SPEC CPU®2026 Integer Rate Result

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Supermicro

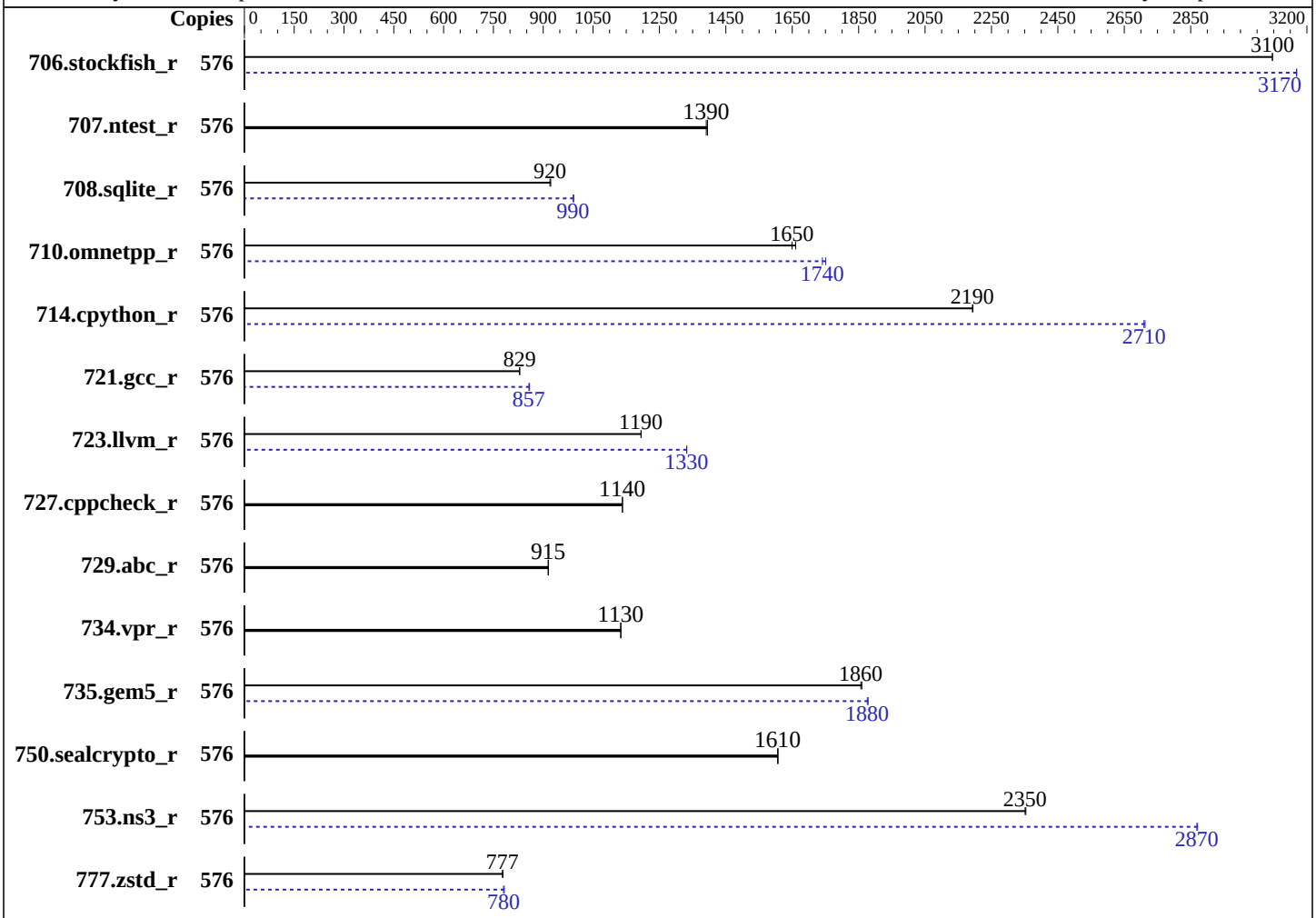
SuperServer SYS-122HA-TN-LCC
(X14DBM-APL , Intel Xeon 6990E+)

