SPEC CPU®2026 Floating Point Rate Result

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Supermicro
(Test Sponsor: Intel Corporation)

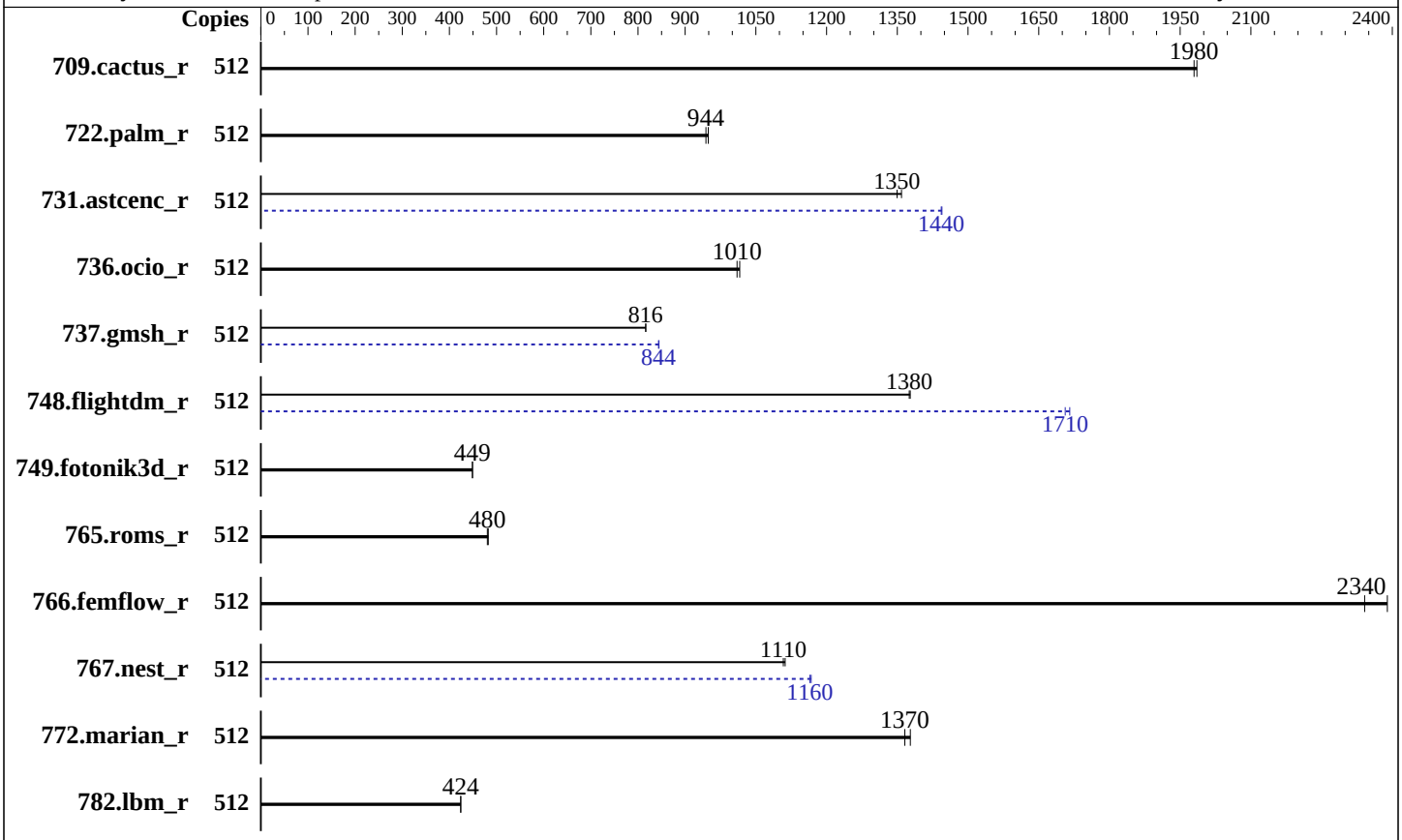
Hyper SuperServer SYS-222HA-TN

SPECrate®2026_fp_base = 994

SPECrate®2026_fp_peak = 1020

CPU2026 License: 13
Test Sponsor: Intel Corporation
Tested by: Intel Corporation

Test Date: Feb-2026
Hardware Availability: Jun-2025
Software Availability: Nov-2025



Hardware

CPU Name:	Intel Xeon 6980P
Max MHz:	3900
Nominal:	2000
Enabled:	256 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:	504 MB I+D on chip per chip
Other:	None
Memory:	1536 GB (24 x 64 GB 2Rx4 PC5-88/56B-M)
Storage:	1 x 3.5 TB PCIe NVMe SSD
Cooling:	Air
Other:	None

