23m 0.07s 0.07s -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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

CPU2017 License: 001176

Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Dec-2025

Hardware Availability: Dec-2024

Software Availability: Oct-2025

Platform Notes (Continued)

file size (blocks, -f) unlimited
pending signals (-i) 9287028
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) 9287028
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 -c
ic2024.1-lin-core-avx512-speed-20240308.cfg --define cores=144 --tune base,peak -o all --define smt-on
--define drop_caches fpspeed
runcpu --nobuild --action validate --define default-platform-flags --configfile
ic2024.1-lin-core-avx512-speed-20240308.cfg --define cores=144 --tune base,peak --output_format all
--define smt-on --define drop_caches --nopower --runmode speed --tune base:peak --size refspeak fpspeed
--nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.006/temlogs/preenv.fpspeed.006.0.log --lognum 006.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /root/cpu2017-1.1.9
```

6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) 6960P
vendor_id       : GenuineIntel
cpu family      : 6
model           : 173
stepping        : 1
microcode       : 0x10003d0
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi
cpu cores       : 72
siblings        : 144
2 physical ids (chips)
288 processors (hardware threads)
physical id 0: core ids 0-23,64-87,128-151
physical id 1: core ids 0-23,64-87,128-151
physical id 0: apicids 0-47,128-175,256-303
physical id 1: apicids 512-559,640-687,768-815
Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
virtualized systems. Use the above data carefully.
```

7. lscpu

From lscpu from util-linux 2.40.4:

```
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):             288
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

CPU2017 License: 001176

Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Dec-2025

Hardware Availability: Dec-2024

Software Availability: Oct-2025

Platform Notes (Continued)

On-line CPU(s) list: 0-287
Vendor ID: GenuineIntel
Model name: Intel(R) Xeon(R) 6960P
CPU family: 6
Model: 173
Thread(s) per core: 2
Core(s) per socket: 72
Socket(s): 2
Stepping: 1
CPU(s) scaling MHz: 21%
CPU max MHz: 3900.0000
CPU min MHz: 800.0000
BogoMIPS: 5400.00
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb cat_l3 cat_l2 cdp_l3 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect user_shstk avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req 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: 6.8 MiB (144 instances)
L1i cache: 9 MiB (144 instances)
L2 cache: 288 MiB (144 instances)
L3 cache: 864 MiB (2 instances)
NUMA node(s): 6
NUMA node0 CPU(s): 0-23,144-167
NUMA node1 CPU(s): 24-47,168-191
NUMA node2 CPU(s): 48-71,192-215
NUMA node3 CPU(s): 72-95,216-239
NUMA node4 CPU(s): 96-119,240-263
NUMA node5 CPU(s): 120-143,264-287
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/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PBRSB-eIBRS Not affected; BHI BHI_DIS_S
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

CPU2017 License: 001176

Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Dec-2025

Hardware Availability: Dec-2024

Software Availability: Oct-2025

Platform Notes (Continued)

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	6.8M	12	Data	1	64	1	64
L1i	64K	9M	16	Instruction	1	64	1	64
L2	2M	288M	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: 0-23,144-167

node 0 size: 386571 MB

node 0 free: 356579 MB

node 1 cpus: 24-47,168-191

node 1 size: 387058 MB

node 1 free: 361366 MB

node 2 cpus: 48-71,192-215

node 2 size: 387058 MB

node 2 free: 361079 MB

node 3 cpus: 72-95,216-239

node 3 size: 387058 MB

node 3 free: 361568 MB

node 4 cpus: 96-119,240-263

node 4 size: 387058 MB

node 4 free: 356185 MB

node 5 cpus: 120-143,264-287

node 5 size: 386977 MB

node 5 free: 360421 MB

node distances:

node	0	1	2	3	4	5
0:	10	15	17	21	28	26
1:	15	10	15	23	26	23
2:	17	15	10	26	23	21
3:	21	28	26	10	15	17
4:	23	26	23	15	10	15
5:	26	23	21	17	15	10

9. /proc/meminfo

MemTotal: 2377507268 kB

10. who -r

run-level 3 Dec 4 10:33

11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)

Default Target Status

multi-user running

12. Services, from systemctl list-unit-files

STATE UNIT FILES

enabled YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager getty@ irqbalance
issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections
nvmf-autoconnect postfix purge-kernels rollback rsyslog smartd sshd systemd-pstore wicked
wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny

enabled-runtime systemd-fsck-root systemd-remount-fs

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

CPU2017 License: 001176

Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Dec-2025

Hardware Availability: Dec-2024

Software Availability: Oct-2025

Platform Notes (Continued)

disabled autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
 chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info
 firewallld fsidd gpm grub2-once haveged ipmi ipmievd issue-add-ssh-keys kexec-load lunmask
 man-db-create multipathd munge nfs nfs-blkmap nmb rpcbind rpmconfigcheck rsyncd
 salt-minion samba-bgqd serial-getty@ slurmd smartd_generate_opts smb snmpd snmptrapd
 svnserve systemd-boot-check-no-failures systemd-confext systemd-network-generator
 systemd-sysextd systemd-time-wait-sync systemd-timesyncd udisks2 vncserver@ ypbind
indirect systemd-userdbd wickedd

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

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
root=UUID=400eec9d-a733-4b70-8005-d2acc084fac4
splash=silent
mitigations=auto
quiet
security=apparmor
```