SPECrate®2026_int_base = 1380

SPECrate®2026_int_peak = 1450

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 6990E+
Max MHz:	3200
Nominal:	2200
Enabled:	576 cores, 2 chips
Orderable:	1, 2 chips
Cache L1:	64 KB I + 32 KB D on chip per core
L2:	4 MB I+D on chip per core
L3:	576 MB I+D on chip per chip
Other:	None
Memory:	1536 GB (24 x 64 GB 2Rx4 PC5-8000B-R)
Storage:	1 x 1.92TB NVMe SSD
Cooling:	DLC
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 SP7 6.4.0-150700.51-default
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 2.0 released May-2026
File System:	xfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	None
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
706.stockfish_r	576	**234**	**3100**	234	3100			576	229	3170	**229**	**3170**		
707.ntest_r	576	**245**	**1390**	244	1390			576	**245**	**1390**	244	1390		
708.sqlite_r	576	**330**	**920**	330	923			576	307	992	**307**	**990**		
710.omnetpp_r	576	169	1660	**170**	**1650**			576	160	1750	**161**	**1740**		
714.cpython_r	576	126	2190	**126**	**2190**			576	**102**	**2710**	102	2710		
721.gcc_r	576	**477**	**829**	476	829			576	**461**	**857**	460	859		
723.llvm_r	576	244	1200	**245**	**1190**			576	**219**	**1330**	219	1330		
727.cppcheck_r	576	**182**	**1140**	182	1140			576	**182**	**1140**	182	1140		
729.abc_r	576	**289**	**915**	289	915			576	**289**	**915**	289	915		
734.vpr_r	576	234	1130	**234**	**1130**			576	234	1130	**234**	**1130**		
735.gem5_r	576	151	1860	**151**	**1860**			576	**150**	**1880**	149	1880		
750.sealcrypto_r	576	192	1610	**192**	**1610**			576	192	1610	**192**	**1610**		
753.ns3_r	576	**150**	**2350**	150	2350			576	123	2870	**123**	**2870**		
777.zstd_r	576	476	779	**477**	**777**			576	474	783	**475**	**780**		

SPECrate®2026_int_base = **1380**

SPECrate®2026_int_peak = **1450**

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
```

(Continued on next page)

General Notes (Continued)

```
 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)
 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.
```

Platform Notes

```
BIOS Settings:
 Power Performance Tuning = BIOS Controls EPB
 ENERGY_PERF_BIAS_CFG mode = Extreme Performance

 Sysinfo program /home/cpu2026/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
 running on  Wed May 13 16:06:31 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 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
```

(Continued on next page)

Platform Notes (Continued)

```
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS
------------------------------------------------------------

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

------------------------------------------------------------
2. w
   16:06:31 up 2 min,  1 user,  load average: 0.43, 0.38, 0.16
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     tty1     -                16:05    7.00s  1.70s  0.03s -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) 6189164
  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) 6189164
  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 --reportable --action validate --define default-platform-flags --copies 576 -c
   ic2026.0-clearwaterforest-cpu2026-1.0.1-rate-20260429.cfg --define smt-on --define cores=576 --define
   physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak -o all
```

(Continued on next page)

Platform Notes (Continued)