Software

OS:	Ubuntu 24.04.3 LTS 6.8.0-90-generic
Compiler:	C/C++: Version 2025.3 of Intel oneAPI DPC++/C++ Compiler for Linux; Fortran: Version 2025.3 of Intel Fortran Compiler for Linux
Compiler Category:	Vendor
Firmware:	Version 5.35 released Jul-2025
File System:	ext4
System State:	Run level 5 (Multiuser with networking)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	jemalloc memory allocator v5.3
Power Management:	BIOS 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
709.cactus_r	512	221	1990	**222**	**1980**			512	221	1990	**222**	**1980**		
722.palm_r	512	712	949	**716**	**944**			512	712	949	**716**	**944**		
731.astcenc_r	512	316	1360	**319**	**1350**			512	298	1440	**298**	**1440**		
736.ocio_r	512	441	1020	**444**	**1010**			512	441	1020	**444**	**1010**		
737.gmsh_r	512	**288**	**816**	288	816			512	278	845	**279**	**844**		
748.flightdm_r	512	266	1380	**267**	**1380**			512	**215**	**1710**	214	1720		
749.fotonik3d_r	512	**1319**	**449**	1318	449			512	**1319**	**449**	1318	449		
765.roms_r	512	**1678**	**480**	1672	482			512	**1678**	**480**	1672	482		
766.femflow_r	512	**321**	**2340**	314	2390			512	**321**	**2340**	314	2390		
767.nest_r	512	**366**	**1110**	365	1110			512	**349**	**1160**	348	1170		
772.marian_r	512	**592**	**1370**	587	1380			512	**592**	**1370**	587	1380		
782.lbm_r	512	692	424	**692**	**424**			512	692	424	**692**	**424**		

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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 = "/root/cpu2026-0.902.0/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)

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 Configuration :
Workload Profile set to Disabled
Power Performance Tuning set to BIOS Controls EPB
Energy Perf Bias CFG mode set to Extreme Performance
Sub NUMA Clustering (SNC) set to Enabled
KTI Prefetch set to Enabled
Stale AtoS set to Disabled
LLC Dead Line Alloc set to Disabled
BMC Configuration:
System Fan speed set to full speed

 Sysinfo program /root/cpu2026-0.902.0/bin/sysinfo
 Rev: 069f95da7e7f5d81b2ce48a82150e54f
 running on smc-gnr-ap6-ubuntu Tue Feb  3 02:55:29 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
```

(Continued on next page)

Platform Notes (Continued)

```
 11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.12)
 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 -srvm
  Linux 6.8.0-90-generic #91-Ubuntu SMP PREEMPT_DYNAMIC Tue Nov 18 14:14:30 UTC 2025 x86_64

------------------------------------------------------------
2. w
   02:55:29 up 3 days,  4:32,  3 users,  load average: 221.08, 427.78, 468.85
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root             10.125.130.14    02:46    5:22m  0.00s  0.08s sshd: root@notty
  root             10.125.130.14    02:46    5:22m  0.00s  0.07s sshd: root@pts/0

------------------------------------------------------------
3. Username
  From environment variable $USER:  root

------------------------------------------------------------
4. ulimit -a
  time(seconds)        unlimited
  file(blocks)         unlimited
  data(kbytes)         unlimited
  stack(kbytes)        unlimited
  coredump(blocks)     0
  memory(kbytes)       unlimited
  locked memory(kbytes) 198086480
  process              6189882
  nofiles              1024
  vmemory(kbytes)      unlimited
  locks                unlimited
  rtprio               0

------------------------------------------------------------
5. sysinfo process ancestry
```

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Platform Notes (Continued)

```
 /sbin/init
 tmux new -s spec
 -bash
 -bash
 runcpu --nobuild --reportable --action validate --define default-platform-flags --copies 512 -c
   ic2025.3-sapphirerapids-cpu2026-0.902-rate-20260121.cfg --define smt-on --define cores=256 --define
   physicalfirst --define invoke_with_interleave --define drop_caches --tune base,peak -o all fprate
 runcpu --nobuild --reportable --action validate --define default-platform-flags --copies 512 --configfile
   ic2025.3-sapphirerapids-cpu2026-0.902-rate-20260121.cfg --define smt-on --define cores=256 --define
   physicalfirst --define invoke_with_interleave --define drop_caches --tune base,peak --output_format all
   --nopower --runmode rate --tune base:peak --size refrate fprate --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2026.012/templogs/preenv.fprate.012.0.log --lognum 012.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /root/cpu2026-0.902.0