14. cpupower frequency-info

```
analyzing CPU 8:
  current policy: frequency should be within 800 MHz and 3.90 GHz.
                  The governor "powersave" may decide which speed to use
                  within this range.

boost state support:
  Supported: yes
  Active: yes
```

15. sysctl

```
kernel.numa_balancing          1
kernel.randomize_va_space      2
vm.compaction_proactiveness    20
vm.dirty_background_bytes      0
vm.dirty_background_ratio      10
vm.dirty_bytes                 0
vm.dirty_expire_centisecs      3000
vm.dirty_ratio                 20
vm.dirty_writeback_centisecs   500
vm.dirtytime_expire_seconds    43200
vm.extfrag_threshold           500
vm.min_unmapped_ratio          1
vm.nr_hugepages                0
vm.nr_hugepages_mempolicy      0
vm.nr_overcommit_hugepages     0
vm.swappiness                   60
vm.watermark_boost_factor      15000
vm.watermark_scale_factor      10
vm.zone_reclaim_mode           0
```

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
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

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

Test Date: Dec-2025
Hardware Availability: Dec-2024
Software Availability: Oct-2025

Platform Notes (Continued)

```
defrag                1
max_ptes_none         511
max_ptes_shared       256
max_ptes_swap         64
pages_to_scan         4096
scan_sleep_millisecs  10000
```

```
-----
18. OS release
From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP7
-----
```

```
-----
19. Disk information
SPEC is set to: /root/cpu2017-1.1.9
Filesystem  Type  Size  Used Avail Use% Mounted on
/dev/nvme1n1p2 ext4  3.6T  165G  3.3T   5% /
-----
```

```
-----
20. /sys/devices/virtual/dmi/id
Vendor:      PM_X11DPU-XLL
Product:     PPM_X11DPUXLL1
Product Family: SMC X14
Serial:      PSX11DPUXLL1
-----
```

```
-----
21. 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:
  1x Samsung MDRRW4QDBC2-3B000 96 GB 2 rank 6400
  3x Samsung MDRRW4QDBC2-3D000 96 GB 2 rank 6400
  6x Samsung MDRRW4QDBC2-3E000 96 GB 2 rank 6400
  7x Samsung MDRRW4QDBC2-3G000 96 GB 2 rank 6400
  7x Samsung MDRRW4QDBC2-3L000 96 GB 2 rank 6400
-----
```

```
-----
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor:      American Megatrends International, LLC.
BIOS Version:     1.4
BIOS Date:        07/15/2025
BIOS Revision:    5.35
-----
```

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

```
=====
C++, C, Fortran | 607.cactuBSSN_s(base, peak)
-----
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

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

Test Date: Dec-2025
Hardware Availability: Dec-2024
Software Availability: Oct-2025

Compiler Version Notes (Continued)

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 | 603.bwaves_s(base, peak) 649.fotonik3d_s(base, peak) 654.roms_s(base, peak)
=====

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

=====
Fortran, C | 621.wrf_s(base, peak) 627.cam4_s(base, peak) 628.pop2_s(base, peak)
=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 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.

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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

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

Test Date: Dec-2025
Hardware Availability: Dec-2024
Software Availability: Oct-2025

Base Portability Flags (Continued)

644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:

-w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -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-AVX512 -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-AVX512 -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-AVX512 -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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

CPU2017 License: 001176

Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Dec-2025

Hardware Availability: Dec-2024

Software Availability: Oct-2025

Peak Compiler Invocation (Continued)

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

619.lbm_s: basepeak = yes

638.imagick_s: basepeak = yes

644.nab_s: basepeak = yes

Fortran benchmarks:

603.bwaves_s: -w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512
-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

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-AVX512 -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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-522GA-NRT
(X14DBG-AP, Intel Xeon 6960P)

SPECspeed®2017_fp_base = 416

SPECspeed®2017_fp_peak = 415

CPU2017 License: 001176

Test Sponsor: Supermicro

Tested by: Supermicro

Test Date: Dec-2025

Hardware Availability: Dec-2024

Software Availability: Oct-2025

Peak Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:

607.cactuBSSN_s: basepeak = yes

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

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html>

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

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

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

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

SPEC CPU and SPECspeed 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 2025-12-05 06:34:18-0500.

Report generated on 2026-01-14 13:45:41 by CPU2017 PDF formatter v6716.

Originally published on 2026-01-13.