```
    intrate
 runcpu --nobuild --reportable --action validate --define default-platform-flags --copies 576 --configfile
   ic2026.0-clearwaterforest-cpu2026-1.0.1-rate-20260429.cfg --define smt-on --define cores=576 --define
   physicalfirst --define invoke_with_interleave --define drop_caches --reportable --tune base,peak
   --output_format all --nopower --runmode rate --tune base:peak --size refrate intrate --nopreenv
   --note-preenv --logfile $SPEC/tmp/CPU2026.003/templogs/preenv.intrate.003.0.log --lognum 003.0
    --from_runcpu 2
  specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : Intel(R) Xeon(R) 6990E+
    vendor_id       : GenuineIntel
    cpu family      : 6
    model           : 221
    stepping        : 1
    microcode       : 0x1000120
    bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs
    cpu cores       : 288
    siblings        : 288
    2 physical ids (chips)
    576 processors (hardware threads)
    physical id 0: core ids 0-95,128-223,256-351
    physical id 1: core ids 0-95,128-223,256-351
    physical id 0: apicids
   0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62,64,66,68,70,72
   ,74,76,78,80,82,84,86,88,90,92,94,96,98,100,102,104,106,108,110,112,114,116,118,120,122,124,126,128,130,1
   32,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,180,182,18
   4,186,188,190,256,258,260,262,264,266,268,270,272,274,276,278,280,282,284,286,288,290,292,294,296,298,300
   ,302,304,306,308,310,312,314,316,318,320,322,324,326,328,330,332,334,336,338,340,342,344,346,348,350,352,
   354,356,358,360,362,364,366,368,370,372,374,376,378,380,382,384,386,388,390,392,394,396,398,400,402,404,4
   06,408,410,412,414,416,418,420,422,424,426,428,430,432,434,436,438,440,442,444,446,512,514,516,518,520,52
   2,524,526,528,530,532,534,536,538,540,542,544,546,548,550,552,554,556,558,560,562,564,566,568,570,572,574
   ,576,578,580,582,584,586,588,590,592,594,596,598,600,602,604,606,608,610,612,614,616,618,620,622,624,626,
   628,630,632,634,636,638,640,642,644,646,648,650,652,654,656,658,660,662,664,666,668,670,672,674,676,678,6
    80,682,684,686,688,690,692,694,696,698,700,702
    physical id 1: apicids
   1024,1026,1028,1030,1032,1034,1036,1038,1040,1042,1044,1046,1048,1050,1052,1054,1056,1058,1060,1062,1064,
   1066,1068,1070,1072,1074,1076,1078,1080,1082,1084,1086,1088,1090,1092,1094,1096,1098,1100,1102,1104,1106,
   1108,1110,1112,1114,1116,1118,1120,1122,1124,1126,1128,1130,1132,1134,1136,1138,1140,1142,1144,1146,1148,
   1150,1152,1154,1156,1158,1160,1162,1164,1166,1168,1170,1172,1174,1176,1178,1180,1182,1184,1186,1188,1190,
   1192,1194,1196,1198,1200,1202,1204,1206,1208,1210,1212,1214,1280,1282,1284,1286,1288,1290,1292,1294,1296,
   1298,1300,1302,1304,1306,1308,1310,1312,1314,1316,1318,1320,1322,1324,1326,1328,1330,1332,1334,1336,1338,
   1340,1342,1344,1346,1348,1350,1352,1354,1356,1358,1360,1362,1364,1366,1368,1370,1372,1374,1376,1378,1380,
   1382,1384,1386,1388,1390,1392,1394,1396,1398,1400,1402,1404,1406,1408,1410,1412,1414,1416,1418,1420,1422,
   1424,1426,1428,1430,1432,1434,1436,1438,1440,1442,1444,1446,1448,1450,1452,1454,1456,1458,1460,1462,1464,
```

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Platform Notes (Continued)

```
    1466,1468,1470,1536,1538,1540,1542,1544,1546,1548,1550,1552,1554,1556,1558,1560,1562,1564,1566,1568,1570,
    1572,1574,1576,1578,1580,1582,1584,1586,1588,1590,1592,1594,1596,1598,1600,1602,1604,1606,1608,1610,1612,
    1614,1616,1618,1620,1622,1624,1626,1628,1630,1632,1634,1636,1638,1640,1642,1644,1646,1648,1650,1652,1654,
    1656,1658,1660,1662,1664,1666,1668,1670,1672,1674,1676,1678,1680,1682,1684,1686,1688,1690,1692,1694,1696,
     1698,1700,1702,1704,1706,1708,1710,1712,1714,1716,1718,1720,1722,1724,1726
  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, 48 bits virtual
  Byte Order:                           Little Endian
  CPU(s):                               576
  On-line CPU(s) list:                  0-575
  Vendor ID:                            GenuineIntel
  Model name:                           Intel(R) Xeon(R) 6990E+
  CPU family:                           6
  Model:                                221
  Thread(s) per core:                   1
  Core(s) per socket:                   288
  Socket(s):                            2
  Stepping:                             1
  BogoMIPS:                             4400.00
  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 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_l1d arch_capabilities
  Virtualization:                       VT-x
  L1d cache:                            18 MiB (576 instances)
  L1i cache:                            36 MiB (576 instances)
  L2 cache:                             576 MiB (144 instances)
```

(Continued on next page)

Platform Notes (Continued)

```
  L3 cache:                              1.1 GiB (2 instances)
  NUMA node(s):                          6
  NUMA node0 CPU(s):                     0-95
  NUMA node1 CPU(s):                     96-191
  NUMA node2 CPU(s):                     192-287
  NUMA node3 CPU(s):                     288-383
  NUMA node4 CPU(s):                     384-479
  NUMA node5 CPU(s):                     480-575
  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 Not affected
  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       32K      18M    8 Data            1     64        1             64
      L1i       64K      36M    8 Instruction     1    128        1             64
      L2         4M     576M   16 Unified         2   4096        1             64
      L3       576M     1.1G   16 Unified         3 589824        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: 0-95
  node 0 size: 257400 MB
  node 0 free: 256325 MB
  node 1 cpus: 96-191
  node 1 size: 258022 MB
  node 1 free: 256506 MB
  node 2 cpus: 192-287
  node 2 size: 258022 MB
  node 2 free: 256996 MB
  node 3 cpus: 288-383
  node 3 size: 257983 MB
  node 3 free: 257377 MB
```

(Continued on next page)

Platform Notes (Continued)