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6980P
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 173
    stepping        : 1
    microcode       : 0x10003d0
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi vmscape
    cpu cores       : 128
    siblings        : 256
    2 physical ids (chips)
    512 processors (hardware threads)
    physical id 0: core ids 0-42,64-106,128-169
    physical id 1: core ids 0-42,64-106,128-169
    physical id 0: apicids 0-85,128-213,256-339
    physical id 1: apicids 512-597,640-725,768-851
 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):                               512
  On-line CPU(s) list:                  0-511
  Vendor ID:                            GenuineIntel
  BIOS Vendor ID:                       Intel(R) Corporation
```

(Continued on next page)

Platform Notes (Continued)

```
  Model name:                            Intel(R) Xeon(R) 6980P
  BIOS Model name:                       Intel(R) Xeon(R) 6980P  CPU @ 2.0GHz
  BIOS CPU family:                       179
  CPU family:                            6
  Model:                                 173
  Thread(s) per core:                    2
  Core(s) per socket:                    128
  Socket(s):                             2
  Stepping:                              1
  BogoMIPS:                              4000.00
  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 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 ibpb_exit_to_user
  Virtualization:                        VT-x
  L1d cache:                             12 MiB (256 instances)
  L1i cache:                             16 MiB (256 instances)
  L2 cache:                              512 MiB (256 instances)
  L3 cache:                              1008 MiB (2 instances)
  NUMA node(s):                          6
  NUMA node0 CPU(s):                     0-42,256-298
  NUMA node1 CPU(s):                     43-85,299-341
  NUMA node2 CPU(s):                     86-127,342-383
  NUMA node3 CPU(s):                     128-170,384-426
  NUMA node4 CPU(s):                     171-213,427-469
  NUMA node5 CPU(s):                     214-255,470-511
  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
```

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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; RSB filling;
                                         PBRSB-eIBRS Not affected; BHI BHI_DIS_S
   Vulnerability Srbds:                  Not affected
   Vulnerability Tsx async abort:        Not affected
   Vulnerability Vmscape:                Mitigation; IBPB before exit to userspace

 From lscpu --cache:
      NAME ONE-SIZE ALL-SIZE WAYS TYPE        LEVEL   SETS PHY-LINE COHERENCY-SIZE
      L1d       48K      12M   12 Data            1     64        1             64
      L1i       64K      16M   16 Instruction     1     64        1             64
      L2         2M     512M   16 Unified         2   2048        1             64
      L3       504M    1008M   16 Unified         3 516096        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: 0-42,256-298
   node 0 size: 257526 MB
   node 0 free: 226342 MB
   node 1 cpus: 43-85,299-341
   node 1 size: 258018 MB
   node 1 free: 228400 MB
   node 2 cpus: 86-127,342-383
   node 2 size: 257976 MB
   node 2 free: 231309 MB
   node 3 cpus: 128-170,384-426
   node 3 size: 258018 MB
   node 3 free: 231131 MB
   node 4 cpus: 171-213,427-469
   node 4 size: 258018 MB
   node 4 free: 230549 MB
   node 5 cpus: 214-255,470-511
   node 5 size: 257991 MB
   node 5 free: 231473 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
```

(Continued on next page)

Platform Notes (Continued)

```
     5:  26  23  21  17  15  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1584691864 kB

------------------------------------------------------------
10. who -r
  run-level 5 Jan 30 22:23

------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.12)
  Default Target  Status
  graphical       degraded

------------------------------------------------------------
12. Failed units, from systemctl list-units --state=failed
    UNIT                   LOAD   ACTIVE SUB    DESCRIPTION
  * fwupd-refresh.service loaded failed failed Refresh fwupd metadata and update motd
  Legend: LOAD   -> Reflects whether the unit definition was properly loaded.
          ACTIVE -> The high-level unit activation state, i.e. generalization of SUB.
          SUB    -> The low-level unit activation state, values depend on unit type.
  1 loaded units listed.

------------------------------------------------------------
13. Services, from systemctl list-unit-files
  STATE             UNIT FILES
  enabled         ModemManager apparmor apport blk-availability cloud-config cloud-final cloud-init
                  cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ gpu-manager
                    grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd
                  networkd-dispatcher nvmefc-boot-connections nvmf-autoconnect open-iscsi open-vm-tools
                    pollinate rsyslog secureboot-db setvtrgb snapd sysstat systemd-networkd
                  systemd-networkd-wait-online systemd-pstore systemd-resolved systemd-timesyncd thermald
                    ua-reboot-cmds ubuntu-advantage udisks2 ufw unattended-upgrades vgauth
  enabled-runtime  netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
  disabled        console-getty debug-shell ipmievd iscsid nftables rsync serial-getty@ ssh
                    systemd-boot-check-no-failures systemd-confext systemd-network-generator
                  systemd-networkd-wait-online@ systemd-pcrlock-file-system systemd-pcrlock-firmware-code
                  systemd-pcrlock-firmware-config systemd-pcrlock-machine-id systemd-pcrlock-make-policy
                  systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysext
                    systemd-time-wait-sync upower
  generated         openipmi
  indirect          systemd-sysupdate systemd-sysupdate-reboot uuidd
  masked          cryptdisks cryptdisks-early hwclock multipath-tools-boot screen-cleanup sudo x11-common

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

(Continued on next page)

Platform Notes (Continued)

