



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

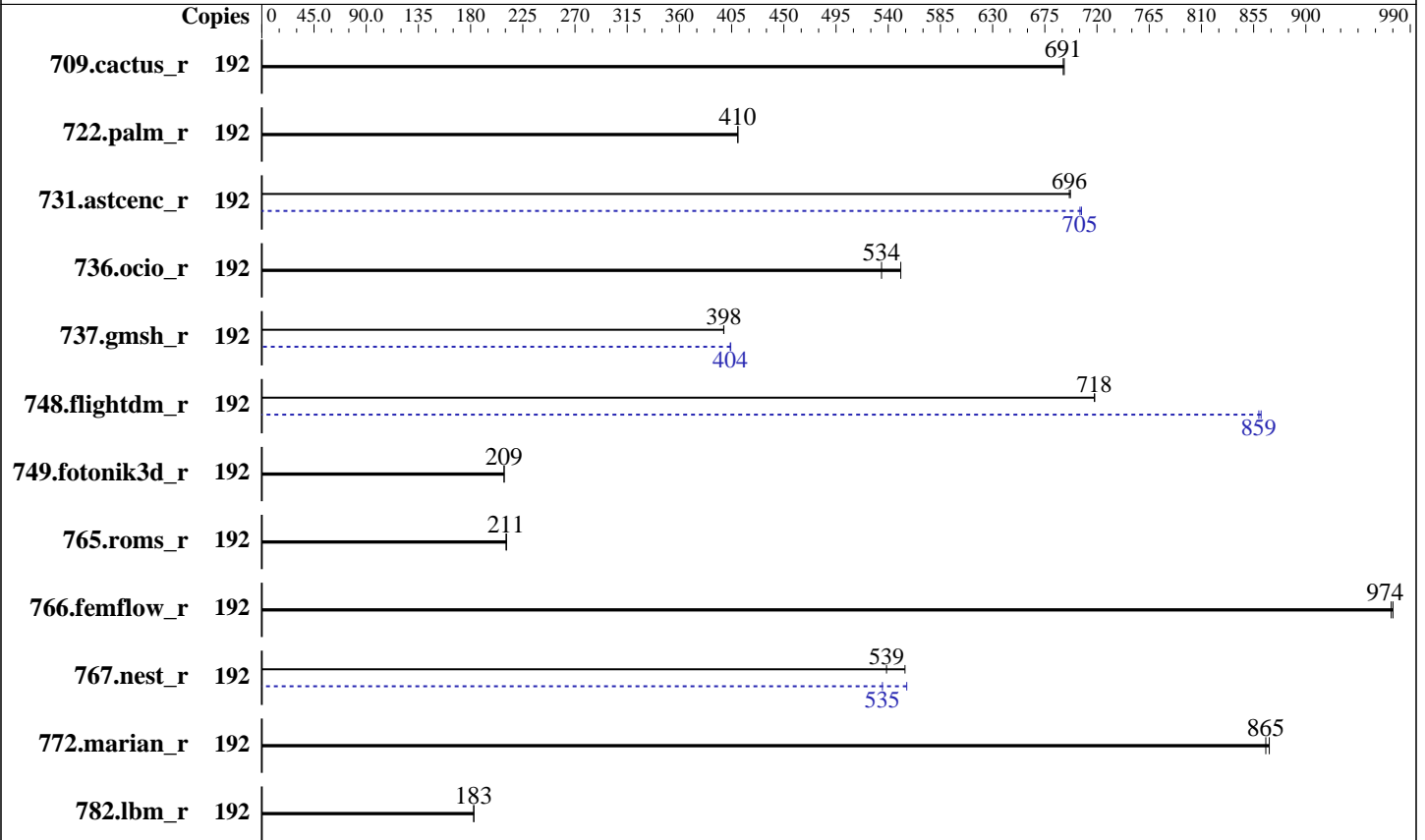
SuperServer SYS-112HA-TN
(X14SBH-AP , Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 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 6970E+
Max MHz: 3200
Nominal: 2300
Enabled: 192 cores, 1 chip
Orderable: 1 chip
Cache L1: 64 KB I + 32 KB D on chip per core
L2: 192 MB I+D on chip per chip, 4 MB shared / 4 cores
L3: 480 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
Cooling: Air
Other: None