```
   node 4 cpus: 384-479
   node 4 size: 258022 MB
   node 4 free: 257285 MB
   node 5 cpus: 480-575
   node 5 size: 257867 MB
   node 5 free: 257316 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:       1584455504 kB

------------------------------------------------------------
10. who -r
  run-level 3 May 13 16:05

------------------------------------------------------------
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 appstream-sync-cache auditd bluetooth cron
                  display-manager getty@ irqbalance issue-generator kbdsettings klog lvm2-monitor nscd
                  nvmefc-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-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 ebtables
                     exchange-bmc-os-info firewalld fsidd gpm grub2-once haveged ipmi ipmievd
                  issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nmb
                 ostree-remount ostree-state-overlay@ rpcbind rpmconfigcheck rsyncd rtkit-daemon samba-bgqd
                    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

------------------------------------------------------------
```

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Platform Notes (Continued)

```
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
  root=UUID=a01dde6d-ca13-4c27-8508-91fa7301d7f7
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 162:
    Unable to determine current policy
    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+madvise [madvise] never
  enabled         [always] madvise never
  hpage_pmd_size  2097152
  shmem_enabled   always within_size advise [never] deny force

------------------------------------------------------------
17. /sys/kernel/mm/transparent_hugepage/khugepaged
```

(Continued on next page)

Platform Notes (Continued)

```
  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

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

------------------------------------------------------------
19. Disk information
SPEC is set to: /home/cpu2026
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/nvme0n1p3 xfs   800G  101G  700G  13% /home

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

------------------------------------------------------------
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:
    24x Samsung MDRR644QEBC2-5R000 64 GB 2 rank 8000


------------------------------------------------------------
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       American Megatrends International, LLC.
   BIOS Version:      2.0
   BIOS Date:         05/06/2026
   BIOS Revision:     5.35
```

Compiler Version Notes

```
==============================================================================
C      | 708.sqlite_r(base, peak) 714.cpython_r(base, peak) 777.zstd_r(base,
       | peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
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------------------------------------------------------------------------------

==============================================================================
C++    | 706.stockfish_r(base, peak) 707.ntest_r(base, peak)
       | 727.cppcheck_r(base, peak) 753.ns3_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2026.0.0 Build 20260331
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==============================================================================
C++, C | 710.omnetpp_r(base, peak) 721.gcc_r(base, peak) 723.llvm_r(base,
       | peak) 729.abc_r(base, peak) 734.vpr_r(base, peak) 735.gem5_r(base,
       | peak) 750.sealcrypto_r(base, peak)
------------------------------------------------------------------------------
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
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```

Base Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Benchmarks using both C and C++:
icpx icx

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

(Continued on next page)

Base Optimization Flags (Continued)

C benchmarks (continued):
-funroll-loops -qopt-mem-layout-trans=4 -fno-strict-aliasing
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc

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/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc

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 -fno-strict-aliasing
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc

Peak Compiler Invocation

C benchmarks:
icx

C++ benchmarks:
icpx

Benchmarks using both C and C++:
icpx icx

Peak Optimization Flags

C benchmarks:
-m64 -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
-fno-strict-aliasing -L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc

C++ benchmarks:

706.stockfish_r: -m64 -std=c++17 -Wl,-z,muldefs
-Wl,-plugin-opt=-inline-threshold=1500
-fprofile-generate(pass 1)

(Continued on next page)

Peak Optimization Flags (Continued)

706.stockfish_r (continued):
-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/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc

707.ntest_r: basepeak = yes

727.cppcheck_r: basepeak = yes

753.ns3_r: Same as 706.stockfish_r

Benchmarks using both C and C++:

710.omnetpp_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
-fno-strict-aliasing
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc

721.gcc_r: -m64 -std=c++17 -std=c18 -Wl,-z,muldefs
-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
-fno-strict-aliasing
-L/opt/intel/oneapi/compiler/2026.0/lib -lqkmalloc

723.llvm_r: Same as 721.gcc_r

729.abc_r: basepeak = yes

734.vpr_r: basepeak = yes

735.gem5_r: Same as 710.omnetpp_r

750.sealcrypto_r: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-CWF-revC.html
http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/Supermicro-Platform-Settings-V1.2-CWF-revC.xml
http://www.spec.org/cpu2026/results/flags/Intel-ic2025-official-linux64.xml

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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 2026-05-13 19:06:30-0400.
Report generated on 2026-06-04 10:14:41 by CPU2026 PS formatter (86729d3b).
Originally published on 2026-06-04.