```
  BOOT_IMAGE=/boot/vmlinuz-6.8.0-90-generic
  root=UUID=1125c027-be85-444c-a0e0-9873f7e7f358
  ro

------------------------------------------------------------
15. cpupower frequency-info
  analyzing CPU 15:
    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
  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 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
```

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Platform Notes (Continued)

```
   max_ptes_swap              64
   pages_to_scan            4096
   scan_sleep_millisecs    10000

 ------------------------------------------------------------
 19. OS release
   From /etc/*-release /etc/*-version
   os-release Ubuntu 24.04.3 LTS

 ------------------------------------------------------------
 20. Disk information
 SPEC is set to: /root/cpu2026-0.902.0
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/nvme1n1p2 ext4  3.5T  924G  2.4T  28% /

 ------------------------------------------------------------
 21. /sys/devices/virtual/dmi/id
     Vendor:         Supermicro
     Product:        SYS-222HA-TN
     Product Family: Family
     Serial:         S928613X4614557

 ------------------------------------------------------------
 22. dmidecode
   Additional information from dmidecode 3.5 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 Micron Technology MTC40F2046S1HC88XDX WCCCC 64 GB 1 rank 8800
     2x Micron Technology MTC40F2046S1HC88XDX WFFFG 64 GB 1 rank 8800
     21x Micron Technology MTC40F2046S1HC88XDY WCCCC 64 GB 1 rank 8800


 ------------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       American Megatrends International, LLC.
    BIOS Version:      1.4
    BIOS Date:         07/24/2025
    BIOS Revision:     5.35
```

Compiler Version Notes

```
==============================================================================
C       | 782.lbm_r(base, peak)
```

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Compiler Version Notes (Continued)

```
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2025.3.0 Build 20251010
Copyright (C) 1985-2025 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
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 2025.3.0 Build 20251010
Copyright (C) 1985-2025 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 2025.3.0 Build 20251010
Copyright (C) 1985-2025 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
  2025.3.0 Build 20251010
Copyright (C) 1985-2025 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

709.cactus_r: -DSPEC_LP64
722.palm_r: -DSPEC_LP64
731.astcenc_r: -DSPEC_LP64
736.ocio_r: -DSPEC_LP64
737.gmsh_r: -DSPEC_LP64 -fno-associative-math
748.flightdm_r: -DSPEC_LP64
749.fotonik3d_r: -DSPEC_LP64
765.roms_r: -DSPEC_LP64
766.femflow_r: -DSPEC_LP64
767.nest_r: -DSPEC_LP64
772.marian_r: -DSPEC_LP64
782.lbm_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-m64 -std=c18 -Wl,-z,muldefs -xsapphirerapids
-mprefer-vector-width=512 -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 -xsapphirerapids
-mprefer-vector-width=512 -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 -xsapphirerapids
-mprefer-vector-width=512 -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 -xsapphirerapids
-mprefer-vector-width=512 -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

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

782.lbm_r: basepeak = yes

C++ benchmarks:

731.astcenc_r: -m64 -std=c++17 -Wl,-z,muldefs -fprofile-generate(pass 1)
-fprofile-use=default.profdata(pass 2) -xHost(pass 1)
-ffp-model=fast -xsapphirerapids(pass 2) -flto
-mprefer-vector-width=512 -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

(Continued on next page)

Peak Optimization Flags (Continued)

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`
`-fprofile-generate`(pass 1)
`-fprofile-use=default.profdata`(pass 2) `-xHost`(pass 1)
`-ffp-model=fast -xsapphirerapids`(pass 2) `-flto`
`-mprefer-vector-width=512 -qopt-mem-layout-trans=4 -O3`
`-mfpmath=sse -funroll-loops`
`-L/usr/local/jemalloc-5.3.0/lib -ljemalloc`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64-cpu2026-0.902.html
http://www.spec.org/cpu2026/results/flags/Intel-Platform-Settings-standard-v1.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64-cpu2026-0.902.xml
http://www.spec.org/cpu2026/results/flags/Intel-Platform-Settings-standard-v1.xml

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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