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
Compiler Category: Vendor
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 V5.3.0
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP , Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
709.cactus_r	192	238	691	238	692			192	238	691	238	692		
722.palm_r	192	617	411	618	410			192	617	411	618	410		
731.ascenc_r	192	231	697	232	696			192	228	707	229	705		
736.ocio_r	192	314	534	305	551			192	314	534	305	551		
737.gmsh_r	192	221	398	221	398			192	218	404	218	404		
748.flightdm_r	192	192	718	191	718			192	160	861	160	859		
749.fotonik3d_r	192	1063	209	1062	209			192	1063	209	1062	209		
765.roms_r	192	1436	211	1433	211			192	1436	211	1433	211		
766.femflow_r	192	289	975	289	974			192	289	975	289	974		
767.nest_r	192	283	539	275	554			192	274	556	285	535		
772.marian_r	192	349	868	350	865			192	349	868	350	865		
782.lbm_r	192	602	183	602	183			192	602	183	602	183		

SPECrate®2026_fp_base = **468**

SPECrate®2026_fp_peak = **476**

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/cpu2026/lib"
MALLOC_CONF = "retain:true"

General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM memory using CentOS Stream 9.
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

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP , Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

General Notes (Continued)

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) 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 CentOS Stream 9, and the system compiler gcc 11.5.0
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/cpu2026/bin/sysinfo
Rev: 779ab21020787073335a329f3a45e2cd
running on Thu May 28 19:40:10 2026

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

Table of contents

1. uname -srvm
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

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP, Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Platform Notes (Continued)

- 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 -srvm
Linux 5.14.0-611.5.1.el9_7.x86_64 #1 SMP PREEMPT_DYNAMIC Fri Oct 17 14:16:35 EDT 2025 x86_64
```

```
2. w
 19:40:10 up 3:53, 1 user, load average: 72.34, 155.50, 174.80
USER      TTY      LOGIN@  IDLE   JCPU   PCPU WHAT
root      tty1    15:46   3:51m  1.39s  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) 4640390
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) 4640390
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
```

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP, Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Platform Notes (Continued)

```

-bash
-bash
runcpu --nobuild --reportable --action validate --define default-platform-flags --copies 192 -c
ic2026.0-clearwaterforest-cpu2026-1.0.1-rate-20260429.cfg --define smt-on --define peakfpcopies=96
--define physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak
-o all fprate
runcpu --nobuild --reportable --action validate --define default-platform-flags --copies 192 --configfile
ic2026.0-clearwaterforest-cpu2026-1.0.1-rate-20260429.cfg --define smt-on --define peakfpcopies=96
--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/CPU2026.002/templogs/preenv.fprate.002.0.log --lognum 002.0
--from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026

```

```

-----
6. /proc/cpuinfo
model name      : Intel(R) Xeon(R) 6970E+
vendor_id      : GenuineIntel
cpu family     : 6
model          : 221
stepping       : 1
microcode      : 0x1000120
bugs           : spectre_v1 spectre_v2 spec_store_bypass swappgs bhi spectre_v2_user
cpu cores     : 192
siblings       : 192
1 physical ids (chips)
192 processors (hardware threads)
physical id 0: core ids 0-63,128-191,256-319
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
,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,256,258,2
60,262,264,266,268,270,272,274,276,278,280,282,284,286,288,290,292,294,296,298,300,302,304,306,308,310,31
2,314,316,318,320,322,324,326,328,330,332,334,336,338,340,342,344,346,348,350,352,354,356,358,360,362,364
,366,368,370,372,374,376,378,380,382,512,514,516,518,520,522,524,526,528,530,532,534,536,538,540,542,544,
546,548,550,552,554,556,558,560,562,564,566,568,570,572,574,576,578,580,582,584,586,588,590,592,594,596,5
98,600,602,604,606,608,610,612,614,616,618,620,622,624,626,628,630,632,634,636,638
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

```

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP , Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Platform Notes (Continued)

```

Byte Order:                Little Endian
CPU(s):                    192
On-line CPU(s) list:      0-191
Vendor ID:                 GenuineIntel
BIOS Vendor ID:          Intel(R) Corporation
Model name:               Intel(R) Xeon(R) 6970E+
BIOS Model name:         Intel(R) Xeon(R) 6970E+
CPU family:               6
Model:                    221
Thread(s) per core:      1
Core(s) per socket:      192
Socket(s):                1
Stepping:                 1
BogoMIPS:                 4600.00
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
                          pdpnlgb 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:               6 MiB (192 instances)
L1i cache:               12 MiB (192 instances)
L2 cache:                192 MiB (48 instances)
L3 cache:                480 MiB (1 instance)
NUMA node(s):            3
NUMA node0 CPU(s):      0-63
NUMA node1 CPU(s):      64-127
NUMA node2 CPU(s):      128-191
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

```

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP, Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Platform Notes (Continued)

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; PBR SB-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	6M	8	Data	1	64	1	64
L1i	64K	12M	8	Instruction	1	128	1	64
L2	4M	192M	16	Unified	2	4096	1	64
L3	480M	480M	16	Unified	3	491520	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: 0-63
node 0 size: 386111 MB
node 0 free: 368535 MB
node 1 cpus: 64-127
node 1 size: 387055 MB
node 1 free: 370014 MB
node 2 cpus: 128-191
node 2 size: 386994 MB
node 2 free: 370142 MB
node distances:
node    0    1    2
 0:   10   15   17
 1:   15   10   15
 2:   17   15   10

```

9. /proc/meminfo

MemTotal: 1188005544 kB

10. who -r

run-level 3 May 28 15:46

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP , Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Platform Notes (Continued)

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

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

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 iprddump iprint iprupdate iscsi-init iscsid iscsiui 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 rpmdb-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.e19_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 39:
Unable to determine current policy
boost state support:
Supported: yes
Active: yes
```

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP , Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Platform Notes (Continued)

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
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+madvise	[madvise]	never
enabled	[always]	madvise	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

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP, Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Platform Notes (Continued)

```
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/cpu2026

```
Filesystem                                Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel_135--180--133-home        xfs   372G   78G  295G  21% /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.
BIOS Version:     1.5b
BIOS Date:        05/04/2026
BIOS Revision:    5.35
```

Compiler Version Notes

=====
C | 782.lbm_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.
```

(Continued on next page)



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP, Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Compiler Version Notes (Continued)

```
C++ | 731.astcenc_r(base, peak) 736.ocio_r(base, peak)
    | 748.flightdm_r(base, peak) 766.femflow_r(base, peak)
    | 767.nest_r(base, peak) 772.marian_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 | 709.cactus_r(base, peak) 737.gmsh_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.

```
=====  
Fortran | 722.palm_r(base, peak) 749.fotonik3d_r(base, peak) 765.roms_r(base,  
        | peak)
```

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version
2026.0.0 Build 20260331
Copyright (C) 1985-2026 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Fortran benchmarks:
ifx

Benchmarks using both C and C++:
icpx icx

Base Portability Flags

737.gmsh_r: -fno-associative-math



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP , Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Base Optimization Flags

C benchmarks:

```
-m64 -std=c18 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xclearwaterforest -O3 -ffp-model=fast -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -L/usr/local/jemalloc-5.3.0/lib
-ljemalloc
```

C++ benchmarks:

```
-m64 -std=c++17 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xclearwaterforest -O3 -ffp-model=fast -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -L/usr/local/jemalloc-5.3.0/lib
-ljemalloc
```

Fortran benchmarks:

```
-m64 -stand f18 -Wl,-z,muldefs -Wl,-plugin-opt=-inline-threshold=1500
-xclearwaterforest -O3 -ffp-model=fast -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```

Benchmarks using both C and C++:

```
-m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500 -xclearwaterforest -O3
-ffp-model=fast -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```

Peak Compiler Invocation

C benchmarks:

icx

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both C and C++:

icpx icx

Peak Portability Flags

737.gmsh_r: -fno-associative-math



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP, Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

Peak Optimization Flags

C benchmarks:

782.lbm_r: basepeak = yes

C++ benchmarks:

```
731.astcenc_r: -m64 -std=c++17 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xclearwaterforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```

736.ocio_r: basepeak = yes

748.flightdm_r: Same as 731.astcenc_r

766.femflow_r: basepeak = yes

767.nest_r: Same as 731.astcenc_r

772.marian_r: basepeak = yes

Fortran benchmarks:

722.palm_r: basepeak = yes

749.fotonik3d_r: basepeak = yes

765.roms_r: basepeak = yes

Benchmarks using both C and C++:

709.cactus_r: basepeak = yes

```
737.gmsh_r: -m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500
-fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)
-ffp-model=fast -xclearwaterforest(pass 2) -flto
-qopt-mem-layout-trans=4 -O3 -mfpmath=sse -funroll-loops
-L/usr/local/jemalloc-5.3.0/lib -ljemalloc
```



SPEC CPU®2026 Floating Point Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Supermicro

SuperServer SYS-112HA-TN
(X14SBH-AP , Intel Xeon 6970E+)

SPECrate®2026_fp_base = 468

SPECrate®2026_fp_peak = 476

CPU2026 License: 001176
Test Sponsor: Supermicro
Tested by: Supermicro

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

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

<http://www.spec.org/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.html>
<http://www.spec.org/cpu2026/results/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/cpu2026/results/flags/Intel-ic2026-official-linux64-v1.1.xml>
<http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-CWF-revC.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®2026 v1.0.1 on 2026-05-28 07:40:09-0400.
Report generated on 2026-06-16 17:19:41 by CPU2026 PDF formatter (unknown).
Originally published on 2026-06-16.